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# AGRIBUSINESS FICIO NOTOS



### Weekly news update from the KPMG Agribusiness network

#### Organisations referenced in this week's Field Notes include:

AgResearch	Loveblock Wines		
Agrilink	Mānuka Honey Appellation Society		
Agrisea	Massey University		
Agritech New Zealand	Matsmart		
Alliance	Ministry for Primary Industries		
ANZ	Ministry of Business, Innovation and Employment		
Anzco	Mountain Valley Honey		
ASB	Mud House Wines		
Ausvet	National Audubon Society		
Bayer	New Zealand Bankers Association		
Beef + Lamb New Zealand	New Zealand Merino Company		
Blue Nest Beef	NZ Bio Forestry		
BNZ	Otis Oat Milk		
Connecterra	PowerPlant Ventures		
Danone	Precision Agriculture Association of New Zealand (PAANZ)		
Ecosystem Integrity Fund	Pure Markets		
Federated Farmers	Puro New Zealand		
Fermented Sciences	Rabobank		
First Union	Reserve Bank		
Fonterra Co-operative Group	Roquette		
Food Ingredients Europe	Sanford		
George Weston Food	Speirs Foods		
Global Seafood	Statistics New Zealand		
GoalBlue	Synlait Milk		
Grassmere Dairy	Tesco		
HortNZ	Trigo		
Impossible Foods	Vegetables New Zealand		
Innova Market Insights	Waitrose		
Kiwi Quinoa	Walmart		
LeadX Capital	Willow Industries		
Livestock Investment Corporation (LIC)	Working Formula		

This week's headlines:	
Agribusiness	New Zealand leaders 'scoop the pool' in Trans-Tasman agribusiness awards [29 November, Media Release - Rabobank]
Horticulture	Crowdfunded Marlborough medicinal cannabis company to begin hemp planting [04 December, Sophie Trigger, Stuff NZ]
Viticulture	Mud House develops kosher wine [25 November, Tessa Nicholson, New Zealand Winegrower]
Farmers & Producers	Bank pressure builds on farmers [29 November, Hugh Stringleman, Farmers Weekly]
International	China's Largest Dump Fills Up 20 Years Ahead of Schedule [14 November, Li You, Sixth Tone]

#### **Agribusiness Education**

Vet tech course in limbo [02 December, Samantha Tennent, Farmers Weekly] Massey University has temporarily shut off enrolments for their 2020 veterinary technology degree course, leaving many students in limbo due to the fact that it is the only course of its kind offered in New Zealand. New Zealand is already facing a veterinary shortage which was beginning to be lessened by the veterinary technologists, despite this role also suffering a shortage. Massey usually have 48 spaces for students in the course, with around 100 students competing for the coveted places. Many graduates are in educational and support roles in the primary sector and it has been reported that veterinary technologists are becoming sought after internationally and the uncertainty of the programme imposes significant risks to the sector as a hole.

#### Apiculture

<u>Millions poured to ensure mānuka honey is a NZ only product</u> [25 September, Yvette McCullough, Radio NZ] \$5.7 million has been allocated through the Provincial Growth Fund (PGF), including a \$1.7 million loan to the Mānuka Honey Appellation Society to help secure international property rights for mānuka honey. Mānuka honey sells for up to \$400 a kilogram due to its purported medicinal benefits. The apiculture industry is attempting to trademark the honey in China and shut Australia out of the market. The money from the PGF will go towards research to show that the elements supporting mānuka are unique to New Zealand and are beneficial to the customer.

<u>Honey prices slump as 'trendy' beekeeping boom floods the market</u> [25 November, Carly Gooch, Stuff NZ] An abundance of non-mānuka honey has caused a surplus in the market, decreasing returns for suppliers and job opportunities available in the industry. Nelson's Mountain Valley Honey owner Murray Elwood has reported that whilst a sustainable selling price lies between \$8-10kg, many honey producers are selling their goods to packers at around \$3.50-\$4.00kg. This has resulted in a number of honey business going out of business this year and it is expected the same trend will follow into the new year. The surplus is due to strict changes in the mānuka honey definition and regulations set by the Ministry for Primary Industries. Karen Kos, Chief Executive of Apiculture New Zealand has reported that honey prices have dropped up to 50 percent on the previous season, displaying how difficult this time is for beekeepers. Mrs Kos stated that the country needs to work not just on promoting mānuka but instead focus also on our other native and monofloral honeys. Nelson Beekeepers Club President Ian Henbrey reports that although the increase in competition for beekeepers is not ideal, the increase in bee population is important in looking after the planet and our population.

#### Agribusiness

Big data poised to transform farming [08 November, AgResearch] Jeremy Bryant, Senior Data Scientist at AgResearch reports that big data has increasing relevance to the agricultural sector as it allows agile ways of working and informed decisions to be made. "Farm sensors are storing and sending an array of information and new technologies like virtual fencing technology need computing capacity," reported Mr Bryant, who also reflected that the challenge comes when the volume of information becomes unreasonably big to deal with, meaning it often needs to be simplified to become useful for farmers.

