

# **Far Eastern** **Agriculture**

## Soluble nutrients for coffee

Synchronising fertilisers with sequential growth cycles

'Agriculture is fertile ground for digitisation'

Global food security dependent on freshwater fish

New eye on artificial insemination



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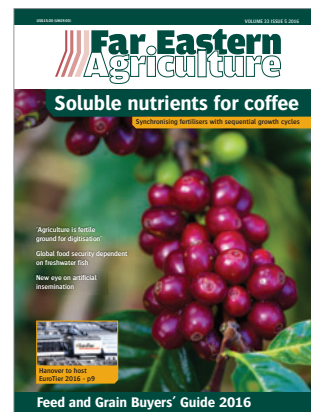


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## Three quarters of worldwide tuna catch from stock at a healthy level

THE ISSF STATUS of tuna stocks 2016 has released a report stating that 77 per cent of the catch of major commercial tuna is at a healthy level. However, this is a reduction from 78 per cent from the preliminary report in 2014, 87 per cent in 2013, 86 per cent in 2012 and 94 per cent in 2011. The global catch healthy levels were heavily contributed by skipjack stock which contribute more than one half of the global catch of tunas, which are all in a healthy situation. However, most bluefin stocks and a third of albacore stocks are over fished, yet combined, they make a relatively small contribution of the overall catch.



Photograph: Ligo Montalado/Shutterstock

Large tunda fish in natural habitat

## On the road to AGRITECHNICA 2017

WITH THE SHOW commencing on the 15 March 2017, the AGRITECHNICA 2017 is right around the corner. The Asian version of the world's leading agricultural exhibition is designed to lead on from the DLG organised event HORTITECHNICA, which takes place at the end of November 2016. In addition of INTERVITIS INTERFRUCTA, the events will provide a comprehensive overview of the subject of special crops.

The launch of the event in Bangkok, Thailand shall be the first edition of the world's leading agricultural machinery and equipment show in Asia. It will have a particular focus on machinery designed for the top crops produced in Asia such as rice, sugar cane, cassava, maize, root crops, palm oil and wheat.

The event, that runs 15-17 March 2017, is set to be the first agricultural exhibition that covers all of Asia by focusing on Asia's largest agricultural buyers from across the region.



Opening conference to AGRITECHNICA 2017

## FAO Director praised for outstanding contributions

JOSÉ GRAZIANO DA Silva, the Director-General of the Food and Agriculture Organization of the United Nations, was awarded an Honorary Degree of Doctor of Philosophy from the University of Veterinary and Animal Science in Pakistan.

the degree was conferred by the University's chancellor Muhammad Rafique Rajwana in acknowledgement of Mr da Silva's "outstanding contributions to rural development, food security and agriculture."

"This is truly a great honour," said da Silva in his acceptance speech, adding "This award goes to the causes of sustainable rural development and especially the fight against hunger!

The Director-General congratulated the Universities contribution to agricultural development particularly in regard to livestock."

## Historic water scarcity and drought summit

AUSTRALIA WILL HOST 200 leaders including government ministers, businesses, and leading scientists at a historic summit on water scarcity and drought on 10 October this year. The summit will be a part of the World Water Congress and Exhibition taking place from 9-14 October in Brisbane. Hosting keynotes, roundtables and plenary discussions, it will debate effective policy and institutions, best approaches, effective technologies to reduce water losses, reuse of water, desalination, and refilling reservoirs. Droughts have become more frequent and water scarcity has grown in severity in all regions of the world. This is driven both by climate change and poor water management. The World Economic Forum ranks water security as the top global risk facing societies, economies and businesses over the next decade.



Photograph: Polarpix/shutterstock

Drought ridden farm in Australia

## Massey Ferguson back to the top?

IN THE NOT too distant past, Massey Ferguson were at the top of the pile of Australian agricultural machinery. However, they have been on the decline until now. Their rise may be on a smaller scale this time round, but it could be a sign of things to come.

Their new 9500 series could be an example of this change. The 9500 replaces the 9000 series which was launched in 2011 with pretense of being simple with great capacity.

The 9505 series builds on this reputation. The three models cater for classes 6,7 and 8 with each model having a different power output to supply for each need. The power ranges between 240kW (322hp) and 366kW (490hp).

The 9505 series use a new design to provide a cleaner harvest in tandem with Massey Ferguson's proven Trident processor.

# Events 2016-17

## NOVEMBER

|         |  |                    |  |
|---------|--|--------------------|--|
| 09 - 13 | <b>EIMA International</b>              | Bologna, Italy     | <a href="http://www.eima.it/en">www.eima.it/en</a>                               |
| 10 - 12 | <b>Biofach India</b>                   | New Delhi, India   | <a href="http://www.biofach-india.com">www.biofach-india.com</a>                 |
| 12 - 18 | <b>Agritechnica</b>                    | Hanover, Germany   | <a href="http://www.agritechnica.com">www.agritechnica.com</a>                   |
| 15 - 18 | <b>EuroTier</b>                        | Hanover, Germany   | <a href="http://www.eurotier.com/home-en.html">www.eurotier.com/home-en.html</a> |
| 16 - 19 | <b>Plastics &amp; Rubber Indonesia</b> | Jakarta, Indonesia | <a href="http://www.pamerindo.com">www.pamerindo.com</a>                         |
| 18 - 20 | <b>Rice Pro-Tech Expo</b>              | Raipur, India      | <a href="http://www.indiariceexpo.com">www.indiariceexpo.com</a>                 |
| 23 - 25 | <b>Poultry India 2016</b>              | Hyderabad, India   | <a href="http://www.poultryindia.co.in">www.poultryindia.co.in</a>               |
| 24 - 28 | <b>Krishithon</b>                      | Nashik, India      | <a href="http://www.krishithon.com">www.krishithon.com</a>                       |
| 23 - 27 | <b>Taiwan Machine Tool Show</b>        | Taichung, Taiwan   | <a href="http://www.tmts.tw">www.tmts.tw</a>                                     |

## DECEMBER

|         |                               |                    |  |
|---------|-------------------------------|--------------------|--|
| 06 - 07 | <b>AgrochemBIZ Show - SEA</b> | Jakarta, Indonesia | <a href="http://www.agrochembiz.com">www.agrochembiz.com</a> |
| 14 - 18 | <b>Kisan</b>                  | Pune, India        | <a href="http://www.kisan.in">www.kisan.in</a>               |

## JANUARY

|         |  |                |  |
|---------|--|----------------|--|
| 16 - 15 | <b>India International Tea &amp; Coffee Expo</b> | Kolkata, India | <a href="http://www.teacoffeeexpo.in">www.teacoffeeexpo.in</a> |
|---------|--|----------------|--|

## MARCH

|         |                          |                           |  |
|---------|--------------------------|---------------------------|--|
| 15 - 17 | <b>VIV Asia 2017</b>     | Bangkok, Thailand         | <a href="http://www.vivasia.nl">www.vivasia.nl</a>                       |
| 02 - 04 | <b>Cafe Show Vietnam</b> | Ho Chi Minh City, Vietnam | <a href="http://www.cafeshow.com.vn">www.cafeshow.com.vn</a>             |
| 15 - 17 | <b>Agritechnica</b>      | Bangkok, Thailand         | <a href="http://www.agritechnica-asia.com">www.agritechnica-asia.com</a> |



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## Food Outlook

THE FAO FOOD Price Index (FFPI) averaged 170.9 points in September 2016, up almost 5 points (2.9 per cent) from August and 10 per cent above the corresponding month last year. The September value is the highest since March 2015. Barring a small dip in July, the FFPI has been going up steadily since the start of the year, mainly supported by a surge in sugar prices and more moderate increases for dairy products, meat and oils. Last month's rise in the FFPI was driven mostly by stronger dairy and sugar quotations.

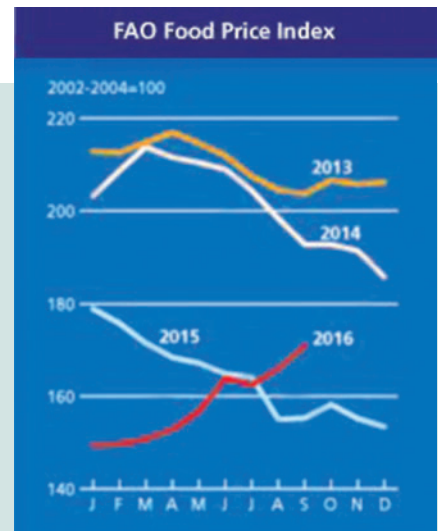
The FAO Cereal Price Index averaged 140.9 points in September, down 2.7 points (1.9 per cent) from August and 8.9 per cent below its year-earlier level. The decline in September marked the third consecutive month of decreases, largely due to ample global supplies, especially export availabilities.

The FAO Vegetable Oil Price Index averaged almost 172 points in September, up 2.9 points (or 1.7 per cent) from August,

reflecting higher quotations of palm, soy and rapeseed oils. Palm oil values continued to strengthen, underpinned by weaker than anticipated output growth and low stock levels in both exporting and importing countries. International soy oil quotations appreciated on tight global export availabilities, while rapeseed oil prices firmed on concerns about global output falling for a third consecutive year in 2016/17.

The FAO Dairy Price Index averaged 176 points in September, up as much as 21 points (13.8 per cent) from August. Quotations rose for all dairy products, in particular butter, which was bolstered by reduced stocks and strong internal demand in the EU. The Index has risen by 49 points, 38 per cent, since April. The current price surge stems from expectations that falling milk production in the EU and a muted opening to the dairy year in Oceania would result in tighter availabilities for export.

