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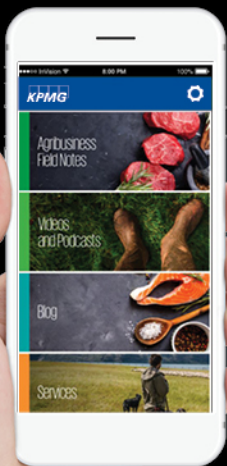
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AGRIBUSINESS

Field Notes



Weekly news update from the KPMG Agribusiness network

Organisations referenced in this week's Field Notes include:

Alliance Group	Motif FoodWorks
Ballance	NapiFeryn
Beef + Lamb New Zealand	Nature Conservancy
Beyond Meat	Nestle
Bite Society	New World
Burger King	North Island Mussels
Callaghan Innovation	NZ Guild of Agriculture Journalists & Communicators
Cawthron Institute	NZX
Choose Clean Water	Open Country Dairy
Creative Snacks Co.	Otago University
Dairy Production Systems	Phyto Corporation
Danone	Plant & Food Research
Department of Conservation	PreScouter Inc.
Environmental Defence Society	Rabobank
Federated Farmers	Raw Seafoods
Field Roast Grain	Rea Estate Institute
Fish and Game	Recreation Aotearoa
Fisheries New Zealand	Revive our Gulf
Fonterra Co-operative Group	Rural Contractors NZ
Forager Project	Rural Innovation Lab
Forest and Bird	S&P Pow Jones
Foundation for Arable Research	Sanford
FruitFed	Shoots Microgreens
Greenpeace	SPATnz
HISBE	Summerfruit NZ
Horticulture NZ	T&G Global
IBM	Tai Tokerau Miere
Impossible Foods	Te Putahitanga o Te Waipounamu
Iris Data Science	The Public Health Association
Kind Healthy Snacks	The True Honey Company
Landcare Research	Waikato Regional Dairy
Leftfield Innovation	Water New Zealand
Ministry for Primary Industries	Whitewater NZ
Ministry of Business, Innovation and Employment	WorkSafe
Moore Wilson	Zespri International

This week's headlines:

Apiculture	Mānuka honey selling for \$2700 a jar is being snapped up at Harrods [17 October/Stuff NZ]
International	'Avoid solving one problem by creating another': Plant-based boom faces sustainability and nutrition challenges [17 October/Food Navigator]
AgriTech	Vertical farming takes off in former Wellington nightclub [20 October/Stuff NZ]
Dairy	Fewer cows produce more milk [17 October/Farmers Weekly]
Environment & Emissions	Seaweed project to reduce burping cows may be an environmental 'game-changer' [18 October/Stuff NZ]

Apiculture

Mānuka honey selling for \$2700 a jar is being snapped up at Harrods [17 October/Stuff NZ] The True Honey Company's Rare Harvest mānuka honey hit the shelves at Harrods last week with a 230 gram jar priced at £1390 (approx. NZD\$2700). This rare batch of mānuka honey is almost \$3000 a jar at London's most famous department stores, making it one of the most expensive foods globally. The limited supply of 1000 jars is not expected to last long, with one customer pre-ordering 10 jars from Harrods. The honey has the highest unique mānuka factor (UMF) ever produced at 31+, more than six times the UMF of some mānuka honeys commonly sold in supermarkets. The honey is made in Ahipara, Northland, although its exact source is being kept under wraps. The company has made a lot of effort to place its hives amongst pure mānuka strands in remote parts of the country which helps to limit the contamination of other nectar. Chief Executive Jim McMillan finds it difficult to comprehend how much people are willing to pay for the product, although stated many are keeping the product for a collector's item or special occasion.

Rice replaces mānuka honey as New World fights shoplifters [22 October/New Zealand Herald] Rice in the mānuka honey jars and empty pottles of oysters on the shelves are two ways various New World stores are combatting shoplifters. Customers are then sold the real thing at the checkout. Shoppers at a Hamilton's New World Rototuna were shocked to find jars of Happy Valley mānuka honey filled with rice sitting on the shelves this week. The honey retails anywhere from between \$28 to more than \$30 and is a favourite for thieves, so the stores have undergone measures to help prevent this from occurring.