<u>New Zealand leaders 'scoop the pool' in Trans-Tasman agribusiness awards</u> [29 November, Media Release - Rabobank] New Zealanders have won both titles in the annual Trans-Tasman agribusiness awards which recognise 'outstanding leadership in agribusiness'. The 2019 Rabobank Leadership Award, aimed at recognising the contribution of leaders, went to Sanford's Chief Executive Volker Kuntzsch for the work he has done in the seafood sector. The 2019 Rabobank Emerging Leader Award went to Grassmere Dairy's Mat Hocken, for successfully growing his company and becoming an industry leader both nationally and internationally. Mr Hocken is the first New Zealander to win this award since it was introduced in 2013. Both awards are peer nominated and judged, and the awards were hosted at Ellerslie Racecourse, Auckland with keynote speaker John Brakenbridge, Chief Executive of the New Zealand Merino Company.

#### Horticulture

<u>Hort strong, but uneasy – survey</u> [05 November, Pam Tipa, Rural News] Rabobank's September confidence survey showed that there is a prevailing positive sentiment among growers, despite government policies weighing on their minds. Export receipts have been growing, however there is a risk associated with any downturn in the Chinese economy as they account for over 20 percent of our fresh fruit, nut and vegetable exports. There is also a risk if the U.S face an economic downturn. There is expectation that on-farm costs will lower as well.

<u>Growers told change needed now</u> [29 November, Colin Williscroft, Farmers Weekly] Overseer will not work for vegetable growers and they have been told that farm environment plans are "the best way to demonstrate good land management practice". Workshops have been run by Agrilink Director Andrew Barber in conjunction with Vegetables NZ and HortNZ in Levin and Pukekohe to explain the benefits and help encourage growers to develop their own plans. The workshops help growers learn how to reduce soil loss and erosion and help to reduce inputs of water and nutrients. It is expected these workshops will be run in other regions as well. Overseer is not currently compatible for vegetable growers and if used as is could unfairly penalise vegetable growers due to its inability to allow short-rotation crops and reliance on weather and calendar averages. Growers are being reminded to get onto good practice early to help them prepare for the future, where these changes will be compulsory.

Record breaking medical cannabis company planting first crop [02 December, Puro New Zealand, Scoop News] Puro New Zealand, a medicinal cannabis company has raised \$2.9 million so far through crowdfunding and will this week start growing low THC hemp in Marlborough. Their equity campaign is now fully subscribed, with one week left in their wholesale campaign which has currently raised \$900,000 and requires a minimum investment of \$50,000. The campaigns have set a crowdfunding record for New Zealand. Managing Director Tim Aldridge reports that the investments will allow them to start growing, and three hectares will be planted at their Kekerengu site this week. The company expects to have 25 hectares planted within the next two years. The money raised will be used to grow current facilities and buy processing equipment. 'Don't eat them!': Shopper's shock at finding glass in strawberries from Pak'nSave [03 December, Chris Marriner, NZ Herald] Poriua Pak'n'Save

has pulled punnets of strawberries from its shelves after glass was found in the fruit by a customer. Adam Reeve and his friend found glass inside the punnet and returned to the store, where the store offered them a refund. Treatment was sought for the person who ingested the glass. A spokesperson from the supermarket chain reported that they are aware of an isolated incident involving strawberries and have removed all contaminated product from store and are now working with the Ministry for Primary Industries to resolve the matter. The glass was found to be associated with a broken light fitting in the supermarket's walk in produce chiller.

## FIEID NOTES Weekly news update from the KPMG Agribusiness Network – 05 December 2019

Farm to plate innovation adds value [04 November, Bayleys] Small producers in New Zealand are growing with consumer demand for nutritious, high quality and sustainable food. One example is Kiwi Quinoa, who are the first to commercially grow the ancient grain in New Zealand, with Producers Dan and Jacqui Cottrell recently winning the New Zealand Food Safety Primary Sector product award at this year's national Food Awards. Quinoa has a high nutritional content, and is high protein and fibre whilst being gluten free. Another example is Speirs Foods, a Marton based company that has added convenient, innovative food options to their current salad offerings such as vegetable noodles, which won them the Supreme Award at the New Zealand Food Awards last year. Both companies are seeking ways to create convenient meal options for consumers and are finding success in doing so.