The FAO Meat Price Index averaged 163.5 points in September, essentially



unchanged from August. Since January, when it hit a five-year low, the Index has risen by 12.6 per cent. The largest increase for the year so far has been recorded for pig meat, followed by ovine and poultry meat. Firm international demand underpinned pig meat and poultry meat prices, while reduced international supplies reinforced those of ovine meat. A recovery in bovine meat production in the United States has reduced the need for imports, contributing to a restrained price rise for this commodity.

## Indonesia re-opens secondary beef cut market

INDONESIA HAS LIFTED a 21-month restriction on imported rump and chuck steak, in addition to edible offal — including liver, heart, feet and lungs — in a move that reopens a market that was worth US\$42mn to Australian exporters two years ago.

The lifting of the blanket restriction follows the resumption of talks earlier this year towards negotiating a free trade deal between Australia and Indonesia. The breaking down of technical barriers in the Indonesian market, which is extremely important to Australian beef, has been high on the agenda of industry leaders for some time. Cattle Council of Australia, has consistently called for improved ability to access this market.

Commenting on the announcement, Australian acting Prime Minister Barnaby Joyce said that the Indonesian decision would restore certainty to rural communities and benefit farmers and meat processors. He noted that Australian producers shipped almost 20,000 tonnes of secondary beef cuts to Indonesia in 2014, representing a US\$42mn share of the total boxed beef trade with Indonesia of US\$327mn.

With the lift of the ban, Indonesian importers can now also apply to import beef at any time of the year, with import permits valid for upto six months.

Beef producer and processor representative groups are hopeful that the changes augurs well for negotiations on the Indonesia Australia Comprehensive Economic Partnership Agreement (IA-CEPA) which recommenced in May. "It's a win-win for both nations; Indonesian consumers will have a wider range of quality beef products to choose from, Indonesian importers can better plan for and manage demand, and Australian exporters regain access to a market in which we can compete very strongly on our merits," Joyce said.

## Cobb signs new partnership agreement in Malaysia

COBB-VANTRESS HAS SIGNED a new partnership agreement with the Leong Hup Group, extending the company's distribution of the Cobb500 broiler breeder in Malaysia.

The signing of the agreement was followed a visit by Cobb general manager for the Asia-Pacific region Pelayo Casanovas and Cobb key accounts director for Asia Mark Glavey to the group's new grandparent farm located on an isolated 215-ha stretch of land in Desaru, Johor province, on the south eastern tip of the Malay peninsula overlooking the South China Sea.



The company has acquired a new 215-ha grandparent farm in Desaru. (Photo: branislavpudar/Shutterstock)

The new farm is more than seven kilometers long and, for enhanced biosecurity, is divided into seven separate units of imported grandparents with at least 700 meters between each. It has the capacity to produce 3.5mn parent stock a year, increasing ultimately to seven million.

"This agreement extends an already solid partnership between Cobb and Leong Hup," said Cobb general manager for the Asia-Pacific region, Pelayo Casanovas. "We are very proud of our association with this exceptional company and with the Lau family, and we look forward to supporting each other for years to come."

Mark Glavey added, "We are extremely impressed with the state-of-the-art design of the Desaru grandparent farm, as well as the strict biosecurity standards and isolated location."

## Rice genomics to create climate-smart rice

THE CHINESE ACADEMY of Agricultural Sciences (CAAS) has entered into an agreement with the International Rice Research Institute (IRRI) to collaborate on scientific research focused on genomics and germplasm enhancement to meet the challenges of global food security.

The collaboration between both organisations aims to advance computational tools and systems for developing new rice varieties. The project also aims to expand the Oryza genome sequencing and the search for high-priority traits such as tolerance to droughts or flooding and to increase yield by improving the photosynthetic efficiency of the rice plant. It will also work towards establishing a phenomics network in China, as part of the Global Rice Array, to better understand how the genetic makeup of a rice plant determines its performance in farmers' fields and meets consumer expectations.

The agreement was signed by IRRI director general Mathew Morell and CAAS vice president Kongming Wu at a special event concurrent with the 7th International Crop Science Congress.

"This agreement allows us to build on our existing relationship and establish a very important collaboration with CAAS," said Matthew Morell. "It is timely to bring together advanced technologies and genetic diversity research to address climate change and meet future rice demands. IRRI greatly appreciates the leadership demonstrated by CAAS in recognising the complementary strengths of our organisations."

CAAS and IRRI have a long history of collaboration since the 1980s, including the establishment of a joint laboratory to work together on subjects of common interest. According to the organisations, the new agreement has far-reaching potential since advanced breeding methods. IRRI stated that



The project will focus on the search for high-priority traits in rice such as tolerance to droughts or flooding. (Photo: Ananaline/Shutterstock)

new germplasm and pre-breeding lines and elite breeding materials studied and developed under this partnership will be shared with member countries of the Association of Southeast Asian Nations (ASEAN).

"This alliance places great importance on the scientific ties between China and IRRI," said Jiayang Li, vice minister of Agriculture of the People's Republic of China and president of CAAS. "It creates an environment of technical exchanges and cooperation that will benefit not only our nation and people, but will cast a positive influence on global food security and agricultural development across the rice-growing world."

## Finnish meat to hit the Chinese market

FINNISH MEAT COMPANY, Atria has announced that it has received official confirmation of the pork export license to China and will soon begin exports to the Asian country.

Chinese licensing authorities have admitted Atria's production plant in Nurmo Finland a site-specific export license for pork meat to China. Atria described the export licence as a 'significant driver of development and expansion' for the business.

Atria said that it plans to develop long-term cooperation with its Chinese partners. The company has already conducted surveys and prepared commercial arrangements to begin the exports to China from Nurmo. The company announced in a press release that export operations are intended to launch 'as soon as possible'.



Atria's production plant in Nurmo has been granted a site-specific license for pork meat export to China. (Photo: Dmitry Kalinovsky/Shutterstock)

Atria, one of Finland's largest meat processors, have been eyeing the Chinese market for a long time. "Negotiations with Chinese and Finnish licensing authorities were successful. Authorities are convinced of Atria's high quality. We now have a unique opportunity to enter the Chinese market and expand our business in a new market area. At this point, we do not yet know the future economic impact," said Atria Group CEO Juha Gröhn.

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## VIV China 2016 welcomes a host of exhibitors

VIV CHINA 2016 took place from 6-8 September 2016 in the Shunyi district of Beijing, China at the New China International Exhibition Centre (NCIEC).

The 9th edition of the show was held alongside the 2016 World's Poultry Congress which takes place every four years. This edition was organised by the Chinese branch of WPSA to be in Beijing between 5-9 September 2016.

A total of five pavilions were presented at this year's edition of the show: Swine industry exhibition, South Korea, Israel, Holland and USA. In 2014 VIV China welcomed 140 international exhibitors; a far cry from the 550 which were present at this year's edition. Exhibitors at the event included: Dorset Green Machines a global designer, manufacturer and marketer of biomass drying systems, Aviagen and Pas Reform Hatchery Technologies, which has selected the reliable Bolidtop®700 synthetic floor finish for many of its breeding facilities around the world.

A VIV China 2016 promotion campaign in Asian focus countries including South Korea, Philippines and Indonesia is emphasizing the information value of the week in Beijing, including for non-Chinese visitors. Foreign visitors at VIV China 2014 comprised around 20 per cent of the total attendance, however, a growth of overall visitor numbers exceeded 15,000 over the three days of the show.

This year's show saw HatchTech and HuaYu sign a deal on the construction of the world's biggest layer hatchery. The hatchery will be constructed in Handan, in the Hebei province of China and will have a total capacity of 55mn commercial layers per year. HatchTech's incubation technology will enable the two firms to help them meet customer demands.

"HatchTech is well known for its ability to provide superior quality chicks," said Wang Lianzeng, chairman of HuaYu Agricultural Science and Technology

## Indo Livestock 2016 & Expo Forum

INDO LIVESTOCK 2016 Expo & Forum took place in Jakarta from 27-29 July 2016.

This three day show saw 571 exhibitors walk through its doors from 38 countries. A number of activities were scheduled for the exhibition, with with a keynote speech delivered by Dr. Ir. Riwanoro, MM on behalf of director general of Livestock and Animal Health Services, Ministry of Agriculture, Republic of Indonesia at the opening ceremony. It welcomed Ir. Maskur, MM as head of The East Java Livestock Services, Don P. Utoyo as President of Federation of the Indonesian Poultry Society, representative embassy of foreign countries in Indonesia and many others.

An award ceremony took place for Indo Livestock Services Awards 2016

that recognised the field of animal husbandry, where institutions/companies or individual industry players played a key role in the development of animal husbandry in Indonesia. Under the theme "Competitiveness Improvement of Ranch in MEA", this award was given to companies in the field of industrial-scale farms and perpetrators of small-scale farming businesses to medium.

Indo Livestock 2016 took place in Jakarta, Indonesia. (Photo: Indo Livestock)

Indo Livestock 2016 also featured socialised SDTI programme, an initiative that supports the Indonesian government's campaign for increasing animal protein consumption to grow Indonesia's farming sector.



The USA Pavilion at VIV China 2016. (Photo: Viv China)

Co., Ltd. "We're looking forward to starting our operations at the new facility, where we will combine HatchTech's knowledge and technology with our own expertise in order to provide top-quality layer hens to the Chinese market."