Mānuka honey definition to be discussed at Whangārei hui [23 October/The Country] A hui about the definition of mānuka honey is being held at Ngunguru Marae by Tai Tokerau Miere, a group of honey entities. The collective is continuing to fight to have the definition of mānuka honey changed as the current one created in 2017 is "financially crippling" to some beekeepers in the region. The Ministry for Primary Industries (MPI) created an official definition of mānuka honey based on the levels of four marker chemicals, plus the presence of manuka pollen DNA. John Craig, a Pataua North Beekeeper and Former Professor who is part of Te Tai Tokerau Miere reports that the definition cuts out half of Northland's honey crop and that it is well-known that mānuka honey is different all around the country. This had a huge impact on beekeepers as top-grade manuka honey can fetch up to \$70 per kg but if tests define it as non-manuka, the price drops to less than \$20 per kg. Pita Tipene, Chairman of Tai Tokerau Miere, is calling for immediate consultation to establish an interim definition that is more acceptable to all beekeepers and international customers.

Animal Health

New Zealand farmers could benefit from African Swine Fever [18 October/Stuff NZ] New Zealand Special Agricultural Trade Envoy Mike Petersen has stated that close to 70 per cent of China's pig population would be slaughtered by the end of 2019 as a result of African swine fever, which would help to pave the way for New Zealand to help fill the protein deficit. Mr Petersen stated that China loves pork and consumes about 55 million tonnes a year and imported a further 5 million tonnes a year on top of this amount. In comparison, beef consumption sits around a mere 8 million tonnes a year. Mr Peterson predicted the ASF outbreak would result in a 10 million tonne protein deficit in China which would need to be filled by other countries, such as New Zealand. Mr Petersen reported that it is important for New Zealand farmers to retain trade and market access and to fully understand the policy changes coming their way such as the Essential Freshwater proposal. He believes that future growth for New Zealand will come from adding value to beef and lamb rather than increasing stock numbers.

Agribusiness

China trade warning [18 October/Farmers Weekly] Otago University Marketing Expert Dr Robert Hamlin is concerned by the fact that a dollar out every \$3 earned from primary products exports comes from China. The Treasury has also warned about over-reliance on China for exports, particularly in the dairy industry. Dr Hamlin reports as a rule of thumb that no more than 20% of revenue should be earned from one source to ensure a buffer against changes in terms of trade. According to the 2018-19 Ministry for Primary Industries' Situation and Outlook report, primary sector exports to China for the year to June 2019 were \$14.4 billion out of total sales of \$46.3b. The next largest primary produce market is Australia, which is worth \$4.5 billion. China is taking a long-term approach to secure food supplies for its growing population by also buying NZ processing companies, giving it control of the supply chain. Exporters are responding to Chinese demand and pricing and Economist John Ballingall reports that interest is unlikely to change as the Chinese population grows, becomes more affluent and demands more animal protein however stated that reliance on China comes with risks that its economy remains strong.

NZ Guild of Agricultural Journalists & Communicators- Media Release [19 October/NZGAJC] A three-part series by the Country-Wide team looking at the impact of carbon forestry, took out this year's top award in the New Zealand Guild of Agricultural Journalists and Communicators annual journalism awards. The team, led by Editor Terry Brosnahan, won the Ministry for Primary Industries Rongo Award recognising excellence in agricultural journalism. They had heard stories from farmers being outbidded for farms by companies buying the land to plant pine trees, and developed four articles on the issues surrounding land being used to accrue carbon credits rather than traditional farming. Runner-up in the Rongo award was an entry from RNZ's Country Life reporter, Carol Stiles. A total of 14 awards were presented, 13 for journalism and one for photography. The key objectives of the awards are the encouragement and recognition of excellence in agricultural journalism. There was a new award this year, the Ko Tatou This Is Us Biosecurity Journalism Award, established by MPI's Biosecurity New Zealand which was won by Gerard Hutching, of The Dominion Post/Stuff NZ.

Agribusiness Education

Eyeing up ag's opportunities [09 October/Rural Health] Pukekohe High School Teacher Dave Matthews is helping to get teenagers interested in horticulture with his teaching programme catered towards students in years 10-13. At the start of their journey, year 10 students are given a general taste of agriculture and horticulture, learning why they are important to the area and broader NZ. They also look at plant science and get to grow crops from seed to harvest in growing units set up on the school premises. In due course, these are propagated at the school and end up on local farms to help landowners do riparian planting or create wildlife reserves. Year 11 students visit properties such as Limestone Downs, a commercial sheep farm near Port Waikato. There they do day-to-day husbandry tasks such as ear tagging, drenching and tail docking. Older students spend one day per week for 10 weeks working in these businesses, experiencing day-to-day operations and learning, for example, fork truck operation, UTV driving and health and safety. Students have found work in the sector after leaving school and have gone on to technical and mid-management positions locally, NZ-wide and overseas and Mr Matthews reports the benefits of hands-on experience allowing many students to shine especially if they struggle in more theoretical classes.