<u>Crowdfunded Marlborough medicinal cannabis company to begin hemp planting</u> [04 December, Sophie Trigger, Stuff NZ] Puro New Zealand had raised \$3.4 million through crowd-finding on Monday and after having their license approved, will start planting low THC content hemp this week. Their site is at Kekerengu, which has a coastal micro-climate and is expected to be very successful as a place to grow hemp, due to the high number of sunlight hours in Marlborough as well as the clean air and absence of pollutants. "The Ministry of Health planned to make regulations on the Medicinal Cannabis Scheme by mid-December", whilst a referendum for the recreational use of cannabis will be held alongside the 2020 election. Leading New Zealand Cannabis Prescriber and Consultant Dr Graham Gulbransen has reported that often cannabis "makes a difference, when nothing else will", whilst other researchers and GPs have stated that they are cautious given the fact that medicinal cannabis research is still in early stages.

The second generation of vertical farming is approaching. Here's why it's important. [04 November, AgFunder News] Vertical farming is becoming more popular as it promotes efficient plantings and has been said to potentially have a lower environmental footprint. Capital expenditure for vertical farming is high, especially if farming with second generation technologies which allow the growing process to be automated and continuously optimised. Because of the minimal space used by vertical farms, they can reduce transportation and pollution. The technology for vertical farming is only getting cheaper as time progresses, and it is expected that eventually these farmers will be able to compete with organic producers.

#### Agribusiness Research

<u>AgResearch to tackle unmet need for life-supporting organ transplants</u> [07 November/AgResearch] The Ministry of Business, Innovation and Employment is funding research focused on genetically editing New Zealand-based Auckland Island pigs to advance scientific understanding of animal-to-human transplants, and to look at how to protect against immune rejection by human patients. There is a global shortage of transplantable biomaterials, meaning this research could help alleviate this. The Auckland Island pigs "are the only herd of pigs officially recognised as a source of tissue for human transplantation".

#### **Alternative Proteins**

This Kiwi Start-Up Plans To Take Homegrown Oat Milk To The World [20 October, Sarah Downs, VIVA] Dairy alternatives are on the rise, and New Zealand Company Otis Oat Milk have released their own oat milk as part of this trend. It has been reported that the milk is particularly good for coffee due to its neutral yet creamy flavour, ability to foam and environmentally friendly origins. Younger generations are increasingly pushing for both ethical and sustainable products and oat milk has been found to have significantly lower environmental inputs than other types of milk. New Zealand is also known for growing some of the best oats globally. Otis is currently available in a range of cities in New Zealand, and aims to be on supermarket shelves next year. A new factory site has been invested in by the company in Dunedin to meet the growing demand for their product.

#### Forestry

Farm forester wants more unity [08 November, Richard Rennie, Farmers Weekly] Denis Hocking, experienced Farmer and Forester has reported that he is concerned over anti-forestry groups who are claiming that forestry is damaging rural communities. Mr Hocking states that forestry and farming can work well together as forestry returns are generally more positive than the drystock. Mr Hocking does not support the blanket planting of forestry but believes the two industries can work well and complement each other.

Potential bioplastics plant for Marton gets Government research funding [27 November, The Country] \$380,000 has been given to a research project by the Provincial Growth Fund, which could lead to a bioplastic plant being built in Marton. If it goes through, this plant will be the first commercial bioplastics facility in the country and developed by NZ Bio Forestry. The funding will be used to research whether radiata pine could be used to develop a biodegradable alternative to single-use plastics, and a pilot plant will be built, with 200 jobs initially being on offer. This pilot plant is due to be fully operational by 2022 and NZ Bio Forestry has reported that they will reach full production in Marton before expanding to other sites. NZ Bio Forestry Ltd Chief Executive Wayne Mulligan states that New Zealand is well-placed due to its accessibility to natural resources and that it has been estimated that millions of tonnes of forest residue in the country are underutilised. It is expected that this is the start of a growth industry, as sustainability becomes more important than ever.

#### Agri-Tech

<u>Connecterra moves on from FitBit for cows to predictive intelligence, regenerative ag</u> [28 November, Michael Dean, AgFunder News] There is increased pressure on dairy farmers to increase supply of milk as well as increase their efficiency, traceability, environmental credentials and improve animal welfare. Technology is paving the way forward to allow all of these things to simultaneously occur at a large scale. Connecterra released its intelligent dairy farm assistant, Ida in 2017, which uses data analytics as well as machine learning to turn behavioural data into predictive analytics. These analytics help provide farmers with recommendations that give them the chance to make improvements. Herd productivity can be increased by up to 30 percent using Ida, with new features added regularly. Clients include Danone and Bayer. Connecterra has recently partnered with Danone to help promote regenerative dairy farming.

Historic moment as the Precision Agriculture Association of NZ (PAANZ) sign the resolution to join the Agritech New Zealand initiative [01 December, Peter Wren-Hilton, Agritech New Zealand] Precision Agriculture Association of New Zealand (PAANZ) members voted unanimously at their AGM last week to join a Agritech New Zealand initiative. The two groups plan to work together to increase the agri-tech sector's global standing and also accelerate adoption of critical technology on farms and orchards within the country. There will be more information released soon on what the partnership will entail. The two organisations are New Zealand's key agritech ecosystem organisations.