The 2018 edition of VIV China will see it move to Nanjing and will held between 17-19 September 2016.

## Indonesia hosts 2nd International Farming Technology Expo

THE 2ND INTERNATIONAL Farming technology expo (IFT) took place between 28-30 September 2016.

The technology-focused event served as a platform for 150 exhibitors showcasing their innovations and solutions for Indonesia's modern farming industry.



Tractors showcased at the 2nd International Farming technology expo. (Photo: IFT)

Farming experts were able to discuss new business opportunities and explore new ideas at the event. Visitors came face to face with state-of-the-art machinery, new production solutions and technologies to boost their agriculture and aquaculture production performance.

Exhibitors at this year's event included: Marumasu Kikai Co., LTD, VIAR Motor Indonesia, Rutan, NETAFIM, Bukaka Teknik Utama.

gro-producing nations including Marumasu Kikai Co., LTD, VIAR Motor Indonesia and Rutra.

Rini Sumardi, director of PT Pelita Promo Internusa (PPI) and organizer of IFT noted that, "recognising the importance of farming technology in Indonesia, International Farming Technology provides an excellent platform for the introduction of new high-tech solutions and innovations that are much needed to meet future challenges."

"IFT hope to raise the country's farming quality standards and meet rising domestic market demands via technology use," Sumardi added.



# Hanover to host EuroTier 2016

Held every two years, EuroTier 2016 will take place this year between 15-18 November in Hanover, Germany and will welcome exhibitors from more than 50 countries.

**T**HE EVENT WILL serve as a platform for exhibitors to showcase new solutions for cattle, pig and poultry farming, in addition to areas of aquaculture, goat rearing, sheep and livery yards.

EuroTier 2014 attracted 2,368 exhibitors and around 160,000 visitors. The 2016 edition of the show will discuss farm inputs, with a focus on livestock farmers, such as feeds and ingredients, while also highlighting relevant equipment and technology, such as crushers, mixers and pelleters. Exhibitors at this year's show include Agrifarm - which develops unique animal housing systems; Nutrex - a global supplier of top quality feed and flour milling additives and Trimble Agriculture solutions, a provider of solutions to enhance the efficiency of farming. The event will feature nine country pavilions, hosting some 200 companies in total and accounting for more than 4,300 sqm of floor space. A number of the pavilions are organised by national government organisations as a way of promoting the export of livestock and technologies from the specific country.

The EuroTier special feature, 'Indoor Emission Control' will explore indoor emission control measures for poultry buildings, which can improve overall animal health and enable better conditions for farm staff. It will run alongside a lecture programme that has been organised jointly by the DLG (German Agricultural Society) together with the German Poultry Association (ZDG) for poultry professionals. According to the event organisers, the special feature will discuss the implications for overall production efficiency as well as the effect of dust, ammonia and odour, which is common in poultry production, on human and animal health. The 'Indoor Emission Control' special feature takes place throughout the four days of this year's EuroTier exhibition. The Poultry Forum area, which can be found near the special feature, will see lectures taking place on a number of poultry topics. Visitors will speak to experts on all areas of poultry management including housing.

EuroTier organiser, DLG, will have a stand at the event with a special 'Spotlight' on the Animal feature, showcasing its range of services to the agricultural industry as well as the benefits at EuroTier 2016.

"EuroTier is an excellent way for us to keep in touch with farmers and our members and the industry at large," says Guido Oppenhäuser, marketing director, DLG. "We also aim to encourage networking and knowledge-sharing among farming visitors from different livestock sectors or international backgrounds by creating a welcoming atmosphere on the stand. "International visitors especially may be interested to hear about DLG's operations abroad and the advantages membership can offer them," added Oppenhäuser.

The Innovation Award EuroTier 2016 will see manufacturers in the industry being awarded gold and silver medals on a number of areas including their practical importance, animal welfare, the effects on business and HR management, the environment and the energy situation. Also considered in the judging process is possible labour-saving and work-safety effects and "animal management and feeding technology for cattle and pigs". The awarding of medals in the specialist



EuroTier will take place in Hanover, Germany. (Photo: Deutsche Messe AG)

areas 'Animal management and feeding technology for poultry', 'Herd management electronics and software' and 'Equipment, accessories and spare parts'. ■

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## Touch-screen control system for poultry

AUTOMATIC FEEDING AND drinking systems company, Roxell, has launched its latest innovation in automated control systems, IQON.

IQON is a user-friendly automation system that adjusts, controls and monitors the feeding and drinking process in the house. This user-friendly touch-screen controller, with its simple and visually strong design, is capable of handling virtually any house layout. The multi-house functionality means that a single controller can be used to control all houses. The system allows poultry farmers to gain access to a plethora of data for each flock: feed consumption, mortality, feed-water ratio, etc, with just a few clicks.

According to Roxell, IQON allows for flexible and dynamic management and easy implementation of feeding strategy in poultry farm. It also helps to separate winching males and females and can be integrated in complete planning overview. It provides easy access to data on mortality, feed consumption and other criteria.

If something goes wrong in the house, an



**IQON helps poultry farmers to control for all the houses and weighing systems. (Photo: Roxell)**

alarm screensaver will pop up indicating where the problem is occurring.

“A poultry farmer is a businessman who keeps a sharp eye on the productivity of his house. He has high expectations that we aim

to meet with this new controller,” said Davy Meurice, Roxell product owner and part of the creative brain behind this project. Roxell commented that the development of IQON marks an important step for the company. Today's poultry industry would be inconceivable without house automation, the company stated. Roxell revealed that it will extend the functionalities of the controller by developing new features in the near future.

With head office in Maldegem, Belgium, Roxell is the worldwide leader in automatic feeding and drinking systems for the poultry and pig industry. In the past 45 years Roxell has introduced 33 new systems, not taking in consideration the adaptations to existing products. Many of these systems initiated trends or became standards in the industry: Minimax, Optimax, Hoxline, Bridomat, KiXoo, Vitoo. Roxell expects at least as much from its recently introduced innovations like HaiKoo, LaiCa and PooLai. The Roxell range is exported to 85 countries and supported by more than 150 distributors.

## De Heus opens Feed Factory in Myanmar

DE HEUS ANIMAL Nutrition recently opened its first factory in Myanmar. The ultra-modern facility has been built over the past six months, according to the company. With this new facility De Heus has given substance to its ambitions to further strengthen its position in Asia.

For several years, De Heus has exported nutritional products from Vietnam to Myanmar. In this period, the firm gained a lot of experience and knowledge about the local agricultural market. Acknowledging this is what led to the belief that the company could possibly make a valuable

contribution to the further “professionalisation of livestock farming in Myanmar”. It was decided to start the production of feed in the local market.

The new plant has a capacity of 120,000 tonnes, but at a later stage this capacity is expected to be increased up to 240,000 tonnes. With its location in the immediate proximity of Yangon, the factory is strategically located in relation to the major local agricultural areas. De Heus in Myanmar plans to focus mainly on the poultry sector (biggest sector in size), but also in the pig and cattle sectors where it sees

ample growth opportunities according to a release by the company.

Traditionally, De Heus has always been associated with maintaining and reinforcing the independence and future-proofness of animal husbandry. These are best assured by well-functioning, independent livestock farms. Keeping with this line of thought, De Heus Myanmar would continue to focus on the non-integrated-business model, the free market, where independent entrepreneurship can flourish. To move their customers forward and to support them in the further ‘professionalisation’ of their local livestock businesses, De Heus organises knowledge seminars and training courses for their customers, concerning feeding strategies, livestock farming and stable management.

General manager at their Myanmar facility, Johan van der Ban said, “We are very pleased with our brand new factory. Our sole objective is to provide farmers with the best quality feed, nutritional and farm management knowledge. We have helped farmers [in Myanmar] increase their productivity and scale their farm. In this way we support farmers in realising the highest possible conversion of feed into animal proteins and optimise business results. As De Heus Myanmar we can benefit from all the global agricultural knowledge and experience we have in our organisation.”



**The new plant has a capacity of 120,000 tonnes. (Photo: De Heus)**

## For precise and automatic thigh deboning

MEYN HAS LAUNCHED TDS Thigh Deboning Solution M 1.0, a new addition to their range, that acts as an advanced and standalone new system for poultry producers worldwide. The carousel principle enables market-leading productivity and there are three models available, with capacities ranging from 3600 thighs per hour to 7200 thighs per hour (or 120 thighs per minute).



The system incorporates a number of deboning actions, including deskinner and kneecap separation from the fillet. (Photo: Meyn)

“The thigh deboner is an important new addition to Meyn’s range of deboning systems”, said Jeroen Bohm, product manager at Meyn Deboning Systems. “As a precise and highly efficient automatic system it reduces labor costs by 35 per cent relative to competitive systems, while

producing thigh fillets with an outstanding level of presentation.”

The thigh deboner is suitable for fresh and matured anatomical thighs, processing both left and right thighs with no handling prior to production. It is designed for chickens with a weight of approximately 1,700 – 5,100 g,

thus anatomical thighs with skin on that weigh 125 to 375 g.

The system incorporates a number of deboning actions, including deskinner and kneecap separation from the fillet. This minimises the risk of bone fragments in the fillets and ensures that 86 per cent of the meat is processed boneless. It also eliminates the need for trimming, further reducing labor costs.