Red Meat

Beef is big business for the Alliance Group [22 October/Stuff NZ] The Alliance Group has set a second beef processing record. The Matura plant in Southland processed its highest number of cattle of 150,216 for the year to August 8, while its Pukeuri plant, north of Oamaru, processed 71,000 cattle for the season which finished on September 30.

Fake meat no threat to real thing [23 October/Rural News] Beef + Lamb NZ Head Nutritionist Fiona Windle states that alternative proteins are not seen as a threat to the red meat industry. Mrs Windle reports that the NZ meat industry is aiming at quality over quantity as our grass-fed sustainably produced meat will be the product of choice for nutrition conscious consumers and that a shift by some consumers to eating less or no meat is not a concern as it shows how concerned people are about the source of meat. Mrs Windle reports that the narrative of meat produced naturally and sustainably is where we want to position ourselves as you can't substitute the nutrition found in animal foods. She points out that while some plant-based products are healthy, they do not meet daily nutrient requirements and often require eating more calories in order to have the same nutrient density which is just another form of food waste.

Economies & Trade

Global economy's 'stormy waters': How Kiwi farmers can navigate them [23 October/The Country] Rabobank's Head of Financial Markets Research Asia-Pacific Michael Every states that although the global economy is currently unstable, there are opportunities for New Zealand Farmers if they play their cards right. Despite negative expectations for a global economy, Mr Every reported to look for the positive aspects of the situation which includes rates cuts and a drop in New Zealand's OCR. Mr Every reports the economy is nowhere near as bad as it was during the Global Financial Crisis, and that ups and downs are to be expected.

Biosecurity

Waikato farmers not out of the woods yet with Mycoplasma bovis [17 October/Stuff NZ] Waikato farmers aren't out of the woods yet with eradicating Mycoplasma bovis from their herds as the Ministry for Primary Industries have reported the region showing a spike in activity. The region has one active case and 6 farms under a notice of direction (NOD) status. NOD properties are those which have a high risk of being infected, but have yet to return a positive test. Eight farms have been cleared, but 11 are still under surveillance. The activity is divided evenly amongst dairy and beef farming. This is a significant bump up from April, which saw Waikato almost Mycoplasma bovis free, with zero active cases, six farms under notice of direction status and seven under surveillance. Nationwide, there are now 195 confirmed properties since July 2017. Of these, 19 are active and 176 are cleared. There are also 310 properties under a notice of direction and 327 under active surveillance. MPI Regional Vet Jess Shelburne has stated that Mycoplasma bovis is hard to eliminate because it's a bacteria which is not perceptible to antibiotics and vaccinations.

Rural Health

Rural contractors raise \$30K for ambulance and helicopters services [17 October/Rural News] Rural contractors have donated \$30k to support Nelson ambulance and rescue helicopter services. Lifting cushions for Nelson ambulances and immersion suits for rescue helicopter staff are among the benefits to emerge from donations made by rural contractors from around the country. At their annual conference in Nelson in June, Rural Contractors NZ held a fundraising auction and this week their Chief Executive Roger Parton handed over cheques for \$15,791.93 to both St John Nelson Area and the Nelson Marlborough Rescue Helicopter Trust. Next year's Rural Contractors conference is in Rotorua and Mr Parton is hoping to match or cap this year's total.

Passion for workers' wellbeing [21 October/Rural Life] Serena Lyders, of Tokanui, is passionate about the wool-harvesting industry and the health and wellbeing of its workers. She is a Manukura navigator leader and mentor, working for Te Putahitanga o Te Waipounamu, which is the Whanau Ora commissioning agency for the South Island. Mrs Lyders intends to develop a proposal for an online digital platform service, which wool harvesters can access 24 hours a day for health, social, welfare, addiction, counselling, governmental and financial literacy services. The research will contribute to her proposal, which she wants to present to her board in about six months' time. Mrs Lyders states that feedback from shearers and woolhandlers included difficulties accessing counselling and addiction support, the need for parenting information, as well as questions around IRD, child support, family entitlement payments. She has identified gaps within the industry with financial literacy, family violence and mental health issues.