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Making it OK to ask for help [20 November, David Anderson, Rural News] Alliance launched their 'Mates at the Gate' programme a year ago, which aims to get colleagues to look after each other and keep an eye out for potential mental health issues. The programme aims at getting employees to have early support, and has resulted in an increase in employee use of their confidential Employee Assistance Programme. The company reports that many of their jobs are very physically demanding, which means the focus is not always on mental health and its importance for overall wellbeing.

<u>Good sheep meat prices will last</u> [29 November, Annette Scott, Farmers Weekly] It is expected that good sheep meat prices will last for New Zealand, despite the global uncertainties caused by Brexit, the African swine fever outbreak and global trade wars. The positive outlook is due to an increased demand for protein and no expected changes in fundamental drivers. Beef + Lamb NZ Chief Economist Andrew Burtt and Senior Insight Analyst Ben Hancock report that \$9 per kg for spring lambs and record high mutton prices are here to stay. Australia's sheep meat industry has been disrupted by drought, rain and fires which has also improved New Zealand's standing. Although Britain has been in a weaker purchasing position, China's increased demand has counteracted this.

<u>No concern over lamb import cut</u> [29 November, Colin Williscroft, Farmers Weekly] British supermarket Waitrose's decision to end a longstanding contract with Anzco and stop stocking New Zealand lamb is not concerning the industry, as it is not expected to have a significant impact. Waitrose is planning to only sell lamb produced in the UK from 2021, with a number of its products already being sourced exclusively from the UK. Rick Walker, Anzco Sales and Marketing General Manager, reports that the decision comes down to changing global consumer trends moving towards support for local farmers. Mr Walker states that British lamb producers would struggle to meet chilled product demand nationally year round by themselves.

#### Viticulture

<u>Green tea instead of Sulphur</u> [29 October, Tessa Nicholson, New Zealand Winegrower] Loveblock Wines is attempting to replace sulphur dioxide from their Sauvignon Blanc and replace it with green tea. SO2 is a preservative used in wine due to its antioxidant and antibacterial properties, ensuring its freshness, and some consumers have allergic reactions to this substance. This move is part of owners Kim and Erica Crawford's organic vision. The green tea additive is being tested in various wines and differences have been found such as in the colour of the wine produced.

Organic winegrowing in Central Otago [14 November, Jean Grierson, New Zealand Winegrower] Winegrowers in Central Otago have surpassed a nationwide challenge to meet 20 percent organic wine production by the year 2020. Currently 23 percent of the region's vineyard land area is now being farmed under certified organic or biodynamic processes. The region has certain advantages such as dry autumn and low humidity which help to reduce the need for chemical sprays. Organic certification is an additional cost but Central Otago Winegrowers Association Chairman Nick Paulin reports that in the scheme of things it is not significant, and states that organic certification increases the credibility of a company.

<u>Mud House develops kosher wine</u> [25 November, Tessa Nicholson, New Zealand Winegrower] Mud House Wines have produced their first kosher Sauvignon Blanc which is already selling in Israel. The company report that there is a growing market for kosher wine globally so tapping into this is an important strategy. The wine is made the same as standard wine but requires a Rabbi on site during production and that the wine must be handled by "Sabbath-observant Jews" throughout. Around 15,000 bottles of kosher wine were produced, and the company will look at producing different varieties of kosher wines.

#### Farmers & Producers

Bank pressure builds on farmers [29 November, Hugh Stringleman, Farmers Weekly] The latest Federated Farmers survey has revealed that more farmers are feeling under pressure, with the number rising from 16 to 23 percent over a six month period. The number of farmers very satisfied or satisfied with their bank has also fallen marginally from 71 to 68 percent, which is anticipated to have occurred due to tougher borrowing conditions. The industry feeling most under pressure is arable, with 30 percent of farmers reporting so. It has been suggested that this is partly due to poor harvests and increased competition. The average overdraft is \$10,000 less than when last surveyed in May. The all-farm mortgage amount increased over the six months to \$3.83 million from \$3.75 million. "Dairy farms continue to hold the biggest mortgages, by a factor of two compared to meat and wool farms and by a factor of four compared with sharemilkers" claims the survey. For the surveyed farms, a third have mortgages with ANZ, 21 percent with Rabobank, 19 percent at BNZ, 14 percent with ASB and 10 percent at Westpac.

Bread factory workers resume strike, shortages expected [03 December, Bonnie Flaws, Stuff NZ] Strikes have resumed at George Weston Food's Tip Top bakeries, however bread supplies are expected to be minimally disrupted in North Island supermarkets. First Union Organiser Anita Rosentreter reported that "more than 100 First Union members were refusing to work overtime and do deep cleaning at the Ōtāhuhu and Wiri bakeries" as they fight for fair pay and premium on overtime and night work. Additional staff have been deployed in the affected bakeries and alternative suppliers and in-store bakeries will top up bread supplies. An offer by George Weston was rejected last Wednesday. Workers have reported that they are regularly working extra hours and are still unable to meet the cost of living in Auckland or support their families. Overtime is not currently paid until workers hit over 60 hours.