The system also separates the thighbone – including kneecap – from the fillet while the oyster muscle remains firmly attached, enhancing presentation quality. If required, the system can also be fitted with an integrated de-skinning module to produce skinless fill.

## High-speed portion cutter introduced

MAREL HAS INTRODUCED a dual-lane high-speed portion cutter for poultry, called the I-Cut 122. The product introduces new software while maintaining good accuracy, throughput and reliability. It has been designed to cut boneless, non-frozen poultry products to fixed weight or uniform dimensions. The dual-lane I-Cut 122 offers throughputs of the higher range in the market and handles about 2000 cuts per minute per lane.

It is able to supply fixed-weight product portions, while maximising the use of raw materials, minimising give-away and increasing yield. The advanced vision control technology on the I-Cut 122 shows accurate cutting results, combined with innovative patterns. Standard deviations between portions are considerably lower compared to previous cutter generations.

It also collects information about pieces and portions and stores in a database, enabling users to analyse and optimise their portioning process.

I-Cut 122 also provides flexibility to cut almost all fresh poultry products required by the market. It can also be used as a value



I-Cut 122 also provides flexibility to cut almost all fresh poultry products required by the market. (Photo: Marel)

adding portion cutter, both as a stand-alone machine and in integration with other equipment, such as RoboBatcher Flex, together creating a ‘robot with a knife’.



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## Thai Union invests US\$575mn in Red Lobster

THAI UNION GROUP has made a US\$575mn strategic investment in Red Lobster Seafood Co, the world's largest seafood restaurant company. The announcement was made by Thai Union Group, Red Lobster and Golden Gate Capital. Golden Gate Capital will remain majority owner and retain operational control of Red Lobster.

"Red Lobster is an iconic brand, with a leading market position in seafood casual dining and a world class management team, and has delivered strong performance since Golden Gate acquired the Company in 2014," said Thai Union Group CEO Thiraphong Chansiri.

He added that the investment marks a strategic step to build Thai Union's direct-to-consumer channel, and will enable the company to benefit from the extensive restaurant industry expertise of both the Red Lobster management team and Golden Gate.

"We have worked closely with Red Lobster for over two decades and are highly supportive of the strategy Red Lobster has implemented under Golden Gate's ownership. We are confident that all Thai Union stakeholders will benefit from Red

Lobster's continued growth and success over the long term," Chansiri said.

A leading global seafood supplier, Thai Union, owns a number of global seafood brands, including Chicken of the Sea, King Oscar, John West and Petit Navire, and world-class facilities in twelve countries that provide sourcing, production and distribution networks worldwide.

"Thai Union is one of the largest and best-managed global seafood companies, and has been a trusted strategic supplier to Red Lobster for over 20 years," said Red Lobster CEO Kim Lopdrup.

The company is hopeful that this close partnership will help accelerate Red Lobster's strategy of being the best seafood specialist in every trade area, bringing guests 'sea-to-table' quality seafood and a best-in-class dining experience at affordable prices. "Like Golden Gate, Thai Union shares our vision of Red Lobster being 'Where the world goes for seafood, now and for generations,' as well as our commitment to serving our millions of guests great seafood, sourced in a way that's responsible, ethical and sustainable," Lopdrup said.



The investment is aimed at building Thai Union's direct-to-consumer channel. (Photo: Rayjunk/Shutterstock)

"Thai Union's investment is a testament to the great progress Red Lobster has made and the tremendous growth potential ahead," said Josh Olshansky, Managing Director at Golden Gate Capital.

"Red Lobster has fantastic momentum, as the Company has increased profitability each year since Golden Gate's acquisition and guest satisfaction is at an all-time high. We look forward to forging a closer relationship between Red Lobster and Thai Union and to accelerating Red Lobster's growth."

## Maldives' tuna fishers seek the help of nature's best fish finders

TUNA FISHERMEN IN Maldives have begun a comprehensive experimental trial of an on-board bird tracking radar technology in an attempt to improve efficiency of one-by-one tuna fishing boats.

The trial, which aims to seek the help of nature's best fish finder to improve fishing, is



The bird-tracking radar technology will allow fishermen to spot the birds that are preying on surface feed fish species, an indicator of tuna below the surface. (Photo: Lsantilli/Shutterstock)

carried out in partnership with the International Pole & Line Foundation (IPNLF) and the marine electronics and radar systems company, Furuno USA.

While radar is predominantly used for navigation and collision avoidance, with the right equipment and skill, it can also be used to locate flocks of seabirds on the distant horizon. The world's first bird radar was built in 1986 by Furuno. However, it has not yet been widely applied in pole-and-line fisheries.

Furuno USA has provided all the equipment for the three-month trial and provided training to the crew to locate seabirds via radar. "Furuno USA is extraordinarily pleased to provide support to IPNLF and Maldivian fisheries. We are highly confident our UHD radar technology and the DRS6AX antenna with our TTZ12F multi-function display will prove to be a game changer in the Maldives," said Matt Wood of Furuno USA.

The trial on board Maldivian pole-and-line vessel Julie, which sails with a crew of fifteen, uses bird-tracking radar technology that spots the birds that are preying on surface feed fish species. This provides fishermen with a good indication that tuna may be feeding on the same feed fish from below the surface.

"For centuries, Maldivian vessel skippers have used seabirds to pinpoint the location of tuna schools, this process alone can take

fishing crews several hours at sea. Our hope is that radar technology will reduce the time and resources spent seeking out fishing opportunities," said IPNLF Chairman John Burton.

He added, "If the equipment trial on this vessel is successful, these systems could prove invaluable tools for one-by-one tuna fisheries in other locations. This sector is vital to the economy and culture of coastal communities, so it's imperative we explore every avenue to continue to provide jobs, food and development opportunities for future generations."

Pole-and-line fisheries have very low environmental impact, with a much lower rate of seabird entanglements. IPNLF is working to ensure that demand for one-by-one caught tuna can be met without compromising the sustainability of the fisheries, while at the same time providing much-needed support for fishing communities who are heavily reliant upon those stocks.

The trial is the latest project to come out of the longstanding memorandum of understanding (MOU) agreement between IPNLF and the Ministry of Fisheries and Agriculture (MoFA) in the Maldives. The trial has the support of the MoFA and the minister of fisheries and agriculture for the Maldives Mohamed Shainee.

## Thai fisheries bodies to implement Gulf of Thailand FIP

EIGHT PRIVATE SECTOR fishery bodies, which form the Thai Sustainable Fisheries Roundtable (TSFR), have announced cooperation with the government to implement a fishery improvement project (FIP) aimed at adopting international standards in the Gulf of Thailand.

The main focus of the FIP, which is a collaboration between the government and the private sectors involved in the fisheries, is to improve the efficiency of Thai fisheries management and governance while enhancing environmental responsibility and transparent traceability throughout the supply chain.

The eight associations include the National Fisheries Association of Thailand, the Thai Overseas Fisheries Association, the Thai Fishmeal Producers Association, the Thai Feed Mill Association, the Thai Frozen Food Association, the Thai Shrimp Association, the Thai Tuna Industry Association and the Thai Food Processors' Association.

The main goals for the FIP in the Gulf of Thailand are to ensure that fisheries products come from responsible fisheries sources, and can be traceable throughout a transparent supply chain. It also aims to implement an effective fisheries management that control IUU fishing and overfishing and develop credible monitoring and traceability system that reduces IUU fishing.

"Development of FIP in the Gulf of Thailand is a proof of a true intention of the government's and related fishing products industry's effort to create a sustainable fishery for the business, taking into account the problems of IUU fishing and overfishing that result in a decline of fish stock at the present," said Thai Feed Mill Association president Pornsil Patchrintanakul.



One of the main goals of the FIP is to establish transparency in the fisheries supply chain. (Photo: Kimberrywood/Shutterstock)

The project will be the first one globally to apply the latest version of IFFO Responsible Supply standards.

"The IFFO RS standard is the most suitable for the marine fisheries resource management in Thailand, since Thai Sea is filled with multi-species fish. This FIP will ensure the effective management of marine resources for the development of fisheries for maximum sustainability," Patchrintanakul added.

## Global food security dependent on freshwater fish

FRESHWATER FISH PLAY a surprisingly crucial role in feeding some of the world's most vulnerable people, according to a study published Monday in the Proceedings of the National Academy of Sciences.

"It was eye-opening just how many people are deeply dependent on freshwater fisheries as sources of protein," said Pete McIntyre, a lead co-author of the study and professor of zoology in the Center for Limnology at the University of Wisconsin-Madison.

"Many people in poor nations do not get much animal protein to eat, and freshwater fish provide protein for the nutritional equivalent of 158mn people around the world," he added.

By creating a map of the world's fisheries documenting where people catch freshwater fish at the highest rates, and then linking it to data about fish biodiversity, ecosystem health, and human nutrition and socioeconomics, McIntyres' team hopes the study helps put freshwater fish on the radar for decision-makers around the globe.

"When making big decisions, for instance when the World Bank is considering funding a dam project, we think the collateral damage done to freshwater fisheries should be explicitly listed as a quantifiable impact," McIntyre said.

Freshwater fish provide the majority of the animal protein consumed in countries like Cambodia, Congo and Bangladesh, where large numbers of children under age five are considered underweight, the study finds.

McIntyre and study co-lead Catherine Reidy Liermann of UW-Madison, along with co-author Carmen Revenga of The Nature Conservancy, found that 90 per cent of fish caught worldwide are harvested from rivers facing higher-than-average levels of environmental stress from chemical pollution, invasive species, land use change, and other human factors.