Irrigation

Is this the future of irrigation? [17 October/Farmers Weekly] A six-year research programme on irrigation has ended with a big win for agriculture with the development of promising new sensor technology systems that give arable, vegetable and pastoral farmers the tools to use precision irrigation at sub-paddock scales. The systems work alongside existing irrigation scheduling technology, mapping and monitoring a field at sub-paddock scales and calculating exactly how much water is needed at the right time and place. It is a leading development for irrigation and field trials have proved to dramatically reduce water wastage, save users money and minimise farm runoff. The project was funded by the Ministry of Business, Innovation and Employment and led by Landcare Research with Plant and Food Research and the Foundation for Arable Research. The researchers found their method reduced drainage to near zero and concluded it can substantially reduce the environmental impact of irrigation. The next challenge will be for farmers and growers to integrate the smart irrigation into their farm business in a cost-effective way.

Horticulture

A big future ahead [22 October/Rural News] 18 year old, Young Vegetable Grower of the Year Austin Singh Purewal has managed a lot in his horticulture career already. Mr Purewal won the Horticulture New Zealand Pukekohe regional competition as well as the national title in Tauranga two weeks ago. Mr Purewal also holds a NCEA L3 in agriculture, a GrowSafe Certificate and an approved handler certification. Following his regional success, Purewal was offered a role in the T&G Global key accounts team, supporting sales to supermarkets and connecting growers with customers. Mr Purewal hopes to use his win to explore new opportunities in the industry and build experience and knowledge. He states that he had the opportunity during the competition to network and see what is achievable in the industry. Throughout the leadership panel and speech events, Mr Purewal voiced his views on the importance of diversity and encouraging young people into roles in the industry. HortNZ Chief Executive Mike Chapman stated that competitions like these are essential because they highlight horticulture as a vibrant career for young people.

Summerfruit growers vote on levy [22 October/Rural News] Summerfruit growers are voting on whether to continue industry funding for biosecurity, crop protection and export market access. If passed, the new commodity levy order will let Summerfruit NZ levy growers for another six years. Summerfruit NZ Spokesman Tim Jones reports that they have positive support for the current levy calculation method which is based on a percentage of sales value, so it will be put forward as an option in the referendum. Summerfruit NZ are also proposing no increase for the maximum levy rates. The outcome of the vote will be known soon after voting closes on November 8. Summerfruit NZ represents more than 220 growers. The summerfruit market is worth \$127 million a year, 69 percent of this being export sales.

Kiwifruit pushes onto dairy land [22 October/Farmers Weekly] Two properties destined for conversion to kiwifruit in the Pukehina area are among the few dairy farms being sold. It is fringe kiwifruit land away from the main post-harvest infrastructure in the Bay of Plenty and indications are the buyers are already in the industry with the knowledge to make the bare-land investment, according to Real Estate Institute Rural Spokesman Brian Peacocke. Bay of Plenty was a busy region for rural real estate activity in the September quarter with dairy farm turnover remaining low but prices are strong for the good farms, which are selling according to the latest report from the Institute. The median price for dairy farms has increased about 23 percent over the year to the end of September and the institute's dairy farm index is nearly 21 percent stronger than a year earlier. As part of the strong annual gain, the dairy farm index rose 10.3 percent from August to September.

Zespri tries to whet US appetite [22 October/Farmers Weekly] Research has become a bigger part of Zespri's marketing mix as it reverts to basics to increase sales in the United States. The US is a comparatively recent market for Zespri, which has previously looked to China and Japan for growth. The kiwifruit marketer opened a pan-American office in 2017. Last year US sales reached almost \$100 million, an annual increase of 50% and Zespri Chief Grower David Courtney reports this season will see even more fruit sold, with expectations sitting around 7 million trays to be sold, with sales driven by the SunGold variety. The United States is a relatively underdeveloped market for kiwifruit where it is number 21 in the overall fruit bowl. In Europe and Asia it is in the top 10. Zespri hopes US sales will drive it toward its sales goal of \$4.5 billion by 2025. Global trade uncertainty has little impact on Zespri because it moves little into the United Kingdom and if anything tariffs have hurt US exporters wanting to get their fruit into China, according to Mr Courtney. Zespri is still finalising the commercialisation of red kiwifruit, which could be grafted by growers as early as the middle of next year if it goes ahead. Zespri is still testing how well the fruit travels.