#### **Economics & Trade**

Export prices riding high on meat and dairy [02 December, Statistics New Zealand, Scoop News] Statistics New Zealand have reported that although export lamb and beef prices reached record highs in the latest quarter, forestry product exports fell sharply. Logs in particular had their largest quarterly decrease in over a decade. In the September quarter as a whole, import prices remained flat and export prices rose 1.9 percent to be the highest in over 10 years. Lamb prices went up 6 percent and beef 5.4 percent, due to an increase in international demand. Terms of trade increased by 1.9 percent which means that export prices rose more than import prices resulting in the country being able to purchase more imports for the same amount of exports.

Farm borrowers will find lenders [03 December, Nigel Stirling, Farmers Weekly] The outcome of the Reserve Bank's review of minimum capital requirements will be announced this week. The bank has claimed that existing capital reserves must be doubled if banks are to survive a "1-in-200 economic meltdown", however a report commissioned by the New Zealand Bankers Association displayed that higher interest rates and lower investment could result in a \$2.7 billion annual cost if this is adopted. Farmers could be charged an extra \$800 million a year in higher interest costs according to Federated Farmers estimates. Farmers have been advised to reduce debt as much as possible in order to prepare for inevitable change. Banks have been told that they are exposed to too much rural debt, and farmers are worried that they will decide to pull the rug due to the low returns banks are receiving from these loans.

#### Sustainability

Fonterra claims sustainability progress [29 November, Farmers Weekly] Fonterra Co-operative Group's Chief Executive Miles Hurrell reports that although the co-op has had a rough year profit wise, it has still made progress on the sustainability front. Their annual sustainability report has revealed that the co-op has made good progress on four out of 11 sustainability indicators, with the other seven being classified as having a slight delay or making some progress. "The improvements were in recordable injury frequency on Fonterra premises, employee engagement, farm environment plans and manufacturing sites treating wastewater to leading industry standards," according to Mr Hurrell. Diversity targets were not met, with only 29 percent of senior leadership being female and Carolyn Mortland, Global Sustainability Director stated that this figure is causing concern as there is a long way to go to meet the goals set. The company is on track to have all of its dairy farms set up with farm environment plans by 2025. Chairman John Mongahan and Mr Hurrell stated that leading dairy sustainability will not be easy, but that they are committed to ensuring that changes are made and targets are met to ensure we are providing for future generations.

#### Dairy

<u>Big dairy assessment starts</u> [26 November, Riley Kennedy, Farmers Weekly] Holstein Friesian New Zealand are testing over 31,000 dairy cows and two year old heifers to help shape genetic data this season. The data is pooled with milk production records to evaluate the country's top bulls and their performance. Aimee and Dean Perrett are South Taranaki sharemilkers who have a 260 head herd and test their two year old heifers along with a handful of older cows each year. They report that the assessment has revealed to them that their cows have great udders but rump angle needs to be considered when they select bulls at mating. Their genetics are desirable for breeding companies, with almost 40 of their cows this season already contracted to mate. "Other breeds of dairy cows will be assessed by inspectors from their breed societies".

Synlait to optimise investment [28 November, Tim Fulton, Farmers Weekly] Chief Executive of Synlait Milk, Leon Clement, has reported that the company aims to double its revenue over the next five years, after hitting \$1 billion revenue for the first time. The firm reports that it is looking for milk, customers and acceptable margins in order to match its investment. The company's net profit rose more than 10 percent to over \$80 million over the last financial year. Sales also increased, by 16 percent. Staff numbers across the year ended at 900, after starting with 682, and these numbers have grown since. Synlait has had issues in commissioning its Pokeno advanced liquid processing plant. The firm is also looking into new ventures such as sport drinks.

<u>'Cow census' shows NZ farms producing more milk from fewer animals</u> [29 November, Esther Taunton, Stuff NZ] The latest New Zealand Dairy Statistics report shows that although total cow numbers have remained stable, animals produced more milk than ever before last season. The report was issued by DairyNZ and the Livestock Improvement Corporation (LIC), with DairyNZ's Chief Executive commenting that the report demonstrates that farmers' focus on productivity and efficiency is making a difference. Efficient milk production can not only help farmers' bottom line but also help reduce greenhouse gas emissions and nitrogen losses. The report showed that services such as herd testing and artificial breeding are becoming more common to help build improved herd performance. LIC Chief Executive Wayne McNee reported that Mycoplasma bovis may have played a part in reinforcing the idea to farmers that sustainability is necessary and that biosecurity management plays an important part in this.