And the rivers where fish are most heavily exploited—for instance, in Asia and Africa—are also where the potential consequences for reduced fish biodiversity are highest, the study team found.

Originally, McIntyre, Reidy Liermann and Ravenga set out to gather a better accounting of the role that fish biodiversity plays in the number of fish capable of being caught in the world's rivers.

"With population and climate change, human dependency on freshwater systems is increasing dramatically in many parts of the world," said Reidy Liermann. "At the same time, freshwater species are being lost at faster rates than marine or terrestrial species.

We wanted to explore the intersection of these trends. How do species diversity and fishery production relate? So we built a model to find out."

Using the best available data—national statistics from the Food and Agriculture Organisation of the United Nations—combined with powerful statistical methods, the researchers looked at the relationship between fish catches and fish diversity, ecosystem health threats and human nutritional needs.

To their surprise, McIntyre and his team learned that greater biodiversity does not provide a clear boost to fishery productivity. Rather, the study found that the link between fish catches and species richness is indirect: catches increase with the size of the river and with human population density, while biodiversity also happens to increase with river size.

"A few years ago, we thought we had a different take-home point," he said. "But we continued to refine the statistics and came to the conclusion that the global data don't show strong evidence that declines in fish diversity will lead to lower fish catches in the future."

What is clear is that society should safeguard freshwater ecosystems for the sake of both fish and people, the authors said.

## Controlling flies on pastured cattle

HORN FLIES, FACE flies, and stable flies are responsible for negatively affecting milk production and calf weaning weights, according to the South Dakota State University iGrow service. Effective methods to control them requires adoption of proper pest control methods based on the flies that are affecting the cattle.

Apart from being irritants to the cattle, flies can affect grazing distribution and transmit eye diseases such as pinkeye and infectious bovine rhinotracheitis (IBR). It is difficult to predict what fly levels will be like for any given year, but hot, dry weather usually results in high numbers.

### Horn flies

Horn flies are one of the most common and harmful insect pests that affect cattle during the summertime. Traditional methods of treatment to control horn flies have involved dust bags, feed additives, sprays, pour-ons, and insecticide ear tags.

Recently, researchers at the University of Nebraska-Lincoln have conducted trials on a few new methods for horn fly control, including insecticide strips that attach to the button side of an existing ear tag and CO<sub>2</sub>-powered device that delivers pyrethroid. Both of these methods appear to result in acceptable control, with reported reductions in horn fly populations anywhere between 81 and 89 per cent.

### Face Flies

Face flies resemble house flies but are slightly larger and darker. They can cause damage to eye tissues which can predispose animals to infection, and control of these pests is essential in controlling pinkeye.

Effective control may require more than one method of treatment, including the use of insecticide ear tags, dust bags, and sprays. In contrast to horn flies, both cows and calves require treatment in order to reduce face fly populations near the animal.

### Stable Flies

Stable flies are the size of a house fly but darker in colour. These are blood-feeding flies that mainly feed on the front legs.

Because stable flies mainly congregate around animals' legs, it can be difficult to get adequate control with insecticides. Sprays are usually the best option for stable fly control, and require weekly applications to manage populations. Mist blower sprayers can be used for this purpose; however, initial costs may be high. One of the best ways to eliminate stable flies is to remove sources of organic matter that create breeding grounds.

### Adopting the right programme

A successful fly control programme requires proper identification of the pest(s) causing the negative impacts, analysing the issue and thus determining the best control method. Following this label directions on the product should be carried out to get optimum control and decrease the chance of resistance.

## Choosing the right cereals for beef diets

LIVESTOCK FARMERS HAVE a wide variety of feeding options when it comes to cereals. AHDB's scientific officer (Beef) Sarah Pick discusses how the choice of cereals can be adapted to meet the needs of the rotation, the livestock and the production system.

Cereals are a rich source of energy and starch in cattle diets, however deciding which cereal option is best for a beef system depends on the type of feed required.

If a bulky moderate/high-energy forage is required, then wholecrop is a good option. The composition of the crop can be manipulated by adjusting the cutting height at harvest; a higher cutting height will increase starch content of the feed, whereas a lower cutting height will increase the yield and fibre content.

Protein content can be increased by treating with a urea-based preservative. Where mature crops are harvested for whole-cropping then a corn-cracker should be used to ensure the seed coat is damaged, which will improve digestibility.

Cereal grains may be more appropriate when the producers want a high-energy feed for inclusion in growing and finishing rations. When the grain is harvested separately from the straw, some form of processing is recommended for cattle, with the exception being oats. This avoids the cereals passing straight through the gut and means they can be fully utilised.



**If a bulky moderate/high-energy forage is required, then wholecrop is a good option.**  
(Photo: Kira\_fotografie/Pixabay)

In comparison with wheat and barley, oats and triticale, do well in low-input systems because of their favourable agronomic characteristics. Oat grains can be fed whole to calves up to eight months of age due to their high-fibre content and high percentage of husk, which takes a long time to be broken down by rumen microbes.

Maize is particularly suitable for finishing diets, either as maize silage or as grain. Not

only does maize have the highest metabolisable energy content of the cereal grains, but the starch is less degradable in the rumen.

It is important to note that cereals are low in some minerals and vitamins and most cereal-based diets will need vitamin E supplementation. It is worth having the ration formulated by an adviser to ensure it is balanced to meet nutrient requirements.

## Common salt for livestock health

WITH AROUND HALF of all Tithebarn's export sales coming from the South East Asia region, Export Sales Executive – Denis Sowler recently visited China, Taiwan, Thailand and Vietnam. Rockies, their prime product, are salt licks designed especially for livestock health, providing a combination of vitamins and minerals and have a long-established market in Asia. To maintain this market position, Tithebarn provides regular training and field support where distributors and alike have access to opportune nutritional advice from their team of animal health experts.

During his visit, Denis focused on training the new generation of all local sales representatives of the region and emphasised, "Profit margins for livestock farmers around the world are being eroded and it is vitally important that wherever possible diets are to be correctly balanced with the right level of mineral and vitamin supplements so as to ensure optimum digestion and utilisation of feeds."

Their product, Rockies is being advertised as an essential daily feeding product rather than a luxury one and has appeared on Thailand's national newspaper when the local Prime Minister visited a farm with the product lined up for feeding.



"It is vitally important that wherever possible diets are to be correctly balanced with the right level of mineral and vitamin supplements," says Sowler. (Photo: Tithebarn)

## New eye on artificial insemination

IMV TECHNOLOGIES HAS launched AlphaVision, an insemination-breeding gun fitted with a miniaturised camera that facilitates the work of artificial insemination technicians, livestock breeders and veterinarians performing inseminations.

According to the company, the tool's ease of use combined with the association of action and vision allows novices to rapidly learn the insemination process.

For more advanced artificial insemination breeders or professional artificial insemination technicians, Alphavision is also a diagnostics tool that will allow visualising infections such as metritis, cervix malformations, bleeding or cysts following post-partum issues.

During the cow's pre-insemination period, Alphavision can be used to check the



Alphavision can also be used as a diagnostic tool to visualise infections in the cow during the pre-insemination period. (Photo: IMV technologies)

involvement of the cervix in order to minimise straw waste, check for the presence of cervical mucus and verify its quality, should the estrus stage not be clearly determined.

Alphavision also helps to avoid direct

contact between the gun and the vulva or vaginal wall thus preventing potential bacteria from entering the uterus during the insemination.

According to the company, optimised technician comfort and the increased well-being of the cow makes inseminating difficult cows is made much easier.

Alphavision can save photos during the insemination, enabling vets to conduct remote diagnoses.

Alphavision comes with a cell phone and an application which helps to manage artificial insemination history, to view the cervix of the cow in real-time and take photos.

This tool is expected to revolutionise the process of bovine artificial insemination and make the work of technicians and breeders much easier and more efficient.

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# How do you like your coffee?

Provision of the right nutrient at the right time for coffee is one of the most complex crop fertilisation programmes facing tropical farmers and growers. Dr Terry Mabbett explores the methods of feeding nutrients to the plants.

**C**LASSIC FERTILISER PROGRAMMES involving the application of solid formulations to soil has a two-fold function in coffee. The primary purpose is to furnish and fulfil the nutrient needs of coffee plants as they graduate from the nursery into the field to achieve maturity and the first full crop of coffee berries. And from there on to satisfy the changing needs of mature trees as they pass through the growth cycle in successive years.

This must be done without causing imbalance in either soil structure or fertility and crucially soil pH (acidity/alkalinity) which is central to maintaining the availability of all essential nutrients at all times to the coffee plant. Crucial and critical in this respect is:

- Ratio of potassium to calcium, in turn linked to the availability status of soil magnesium
- The nitrogen to phosphorous ratio
- And at plant tissue level the ratio of carbohydrate to nitrogen

For this reason, the use of completely soluble nutrients by foliar feeding has become an increasingly recognised and sought after alternative to soil-applied solid fertiliser. Nutrients enter the foliage and move into cells for 'immediate' utilisation. As such they never make contact with the soil and thus avoid any negative long term impact on soil structure and fertility.

## Sequential growth and development patterns

Coffee exhibits a sharp sequential pattern of growth and development reflected in dynamic critical changes within the growth cycle and accompanying seasonal phenology. Changing sequential nutrient demand is correspondingly complex so it makes sense to use sprayable water soluble nutrient formulations, to meet the exacting and dynamic demand for nutrients.