Helping farmers make green dough [23 October/Farmers Weekly] Leftfield Innovation, is helping farmers explore alternative land uses and contracts. Funding the enterprise mostly from trust grants, processing companies, farmers and science funds, the Co-Founders Nick Pyke and Susan Goodfellow and four colleagues are exploring commercial opportunities for farmers to convert low-yield farmland to grow high-yield crops. Mr Pyke, formerly Foundation for Arable Research Chief Executive, reports that the company is about capturing more value from farms and processing and from the wholesale and retail sectors. Leftfield's strategy allows farmers to transition to sustainable land use options immediately, doing what they know but better. Lessons learned from the best practices will be shared among the groups, scaling the environmental benefits faster. Capturing on-farm data will enable the provenance story to be told through the use of data to prove how the food was grown, including the carbon footprint, water use and impact on biodiversity.

Horticulture's contribution grows [23 October/Rural Life] Latest figures from the Ministry for Primary Industries (MPI) bear out the shifting pattern of New Zealand's primary export sector, with our biggest primary export, dairy, seemingly topped out at around \$18billion at least for the next three years, meat stuck at around \$10billion and forestry down around 16% year on year at \$5.8billion. Returns for horticultural farmers, meanwhile, jumped 13.7% for the year to \$6.1billion. MPI's latest "situation and outlook" report forecasts it will move into third place as the country's biggest export earner next year, at \$6.3billion. This is supported by strong demand from Asian markets, particularly for apples, as well as high production volumes for gold kiwifruit and attendant higher prices. Supply and services company Fruitfed has shown cumulative growth of almost 2 percent over the past four years. Development of orchards and vineyards around the country continued to support revenue growth for the business.

Planting plan paves way ahead [23 October/Rural Life] Gerard and Renee Weir farm a 3400ha sheep and beef farm in conjunction with Gerard's parents Stuart and Tracey. They have just completed planting 1300 natives around an irrigation dam and also fenced off the area to keep stock out. Their riparian planting project is the first of many the Weir family have in the pipeline. Gerard Weir said planting was a joint effort within the family as they see it as inevitable.

AgriTech

Vertical farming takes off in former Wellington nightclub [20 October/Stuff NZ] Shoots Microgreens is one of NZ's first vertical farms and is housed in a former nightclub in Wellington. The space has been transformed into an urban market garden supplying over 80 restaurants and also sells produce for stores such as Moore Wilson. Microgreens are the intense flavoured first shoots and leaves, and are popular among chefs and bartenders for garnishing meals and cocktails. Co-owner Matt Keltie started the business last year and it now employs three fulltime workers, although it is yet to make a profit. Mr Keltie states that vertical farming is all about using an efficient production area, recycling water, and having a lower carbon footprint. Everything is recycled including the water and growing trays, and deliveries are made using e-bikes. Prices start at \$7.25 for a tray of peas, which grow in a little over a week, whereas slower growing red sorrel is priced accordingly higher.

Sheep facial recognition: Funding helps bring software one step closer [22 October/The Country] Sheep NN, the world's first sheep facial recognition software, developed in Dunedin, is set to be prototyped this year. The project has been created by artificial intelligence and machine learning company Iris Data Science, has received a \$40,000 grant from Callaghan Innovation towards the \$100,000 project that will take the model to prototype by the end of the year. The project aims to cheaply re-identify sheep, potentially removing the need for ear-tags while also solving other farm management and broader issues. The team recently began collecting data and developing similar technology for other livestock, including cattle and goats, and expected that would be available shortly after the sheep prototype. Once prototyped, then it could be put in front of industry and potential investors and it was hoped to be able to do that early next year, according to Co-Founder Greg Peyroux. Interest has been shown by the likes of software and hardware manufacturers, mostly overseas, particularly Australia.

Gas calculator gets support [23 October/Farmers Weekly] Jo Kerslake and Mark Teviotdale from AbacusBio are keen to help farmers understand their on-farm emissions and are one of four projects given the go ahead by the Rural Innovation Lab. They now have data scientists and software developers at their disposal, helping them to create a calculator to help farmers to quantify greenhouse gas emissions. The team is initially spending time researching farmers' needs and priorities, in order to identify gaps and meet requirements. The resources and guidance from the Lab are proving valuable to get the project going. Mrs Kerslake also appreciates having the other innovation projects to connect with.