<u>M bovis search seeks patterns</u> [03 December, Annette Scott, Farmers Weekly] International scientists have been selected to do research to help accelerate the eradication of Mycoplasma bovis. Both global epidemiology consulting company Ausvet and New Zealand's Working Formula have been chosen to research how to identify infected farms faster. M bovis Strategic Science Advisory Group Chairman, Dr John Roche, reported that the knowledge gained from these experts will help to stop the spread of disease by identifying times of risk. Those farms who are potentially infected with Mycoplasma bovis are prioritised for follow-up investigations. Ausvet and Working Formula will help to improve the current follow-up criteria, and Ausvet will also review the surveillance strategy for the bacterium.

#### **Fisheries**

<u>AgriSea boss takes women's award</u> [03 December, Annette Scott, Farmers Weekly] Paeroa firm Agrisea, is the 2019 supreme winner of the NZI Rural Women New Zealand Business Awards. The firm "pioneered the use of seaweed products, brewing and specialising in the manufacture of macro-algae concentrates and bioactive extractions to add high-value nutrition for soil, plant, animal and human health" and supplies to all agribusiness sectors, both domestically and globally. They are helping to advance sustainable farming practices through natural solutions.

#### **Environment & Emissions**

<u>Climate change tips for farmers</u> [11 November, AgResearch] Solutions to reducing greenhouse gas footprints are becoming more accessible and achievable by farmers. It has now been confirmed that lowering nitrate leaching levels on a farm usually helps to reduce its greenhouse gas footprint. This can be done through tactics such as applying nitrogen fertilisers, having good breeding genetics, managing supplementary feed supplies and adjusting the stocking rate to match the feeding supply. It has been reported that managing effluent disposal systems is also crucial in reducing emissions. Optimising the total feed per hectare provides co-benefits.

## FIEID NOTES Weekly news update from the KPMG Agribusiness Network – 05 December 2019

Taking action on agricultural emissions: a Kiwi farmer on our shared challenge [26 November, Mike Peterson, Euractiv] New Zealand's Special Agricultural Trade Envoy, Mike Peterson, has reflected on climate change and how its effects such as extreme weather have been more frequent. Agricultural emissions are a major contributor to New Zealand's total emissions, making up 48 percent. Mr Peterson discusses how that even though this needs to be reduced, global food security is also a pressing issue, meaning the way we do things needs to change. New Zealand has been making changes for a while, such as genetic improvement of animals and pastures as well as efficient fertiliser use, use of high quality forages and decreased use of fossil fuels. Mr Peterson reports that New Zealand as well as Europe's efficient farming systems can be used as a model to help other countries to improve theirs and that a strong global trading system will play a part in this. Mr Peterson states we will have much more of an impact globally if we focus on improving other's environmental standards.

<u>Many reports, little action</u> [29 November, Richard Rennie, Environment & Emissions] It has been reported that although there have been multiple reports in the past 10 years showing that greenhouse gas emissions and nitrogen losses can be reduced, not much action on the research has been made. AgResearch has recently released new research which outlines where farms can reduce these emissions and nitrogen losses. A common result of research is that stocking rates need to drop by at least 5 percent, which can actually increase profit through value-adding. Feed efficiency was highlighted as something that needs to occur. DairyNZ Strategy and Investment Leader Bruce Thorrold reported that it will be hard to get 12,000 farmers to change in the time that it available, with new regulations coming into place.

Low methane New Zealand sheep coming to a farm near you [02 December, Esther Taunton, Stuff NZ] A new genetics programme will allow New Zealand farmers to breed low methane sheep by selecting low methane production as a trait that they are seeking when choosing rams. King Country Stud Breeder Russell Proffit has reported that some of his clients have already shown interest in methane BV which shows that farmers are interested in making progress. To measure sheep for methane, a portion of the flock need to be tested in portable accumulation chambers. The tool is a global first in offering a practical tool to help farmers reduce greenhouse gases. Progress through breeding may be slow - decreasing at around one percent per year, it will not have an impact on productivity, and the results will be cumulative.

#### International

Skåll: €17 million more for Matsmart, Sweden's surplus food marketplace [10 October, Richard Martyn-Hemphill, Ag Funder News] Matsmart has announced that they have raised over €17 million (approx. NZD\$28.8 million) in late-stage funding, led by LeadX Capital partners. Matsmart aims to reduce food waste by selling things online to consumers in Sweden and Finland, focusing on produce that would have otherwise been thrown away. Matsmart will move into Germany next year. In 2018 the company saved 3700 tonnes of food.

Tesco invests in frictionless checkout startup Trigo [17 October, Lauren Stine, AgFunder News] Tesco supermarkets have partnered with Trigo, checkout technology developer, and made an equity investment in the start-up a month after it closed its USD\$22 million (approx. NZD\$33.6 million) Series A round. Tesco have reported that the innovation of Trigo is very interesting and helpful to a consumer's shopping experience, and are looking at using some of the technology in their existing stores in the UK. Trigo allows customers to use an app to pay for the goods they have picked up without going through a checkout kiosk.