Coffee is a beverage crop for which consumer acceptance is critically linked to taste and aroma in the cupped infusion and is controlled by combinations of hundreds of different taste and aroma compounds in the beans to give each coffee origin a signature flavour. Getting nutrients right in amounts, timing and balance is absolutely essential to ensure each origin has the full complement and right concentrations of flavour chemicals.

Complicating the coffee nutrition equation are the diverse conditions experienced by coffee because the crop is grown as different types and under a wide range of tropical growing regions each with its own 'peculiar' weather pattern. First and major distinction is between *Coffea*

*Complicating the coffee nutrition equation are the diverse conditions experienced by coffee because the crop is grown as different types and under a wide range of tropical growing regions each with its own 'peculiar' weather pattern.*



**Coffee exhibits sharp sequential patterns of growth and development. (Photo: Omex)**

*arabica* and *Coffea robusta*, the former generally considered to be of higher and finer quality but requiring exacter growing conditions and more 'tender loving care' in the tropical highlands where the majority of Arabica coffee is grown. Robusta coffee is the bigger of the two crops in world production terms with a tendency to tolerate a wider range of conditions in the generally hotter and harsher tropical lowlands where most Robusta coffee is grown.

Last but not least, both Arabica and Robusta coffees can be found growing comfortably in widely disparate tropical regions differentiated by the seasonal sequence and severity of wet and dry seasons with clear implications for coffee phenology and therefore coffee nutrition.

When taken in total and combination all of these factors clearly show that provision of soluble nutrients sprayed onto coffee by foliar feeding is the logical and most sensible way forward for coffee nutrition.

## Meeting the nutrient needs of coffee worldwide

One of the companies that supply soluble nutrients for coffee with a product portfolio and recommendations based on in-depth and in-house research and development (R&D) is Omex Agrifluids based at Kings Lynn (Norfolk) in the UK. The company's geographical activity in coffee is concentrated within the three great 'hubs' of coffee cultivation and production – South and South East Asia, Central and South America and East and Central Africa.

The firm allows for a product customisation, for meeting the physiological demands and nutrient needs of coffee as it moves through the annual growth cycle. And to satisfy the specific nutrient requirements of different coffee species (Arabica and Robusta) and commercially bred



varieties around the coffee growing world as guided by those who cultivate them – the coffee growers.

So I travelled up to Kings Lynn in the East Anglian Region of England to meet with Alan Lowes (Regional Director) and Peter Prentis (Export Director) to find out more about how such a business meets the plant nutritional needs of coffee worldwide.

### Vietnam, the Asian coffee 'tiger'

Vietnam is a relatively recent hub of global coffee production, having risen rapidly to become one of world's biggest producers of top quality Robusta coffee and in a remarkably short period of time.

Now one quarter century from its inception and as Vietnam's coffee estates are undergoing their first major re-plant, Omex continues to play an important part in helping this leading South East Asian coffee nation utilise the yield and quality from its *Coffea robusta* trees.

"Our most significant input is via boron" says Alan Lowes. "It may be the micronutrient required in the most trace amounts but is, nevertheless, critical and indeed life-saving for coffee trees trying to hold on to as many berries as possible in the face of natural and normal physiological berry drop and severely aggravated by boron deficiency," he said.

"What we have done" says Peter Prentis "is to show coffee farmers that they don't have to accept mass berry drop as an entirely natural phenomenon and as an unavoidable problem. This is achieved through timely foliar sprays of our proprietary soluble boron products which allow trees to hang on to the majority of their developing berries and thereby maximise yields," he said.

### *A high power, broad spectrum nutrient response is required to sustain coffee during periods of fast foliar growth and corresponding root flush.*

As Vietnam enters its second quarter century of contemporary coffee production, and with re-planting well under way, the coffee crop is not without its problems. These have come mainly in the form of soil-borne, plant parasitic nematode infestations which are killing large numbers of young trees.

"Omex is starting to assist with a soil-applied, environmentally-sensitive product derived from an entirely natural plant source" says Alan Lowes, adding how it is a soil amendment/amelioration product in contrast to the hard chemical pesticides that are traditionally used to control nematode infestations.

### African coffee – high grown, fine quality Arabica in Kenya

I asked Alan Lowes about Omex inputs into African coffee. "Africa grows a large number of different coffee origins, both Arabica and Robusta, of which the high (altitude) grown Arabica from Kenya is almost certainly the most high profile of these African coffee origins," said Alan.

The Kenyan coffee growth cycle can be conveniently 'kicked off' at the end of the 'long rains' which end in June with a twin burst of growth and development as bud differentiation above ground and a root flush below ground. "This 'double-barrelled' burst of growth and development



**It is important to maintain high levels of phosphorous in the coffee leaves and coffee berries to ensure high quality coffee beans. (Photo: Omex)**

activity requires a high power, broad spectrum nutrient application response" says Peter Prentis, adding how this is supplied and satisfied by two foliar applications of Omex Foliar 3X Emulsion, one in August followed by another at the end of September. This product clearly provides a powerful across the board boost in macronutrients with Nitrogen, Phosphorous and Potassium present at 24.00 per cent w/v, 24.00 per cent w/v and 18.00 per cent w/v, respectively.

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“This product is a fully water soluble emulsion fertiliser containing NPK, Magnesium and the full complement of chelated essential micronutrients (trace elements)” said Alan Lowes. “Among the trace elements is Boron (B) at 0.031 per cent w/v and there will be a critical requirement for this trace element in the following weeks with the onset of flowering and fruit set at the start of October” said Alan. “The same goes for zinc which is present at 0.081 per cent w/v said Peter Prentis and adding how these two micronutrients (B and Zn) together are the most important requirement for coffee during this approaching period of reproductive growth and development.

But what do these two trace elements actually do for the coffee plant. “Zinc is a key co-factor component of enzyme systems and boron has a direct and positive impact on flowering says,” Alan Lowes. Alan Lowes went on to explain how the company has designed and developed a unique product for coffee in Kenya after the industry there approached Omex. Appropriately called ‘Zibo’ this ‘two in one’ product based on boron and zinc is applied as a foliar spray to mature coffee trees when the coffee growth cycle starts following the end of dry season.

Twin applications of Omex Foliar 3X Emulsion in August and September not only satisfy the requirements of bud differentiation and root flush occurring at this time but prepare the plants for the following flowering and fruit set stages.

Flowering and fruit set, which occur from October to December, are targeted with another twin application this time using Omex Sequential 2 with one application in November followed by another approximately one month later. Sequential 2 is another of Omex’s powerful, broad spectrum (NPK, Mg and chelated trace elements) nutrient formulations. The power in this case is packed into its high potassium content (40 per cent w/v) to satisfy the correspondingly high and powerful demand for this particular macronutrient in the later stages of coffee reproductive growth and development.

Twin applications are necessary because flowering and fruit are followed during December and January by a surge of vegetative growth which tails off from the end of January. And alongside a ‘thinning period’ called fruit drop before the final stages of fruit (berry) filling, ripening and maturity.

Overall this is clearly a high physiological stress time for coffee which is reflected in falling carbohydrate reserve levels. But the activity is not over yet because there is yet another flush of root growth and development in March and April which will have already been targeted by another twin application (February and March) of Omex Foliar 3X Emulsion. This is to maintain macronutrient (NPK) levels and especially nitrogen and potassium required, respectively, for vegetative growth and reproductive development that occur simultaneously during this period.

## From Kenya to Colombia

So far we had only talked about coffee in the field but there is another dimension to the ‘growth and development’ cycle for coffee. It starts with coffee seedlings and their time in the nursery, the planting out of young plants into the field and the growth and development of these plants to maturity and the first full crop of coffee berries.

So I asked Alan Lowes if Omex has products and recommendations tailor-made and specifically targeted at coffee plants in the nursery. “That we do” said Alan “as Omex Bio20”. I subsequently learnt that the product is a highly concentrated emulsion containing macronutrients, Mg



**Coffee has a high and powerful demand for potassium in the later stages of reproductive growth and development (Photo: Omex)**

and chelated trace elements, complemented by an organic extract derived from a single variety of seaweed (marine algae). The seaweed extract has proven beneficial effects for coffee plants through stimulation of root development to give newly establishing plants a sound start.

“We recommend Omex Bio20 application to seedlings as a pre-transplant dip or a foliar spray” said Peter Prentis, adding how Omex Bio20 is well established in its ability to produce more root biomass and therefore maximum utilisation of soil water and the nutrients dissolved therein.

Phosphorous and calcium had hardly been mentioned and ominously there is a largely negative link between these two nutrients at soil level. “Younger coffee provides the best responses to phosphorous” said Alan Lowes adding how this fact is consistent with a major established role for phosphorous in promoting root growth and development. Peter Prentis emphasised how it is important to maintain high levels of phosphorous in the coffee leaves and coffee berries to ensure high quality coffee beans, and analogous to the situation in Irish potato (*Solanum tuberosum*) for high quality tubers.

“The big problem for and with phosphorous is at soil level where this macronutrient may be plentiful but ‘locked up’ by correspondingly high levels of calcium and therefore insufficiently available for uptake by the roots. Soil zinc is affected in the same way,” said Peter Prentis.