NZ profile raised at Irish ploughing [23 October/Rural News] NZ's Ambassador to Ireland, Brad Burgess states that plenty of opportunities exist for New Zealand to sell more product to Ireland, especially for products and services to Irish farmers who face challenges similar to their counterparts in NZ. Mr Burgess reports that the fact that the two countries have pasture based agriculture focused on dealing with environmental problems opens the door for NZ agritech companies to provide solutions to Irish farmers and the countries can work together to reduce their respective carbon footprints. NZ had a high profile at the Irish National Ploughing Championships this year with its own stand supporting NZ companies exhibiting. The NZ embassy site hosted NZ agritech companies looking for business in Ireland.

Farmers & Producers

Farm plan tick-boxes scorned [18 October/Farmers Weekly] A group of public health, environmental, infrastructure and recreation organisations have pooled together to oppose mandatory freshwater plans for farms, reporting that clear and explicit rules are a better way to manage high-polluting activities. The group included The Public Health Association, Forest and Bird, Fish and Game, Environmental Defence Society, Recreation Aotearoa, Greenpeace, Water New Zealand, Whitewater NZ and Choose Clean Water and responded together on Government proposals on improving the nation's freshwater quality. They came up with four fundamental policies, including opposing the use of farm plans as regulatory instruments because clear rules are the best way to achieve the Government's goal of measurable improvements within five years. The Government's proposals are estimated to cost at least \$1 billion over 10 years and have been a worry for the farming sector, which is already under pressure from tighter access to credit. It also backed strong pollution limits as proposed by the Government and recommended by scientists. The environmental groups' final policy was for all sectors, regions and communities to contribute to improving water quality. They oppose an exemption proposed for the country's six largest hydro-schemes.

Farmers ramp up gun campaign [22 October/Farmers Weekly] Farmers are ramping up their campaign to change new firearm laws to allow some of them to use otherwise banned firearms for pest control on their properties. The legislation as proposed will compromise the ability of landowners with significant pest problems to do control, so Government officials were invited to hear the concerns from some affected Central Otago farmers, according to Federated Farmers Board Member Miles Anderson. Proposed exemptions in the Bill extend only to people directly involved in pest control and employed by or working for the Department of Conservation, regional councils and professional pest controllers. Miles Anderson states that farmers with a genuine pest problem should also be given dispensation to use these prohibited weapons as he reports that it appears Government officials have not realised the firearms are needed to control growing populations of rabbits, deer, Canada geese, pigs, wallabies and hares. They also want the proposed five-year firearm licence extended to 10 years. Meanwhile, the National Party's Police Spokesman Brett Hudson reports that amendments they proposed to provide flexibility for pest control have largely been ignored by the Government.

100 per cent organic farming cuts greenhouse gas but almost halves yields – research [23 October/The Country] UK scientists report a switch to organic farming across England and Wales could reduce greenhouse gas emissions, but could also reduce yields. The study suggested that emissions would be reduced as a result of organic farming, but when increased land use abroad is factored in to compensate for decreased domestic production, net emissions would rise. The authors found that compared with conventional farming, organic production would lead to a reduction in emissions of 20 per cent for crops and 4 per cent for livestock. Given the contribution livestock farming makes to greenhouse gas emissions, the authors argued that reducing meat consumption could play an important role, and release land for crops for human consumption and carbon storage. However they concluded that it is unlikely that there exists any single approach to achieve environmentally sustainable food production.

Water

Water policy stymies green work [22 October/Farmers Weekly] Tararua Farmers Simon and Trudy Hales report that hill country farmers will be deterred from doing environmental protection and enhancement because of limits put on land use by the proposed Essential Freshwater policies. They believe restrictions on farmers' ability to realise the productive potential of their land will stymie investment in environmental protection. The couple, this year's Supreme Award winners in the Manawatu-Wanganui Region Ballance Farm Environment Awards, estimate over the past four years they have spent about \$120,000 on environmental protection on their 970ha, 819ha effective, hill country farm. They have retired land and more actively managed other areas through planting but have been able to do it only by lifting productivity. Feed crops have become a critical part of the Hales' system and under the Government's proposed policy the growing of these feed crops on slopes of 10 degrees or more, which is most of the Hales' property, would be prohibited without a resource consent. Beef + Lamb Environmental Policy Leader Corina Jordan is also concerned the Government's proposals to restrict increases in cropping area and farm emissions will prevent other farmers wanting to increase farming efficiency and improve environmental performance.