China's Largest Dump Fills Up 20 Years Ahead of Schedule [14 November, Li You, Sixth Tone] Jiangcungou waste dump, the largest landfill in the city of Xi'an, China has been reported as being full, 20 years earlier than when it was expected. The landfill takes in 10,000 tonnes of waste each day, which has increased significantly over the last decade. The city will be using incinerators to deal with the excess waste in order to turn it into energy, and they city plans to have five operating waste treatment facilities in use by the end of next year. The closed landfill will be turned into an ecological park, however this will require a lot of time as well as investment to help clean up the soil and groundwater.

<u>Robot fish, alternative packaging, blockchain among winners at final Fish 2.0</u> [14 November, Lauren Stine, AgFunder News] "The fourth Fish 2.0 Global Innovators Forum announced the six lucky winners of its final competition round earlier this week". 200 investors, entrepreneurs and aquaculture experts voted on the winners by watching presentations from 40 finalists. The programme was 18 months long and featured workshops with seafood business and gave feedback to start-ups. Winners include Global Seafood who have made a fish transport box from natural, locally sourced materials and Australian Seafood with their crayfish hatchery. The forum was the last for Fish 2.0 as its founders have reported that they have met their original goal of sustainable innovation in the seafood sector.

Walmart is doubling down on China with 500 new stores [21 November, Sherisse Pham, CNN Business] Walmart is planning to open another 500 stores across China in the next five to seven years. This move would double Walmart's presence in China, which is expected to become the world's largest grocery market in the next few years despite a recent economic slowdown due to decreased growth and a prolonged trade war with the U.S. Chinese consumers however are continuing to spend more. Walmart will use various technologies to entice customers such as facial recognition cash registers.

<u>How taste, protein and ingredients are barriers to plant-based meat adoption</u> [21 November, Jessi Devenyns, Food Dive] Kerry has released a report presenting the five barriers stopping plant-based meat alternative from becoming more widely adopted by those who try it. These are taste, nutritional profile, clean-label ingredients, protein content and a limited variety of items. The ingredients company surveyed over 500 American consumers who regularly eat plant-based meat and eat out. Taste is crucial and must mimic that of meat, reported many of the respondents. Over 40 percent noted that the protein content was also important, with many stating that natural ingredients is also a priority for them. "The study noted sustainability, environmental concerns and the ethical benefits of plant-based meat diets help grow the category, which is seeing an increase in interest from mainstream consumers with no dietary restrictions".

<u>Micro-blog campaign spotlighting sustainable tilapia drives 20-fold increase in online sales</u> [22 November, Mark Godfrey, Seafood Source] Chinese-based NGO GoalBlue ran a successful social media campaign encouraging shoppers to consume more sustainable seafood through promoting tilapia. The campaign resulted in product sales of the promoted product increasing by 20 times normal levels. This shows the power that social media has in shaping consumer consumption. Part of the campaign involved social media influencers demonstrating ways to cook the freshwater fish.

## FIEID NOTES Weekly news update from the KPMG Agribusiness Network – 05 December 2019

<u>Booming, blooming micro-algae</u> [25 November, Richard Martyn-Hemphill, AgFunder News] With micro-algae populating waterways worldwide, it has been reported that they have potential as protein and plastic alternatives, can capture carbon and are nutritious as an animal feed supplement. Micro-algae absorb more carbon dioxide and produce more oxygen than the world's rainforests. However an algal bloom can result in dead zones as they damage other organisms around them. The micro-algae innovation space has lots of opportunities popping up.

<u>Flying Embers hard kombucha raises \$25M, setting sights on disrupting the beer industry</u> [25 November, Jessi Devenyns, FoodDive] A USD\$25 million (approx. NZD\$38 million) round of funding has been closed by Fermented Sciences, the markers of Flying Embers hard kombucha. This funding round was led by Ecosystem Integrity Fund and PowerPlant ventures. The alcoholic beverage comes in six flavours and is both sugar and gluten free, brewed with an adaptogen root blend and live probiotics. The funds from the round will be used to expand national distribution of the product in the US, and also help to innovate new product lines.

Should the cannabis industry be regulated like food & beverage? [26 November, Lauren Stine, AgFunder News] 80 percent of dispensaries tested in Denver for mould, failed testing. It has been reported that this issue exists across the U.S, and can be particularly dangerous for immune-compromised patients as the spores can affect delicate lung tissue. As a result, various states are undergoing testing and are starting to compile testing requirements. Willow Industries, provides an ozone-based technology that is enacted post-harvest and removes harmful spores and contaminants. It is now being asked whether the cannabis industry needs to be regulated just as the food and beverage industries are.