“In this case is there not a specific and potentially important role for a dedicated soluble calcium product for coffee and which by-passes the soil” I asked. “Yes”, said Alan Lowes, “as Omex CalMax (22.50 per cent w/v Calcium) and used by coffee growers in Colombia. As regards phosphorous we have another ‘Sequential’ product called ‘Omex Sequential 1’. In Omex Sequential 2, potassium has the highest concentration at 40.0 per cent w/v, whereas phosphorous occupies this same 40.0 per cent w/v top spot in Omex Sequential 1.

I wondered how many other products there were in the company’s portfolio with a dedication to coffee. It turned out to be quite a few including ‘Zincprod’ (zinc phosphate providing zinc and phosphorous), Omex Foliar Boron, Omex Magnesium Plus and Omex K41 a high potassium product. All are widely used on the Colombian coffee crop in South America.

Coffee is almost certainly the most universally grown tropical tree crop in the upland and lowland tropics. As such, coffee crops and the farmers who grow them face the broadest possible spectrum of crop nutritional challenges. ■

## Bayer, CAAS collaborate to improve wheat yields

BAYER AND THE Chinese Academy of Agricultural Sciences (CAAS) have signed a research collaboration agreement focused on improving wheat yields under an existing MoU. Working together and building on their respective innovation expertise, the two parties plan to enhance agricultural sustainability and help meet the challenges of producing sufficient food for a growing world population.

The goal of the research collaboration is to better understand the genetic factors determining grain yield in wheat. The collaboration will provide an opportunity for CAAS members to gain more insights into research at Bayer via short-term placements and regular visits to the scientists working at the Bayer Innovation Center in Ghent, Belgium.

Bayer already has a partnership with CAAS in various areas of agricultural research. During a meeting last year, Dr Adrian Percy, Head of Research and Development at the Crop Science Division of Bayer, and Dr Kongming Wu, Vice President of CAAS, extended the existing Memorandum of Understanding between the two parties. The research project in wheat is part of this framework and will further strengthen the relationship.

"Productivity in wheat is currently increasing at a rate of less than one percent annually, while demand for wheat is growing twice as fast, a situation that is being exacerbated by climate change. We need to increase yields by using improved seeds, and the collaboration with CAAS will help both parties develop them, said Catherine Feuillet, global head of Trait research at the Crop Science Division.

Professor Chun-Ming Liu, Director General of the Institute of Crop Sciences, CAAS, added, "Crop genomics provides a good opportunity for genetically



**The goal of the research collaboration is to better understand the genetic factors determining grain yield in wheat. (Photo: kridneh/Pixabay)**

dissecting yield, the most important and complex trait in breeding. We have entered the door, but there is a long way to go before we fully understand the genes underlying the yield, and their interaction network. Therefore, a global collaboration in this area is both important and necessary. The joint research program between CAAS and Bayer will for sure be a solid step forward in this field."

Roughly 25 per cent of the world's arable land is used to grow wheat. This makes wheat the cereal with the largest amount of land used for cultivation and one of the most important staple foods in the world. With a production volume exceeding 700mn tonnes annually, wheat is the second most widely grown cereal crop after corn. Major wheat-producing regions include China, Australia, countries bordering the Black Sea, the EU, India and North America.

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## Airbus launches One Atlas service for farming sector

AIRBUS DEFENCE AND Space has launched a new service, One Atlas, a professional satellite image library designed specifically for the agricultural sector.

The new resource, available 24/7 and refreshed over a 12-month period, covers the earth's landmasses offering agricultural producers and other companies easy access to cost-effective, high-quality and homogeneous imagery.

Bernhard Brenner, head of intelligence business cluster at Airbus Defence and Space, said it is an easy, quick and highly affordable way to explore the group's comprehensive satellite imagery collection.

"With One Atlas, we definitively reduce the barriers for agricultural clients to access our data," he said.

"We take care of everything: updating, selecting, processing and hosting – all to make it easier, cheaper and faster for our customers.

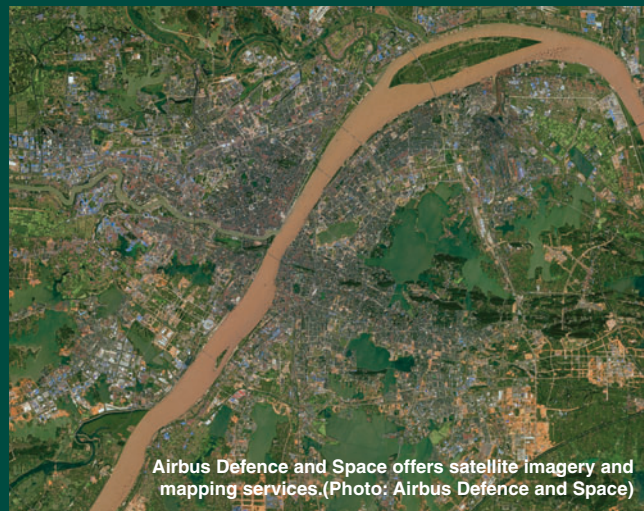
"One Atlas has been specifically developed to support applications within the agricultural sector, providing the opportunity to delineate parcel boundaries, map agricultural lands and crop species."

It also allows farming clients to be able to track and trace tractors and irrigation assets.

Brenner said the service offers a streamlined workflow, meaning the costs related to updating, selecting, processing and hosting imagery are drastically reduced for producers.

"Seamlessly integrated into the customer's system, One Atlas facilitates the sharing of data across teams or partner organisations, with no compromise on security or privacy," he said.

"It also enables users to plan, map and locate their teams, assets or areas of interest, anywhere on the globe, allowing operators to devote



Airbus Defence and Space offers satellite imagery and mapping services. (Photo: Airbus Defence and Space)

more time to their core mission."

Airbus Defence and Space offers satellite imagery and mapping services for the defence, oil and gas, forestry and maritime industries along with the agricultural sector.

In farming and agriculture, its satellite data services support the whole value chain from producers to food processing companies, from agricultural commodities finance and investment operators to reinsurance companies including institutional agencies, multilateral banks, think tanks and NGOs.

## Ordnance Survey launch precision farming drive

ONE OF THE world's leading Agricultural equipment makers CNH Industrial has teamed up with Ordnance Survey (OS) to combine technologies and boost farming efficiency in the UK, in a project that could hold potential for other countries.

OS, based in Southampton, is the UK's official mapping agency and one of the world's foremost authorities on mapping and surveying.

The joint venture sees the agency incorporating its OS Net signal technology, a network of over 110 base stations which cover all of Great Britain, into agricultural machinery from CNH Industrial's Case IH and New Holland Agriculture brands.

As such, CNH Industrial is possibly the only agricultural machinery maker to offer coverage this comprehensive on a national scale, giving it a unique advantage in the UK, according to John Downes, CNH industrial precision

farming specialist for the UK and Ireland.

"The result is a guidance system that provides optimum signal availability no matter what the topography, eliminating the inaccuracy, downtime and stress that can be caused by signal loss."

OS and CNH Industrial presented the technology to media at a launch event in early October where they showcased how the combined technologies work using an Optum tractor.

OS Net enables CNH Industrial data servers to supply Real Time Kinematic (RTK) positioning information integrated into Case IH and New Holland equipment.

This enhances the precision of positioning data and uses measurements from a signal reference station to provide real-time data.

Signal reliability has also been improved due to the seamless switching between reference stations and GSM service providers, which takes place as the farming machinery using the system moves between coverage areas.

Precision farming and machine automation are taking on ever-greater importance in order to meet the need for more efficient, economic and environmentally-friendly agriculture.

The new partnership aims to boost efficiencies and optimise yields throughout the complete crop cycle of planting, spraying, harvesting and cultivation, according to Downes.

It also means a number of farming variables can be optimised such as soil conservation with better soil structure, fuel and input savings, along with time spent working a field thanks to minimal field overlap.

With the data, it becomes possible to plan and manage seed sowing more accurately, creating less waste and reducing costs, he added. It also allows drivers to continue to work with reliable accuracy in poor field or operator conditions.

For the overall UK agricultural market, the economic benefit could translate into millions of pounds worth of annual savings.

OS and CNH showcased the combined technologies working using an Optum tractor. (Photo: PR Newswire)



## Kubota to strengthen Asia farm machinery footprint

KUBOTA OF JAPAN plans to bolster its agricultural machinery sales footprint across key markets and territories in Asia in response to rising demand for its products. It has identified a number of key target markets, notably China, where it anticipates strong and growing future demand.

Other growth markets range from Thailand to Turkey, where it has already invested recently.

According to the Nikkei Asia Review, Kubota's farming machinery will help boost crops such as corn and sugarcane among others.

In China, it already has a network of close to a thousand dealers, although much of this effort is

concentrated in the rice growing coastal areas, where Kubota is already strong.

The Nikkei Review said the company now intends to raise its profile in more central areas, potentially doubling the size of its dealer network in central China by 2018.

The central region is reported to be seeing increasing corn production in a bid to meet the rise in demand for animal feed, as sales and consumption of pork, beef and other meat products increases.

Key farming provinces in the central China area include Hebei, Shandong and Anhui.

It means the company could start to produce

more mid-size tractors and machinery to cater for the new markets, in contrast to the smaller, lighter models used in the fertile rice growing areas.

Kubota showed its intent earlier this year, investing in new research and development capacity in Thailand back in May, specifically targeting new trends in the Asia Pacific region.

A new assembly plant was also opened in Istanbul, Turkey, in a bid to catapult sales there in the long term. The latest round of investments could see the company significantly raise its sales profile across China and the rest of the Asia region in the next few years.

## Demand for modern agricultural equipment rising in India, China

THE DEMAND FOR modern agricultural equipment is increasing in Asia's biggest markets, a new report suggests.

According to Ken Research, population growth and the expanding role of the agricultural sector in both India and China means farmers are keen to upscale their agricultural techniques.

"One way of doing this is to adapt modern agriculture equipment," it states in the report, "Spurring Demand for Agriculture Equipments in India and China".

This could include anything that helps farmers till, cultivate, plant, harvest, or feed crops, such as tractors, ploughs, wagons and planters.

Although this modernisation drive means growers are especially keen to adopt more modern machine-based equipment that can speed up work processes.

Asia Pacific is identified as the biggest agricultural equipment market in the world, with China and India singled out as the two largest growing markets.

China alone accounts for around a third market share of global agricultural equipment, Ken Research notes.

"As for India, there has been a consistently rising demand for harvesting machinery as it enables efficiency and larger production of food."

It adds, "The demand for modern agriculture equipment is rising rapidly," citing an ever increasing global population and rising per capita consumption as driving demand for food grains.

Some industrialised markets, notably in western Europe, are expected to register slower growth over the coming years, however, as the focus shifts more to developing economies like India and China. "The reason the developing nations are expected to outperform the developed nations in terms of demand for agricultural machinery is because they have access to



Population growth and the expanding role of the agricultural sector means farmers are keen to upscale their agricultural techniques. (Photo: shaifulzamri/Shutterstock)

substantial funds and assistance for the betterment of their agricultural productivity through farming process automation," the report states which sounds like positive news for exporters of agricultural equipment. Europe was the largest producer of agricultural machinery globally back in 2013, accounting for 31 per cent of the total production, followed by North America and then China. "The agriculture equipment industry also has a vital role in the growth of any nation's economy since the development and the use of such modern equipment helps in reducing the overall farming costs by a great extent which, in turn, impacts the growth of the global economy as a whole," the research adds.

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## Achieving efficiency in drip irrigation

THERE ARE MANY elements that go into the making of an effective drip irrigation system. The most efficient irrigation systems provide solutions that ensure water covers just the root zone of every plant. Any water that goes beyond the root zone actually goes waste, feeds the weeds and washes away expensive fertilisers.

The next challenge is optimising the use of all irrigation components. For example – using even a 3hp pump with a three inch line for a requirement that can be met with a 2hp pump with half that length of line is a recurring waste of money.

Ease of operating the system with the best arrangement and positioning of the pumps, filters, pipes and control valves is another important factor. Such layout calls for actual practical experience of every farm type. Most importantly, the necessary specifications of driplines or sprinklers should be best suited to the water availability, plantation type and budget of the farmer. Automation of the systems is only necessary in regions where labour is expensive.

The CEO of Ecoflo Irrigation, Naren Bhinge explains, “There is an urgent need for developing nations to enhance the crop yields in order to sustain themselves with better profits and additionally to combat the growing population and water shortage.”

Ecoflo Irrigation India has been working with farmers across India and Africa for more than two decades providing cost-effective drip systems that meet all these criteria. They provide a range of value added products including shade net houses, pond liners, mulch films, solar pumps, electronic water conditioners and mobile based automations with



**Optimising the use of all components is one of the challenges of irrigation. (Photo: Deyan Georgiev/Shutterstock)**

installation and support. The company works towards offering a complete turnkey basis with in-house manufactured fully compatible components at competitive pricing.

Ecoflo Irrigation also works with government suppliers and other non-governmental organisers to provide marginal farmers with various irrigation packages comprising of Ecoflo treadle and hand pumps, drip irrigation kits with low cost water storage and portable collapsible tanks.

## ‘Agriculture is fertile ground for digitisation’

RAPID CHANGES IN demand patterns and disruption of traditional farming models have forced major adjustments to the agriculture industry, according to A.T. Kearney’s new report, ‘Agriculture Is Fertile Ground for Digitisation’ released recently.

After decades of strong growth, a slowdown in global growth rates of agricultural demand is projected resulting from the confluence of slowing population

growth, the consequent effect on demand, regulatory rules that impede commercialisation and consumer concerns about agrochemicals and high-intensity about farming.

The slowdown has triggered an immediate focus on protection of margins and consolidation in agriculture. The sector quickly turned to increased M&A activity through a series of mega-deals among suppliers of crop protection, seeds, and fertilisers. As a result, earnings multiples reached record highs and premiums stretched into the billions of dollars.

“An industry under pressure is going to trigger a wave of cost-cutting and consolidation,” said Carsten Gerhardt, Partner, A.T. Kearney and co-author of the report. “But in agriculture it didn’t take long for the larger companies to also consider alternative strategic moves. Digital farming is one move that offers vast opportunities for growth of the sector.”

Currently, digital farming is mostly confined to small application fields and start-ups developing high-tech drones for surveillance, satellite imaging, and robotics. Monsanto’s Climate Corporation covers only 30 to 40mn hectares—about two per cent of the world’s crop land. By expanding digital to cover broad-acre and horticulture crops, the increase in yields could potentially reach 20 to

30 per cent, providing food for as many as one billion additional people in the coming decade.

“With digital farms, today’s large spreads in yield and productivity, mostly from poor decisions by some growers, will disappear and global productivity will increase dramatically,” said Dave Donnan, Partner, A.T. Kearney and co-author of the report.

Digitisation has the power to challenge well-established business models. Staying ahead of the competition will require new ways of thinking. Opportunities exist to bundle technologies to provide end-to-end services for growers—from selecting crops to optimising planting times, seeding rates, and fertiliser applications. Data gathered throughout the crop cycle and lessons learned on one field can automatically be transferred to other growers in similar climates.

The first company to develop an appealing platform and business model will increase its chances to capture first-mover advantage and gain a foothold to establish a monopoly.

“We expect the industry majors to move first and fast, followed closely by start-up tech firms keen to leverage the market opportunity,” explains Gerhardt “In digital, size and speed matter. First movers will set the standards for the entire industry and shape its future.”



**Currently, digital farming is confined to surveillance, satellite imaging and robotics. (Photo: flyingbikie/Pixabay)**

# Feed and Grain 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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## Section One - Categories

### Additives and raw materials

#### Amino Acids

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#### Antibiotics & Anticoccidials

Eurofeed Technologies S.p.A

#### Fats & Oils

Eurofeed Technologies S.p.A

#### Feed Enzymes

Eurofeed Technologies S.p.A

#### Milk Products

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#### Minerals

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#### Mold & Mycotoxin Control Products

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Unipoint AG

#### Phytogetic Feed Additives

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#### Premixes

Ayurvet Ltd.  
Eurofeed Technologies S.p.A

#### Protein Products

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#### Specialty Ingredients

Eurofeed Technologies S.p.A

#### Vitamins

Eurofeed Technologies S.p.A

### Automation and control

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### Logistics

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#### Elevator Buckets

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#### Elevators

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#### Pelleting Equipment

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# Scientists urge rethinking drainage-based agriculture

An honorary associate professor at The University of Nottingham Malaysia Campus (UNMC) is among scientists campaigning to dispel the myth that palm oil and other drainage-based agriculture can be developed on tropical peat soils through current agricultural practices.



The practices in peatlands may be having a globally significant impact on greenhouse gas emissions through decomposition. (Photo: think4photop/Shutterstock)

**I**N TWO RECENTLY published articles in the journal, *Global Change Biology*, the academics challenged the concept that palm oil producers can label any product as sustainable when planted on the unique and globally important tropical peat soil ecosystems found in Southeast Asia.

Dr Stephanie Evers, from UNMC, is the lead author to one of the recent articles that also highlights the problems facing industry and governments in developing or adhering to effective policies to manage the unique peatland eco-system- despite overwhelming scientific evidence supporting the unsustainability of current deforestation and drainage practices.

The practices are in fact having globally significant impacts on greenhouse gas emissions through peat decomposition and peatland fires and could lead to irreversibly altered, dysfunctional landscapes through flooding and sea water inundations, leading to a

likely loss of homes.

Dr Evers, who has spent the last five years researching in Malaysia (at UNMC), describes a 'horrendous annual 'haze season' affecting the entire region'. Current estimates are that fires from dried peat have caused over 100,000 premature deaths, economic losses over US\$16bn to Indonesia and have exceeded the average daily emissions from all of the U.S.

Dr Evers, who is now Senior Lecturer at Liverpool John Moores University based at the School of Natural Sciences and Psychology and retains an honorary associate professorship with UNMC, said, "Failing to recognise the devastating far-reaching consequences of the way in which peatlands are being managed and failing to work together to address them could mean that the next generations will in fact have to deal with an irreversibly altered, dysfunctional landscape."

"Truly sustainable peatland agriculture methods do not exist, but as research to find a

solution continues, we need to restore natural drainage levels, halt further expansion and prioritise development of alternative, non-drainage agricultural farming systems in combination with conservation of remaining forests in order to mitigate ongoing rates of peat loss under existing plantations. Not only is this of global importance in the fight against climate change, it is also key to ensure future economic wealth in tropical peatland rich regions," she added.

Evers also believes that in order to achieve this, however, we also need to consider Southeast Asia's development agendas together with promotion of scientifically-driven environmental sustainability goals. She stressed on the needs of local communities and farmers to generate incomes, saying that it should go "hand in hand with environmental mitigation measures." ■

- *phys.org*



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