Impossible Foods aims for up to \$5B valuation with latest funding round [26 November, Jessi Devenyns, Food Dive] Impossible Foods is working with its investors to raise over USD\$300 million (approx. NZD\$468,000) in funding to more than double the USD\$2 billion (approx. NZD\$3.1 billion) valuation in obtained in May. This is expected to be achievable due to the plant-based meat space gaining popularity and market share. The latest funding could lead the way for the country to announce an IPO.

<u>Walmart pork contained bacteria resistant to multiple antibiotics, report says</u> [26 November, Cathy Seigner, FoodDive] World Animal Protection have released a report that states pork samples from Walmart contained superbugs resistant to certain types of antibiotics. 80 percent of stores tested were resistant to at least one antibiotic and 37 percent to three or more strains. It has been reported that the fact that the pork is bacteria resistant is concerning as these are critically important to human health.

<u>Regen Ag Renegades: Blue Nest Beef is offering consumers "bird-friendly" beef</u> [26 November, Lauren Stine, AgFunder News] A number of online marketplaces have been popping up which offer to ship boxes of meat straight to the consumer from the farm. This cuts out the middleman and often fives consumers the labels they are searching for such as grass-fed, humane and small batch. Blue Nest Beef is one of these services, based out of Minnesota. They have partnered with bird conservation group National Audubon Society to source its meat only from ranches who have certification from the society. This move comes as an attempt to assure consumers that their beef is raised in an environmentally friendly, regenerative manner.

<u>Virtual reality won't make cows happier, but it might help us see them differently</u> [29 November, The Conversation] Russian farmers are testing virtual reality (VR) goggles on cows to try and make the cows happier and therefore produce more milk as a result. However, there is little research so far to suggest that virtual reality will improve animal's happiness levels. At its current state of technology, VR is unable to provide a full sensory experience. There is evidence that cattle have room for complex thinking, there are an increasing number stuck in restrictive environments and there is an interest in providing them with environmental enrichment in the chance that it might help to improve milk production as well as animal wellbeing.

<u>Roquette launches new plant-based proteins from peas and fava beans</u> [02 December, Roquette] Roquette is releasing two new product offerings made from peas and fava beans. These two plant-based textured proteins are aimed to meet consumer demand for a sensory experience as well as need for sustainability. Food Ingredients Europe will be the first to use the products in recipes created by Roquette themselves such as burger patties and fish stick alternatives. There is room in the plant-based protein sector, due to current products not completely meeting the needs and wants of consumers such as an improved nutritional profile as well as taste and texture performance. The fava bean in particular "is a rich source of proteins and fibres but it is also gluten and GMO-free and not a major allergen".

<u>Snacking is rising to all occasions, report finds</u> [02 December, Cathy Siegner, Food Dive] Innova Market Insights have reported that snacking is an all-day practice in the U.S, with salty snacks in particular becoming increasingly popular as meal replacements. 47 percent of customers surveyed have salty snacks in the afternoon between meals, and 23 percent consume salty snacks for lunch. It has been reported that as a result of this, companies have launched salty snacks with higher nutritional profiles such as nuts and seeds.

<u>World's 'largest animal sacrifice' starts in Nepal after ban ignored</u> [03 December, The Guardian] Hindu worshippers in Nepal have begun killing thousands of buffalo as part of a ceremonial slaughter. It happens every five years, however there have been major efforts to try and stop the festival. At the last festival in 2014, a range of animals were slaughtered with a total estimate of 200,000 to have died. The Gadhimai festival is held in honour of the Hindu goddess of power. A ban was announced in 2015, and authorities were directed to discourage the bloodshed, however this has not been implemented as of yet. Authorities managed to seize a number of animals moving across the border into Nepal in recent days however, not enough to stop the festival.

<u>Farmers leave Dublin city following tractor protest</u> [03 December, Cate McCurry, Independent.IE] Many protestors taking part in a tractor demonstration in Dublin's centre have now left, whilst some have remained. The protest was against low beef prices and caused traffic disturbance for commuters. The group met with Irish Agriculture Minister Michael Creed to discuss their concerns earlier in the week. A number of roads remained closed due to the demonstration.

<u>Will consumers use a new site grading food on label accuracy?</u> [04 December, Jessi Devenyns, Food Dive] New e-commerce Pure Market grades the products it sells to test for 400 attributes using chemistry-based research. The attributes include testing for contaminants, pollutants, pesticides and heavy metals. The company only sells products that it grades as a B- or higher but also lists the results of its testing online, regardless of if it sells the products. Product categories include food and beverage, household cleaning, pet food and health and fitness and the e-commerce platform reports that it will be expanding its categories and product offerings in the upcoming months.

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Field Notes presents a summary of some of the media comment on the Agribusiness sector in the last week. The views expressed do not necessarily represent the views of KPMG but are summaries of the articles published.

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