Aquaculture

\$200 million payoff expected from SPATnz Greenshell mussel breeding trial results [19 October/Stuff NZ] Nelson-based trial results showing hatchery mussels can grow up to twice as fast as those caught in the wild is expected to be worth about \$200 million a year to the wider New Zealand economy. Greenshell mussel company SPATnz released the results of its multi-year breeding programme on Friday, developed in partnership with Sanford, the Ministry for Primary Industries and the Cawthron Institute. SPATnz Programme Manager Rodney Roberts reported that trials showed that the SPATnz mussels reached market size at a significantly faster rate, taking an average of 16.7 months to grow from seed to harvest size of around 55 grams. In comparison, wild-caught varieties took 28.3 months to reach weighted averages, nearly a year longer. SPATnz has developed hatchery facilities and methods capable of producing spat for around 30,000 tonnes a year of adult mussels. Last year the industry produced a total of 90,000 tonnes of Greenshell mussels. MPI Director of Investment Programmes Steve Penno reported the results were great news for the mussel sector. There is no genetic engineering involved in the selective breeding. The scientists pick the cream of the crop as parents for selective breeding so their offspring are among the best that nature provides. Both Sanford Chief Executive Volker Kuntzsch and Mr Roberts agreed the mussel breeding programme could help mitigate the impact of climate change on the aquaculture sector. As well as faster growth, SPATnz and Cawthron were focusing on other characteristics that selective breeding could promote, such as better mussel condition, as well as looking at enhancing the anti-inflammatory qualities of Greenshell mussels.

Coromandel mussel farmer playing his part in restoring seabed reefs [22 October/Stuff NZ] A mussel reef restoration project by community group Revive our Gulf will put life back into the Hauraki Gulf, following years of over-fishing and degradation which has left the seabed in poor condition. The group is made up of scientists, mussel farmers, donors and community members, have been taking action to improve the health of the Hauraki Gulf by restoring seabed mussel reefs. The group has already placed 150 tonnes of live green-lipped mussels at a number of sites near Rotoroa Island and in Mahurangi Harbour. This year, North Island Mussels Operations Manager and Coromandel Resident Michael Moy donated 30 tonnes of mussels to the cause. The reef restoration project was given \$400,000 in funding from Fisheries New Zealand, the Department of Conservation, and The Nature Conservancy. Biosecurity protocols are followed to prevent the spread of marine pests, and this includes decontamination of mussels by soaking in fresh water before transport.

Health & Safety

Hawke's Bay orchard worker electrocuted after coming into contact with 33kV overhead line [18 October/The Country] A person who died last week in a workplace incident near Napier came into contact with a 33kV overhead electricity supply line on an orchard. It has been reported that the deceased was an orchard worker. Police have finished their initial involvement with the incident which is being investigated by national government health and safety agency WorkSafe and has also been referred to a coroner. The WorkSafe investigation will include how the worker came into contact with the power line. The company sent crews to the site immediately after being advised of the incident and "de-energised" supply in the area, which had momentary disruption to about 600 customers, and longer disruption for a small number in the immediate area. Currently 46 workplace fatalities nationwide this year are under WorkSafe investigation. There were 63 last year and 76 in 2017.

Environment & Emissions

Farmers fear being penalised unfairly by healthy waterways policy [17 October/Stuff NZ] Beef + Lamb New Zealand state that many hill country farmers could be locked into low-return agriculture by government policy, with little chance of breaking the cycle. Beef + Lamb NZ are worried that the grand parenting provisions of the government's Action for Healthy Waterways plan released last month could reward the guilty and punish the innocent. Beef + Lamb NZ state that their farmers support the intent of the proposals but are nervous that low-emitters may be used to help mitigate the effects of high emitters of nitrogen.

Seaweed project to reduce burping cows may be an environmental 'game-changer' [18 October/Stuff NZ] A Cawthron Institute project to turn seaweed into a methane-reducing cattle feed supplement has received government backing of \$100,000. Agriculture Minister Damien O'Connor stated that if the project is successful it could be a game-changer for farmers globally and could help keep New Zealand as one of the most productive and sustainable countries in the world. The Cawthron Institute is to receive the money from the Government's Sustainable Food & Fibre Futures fund to turn the seaweed, *Asparagopsis armata*, into a cattle feed supplement for domestic and global markets. This particular seaweed contains chemicals that have been found to reduce the microbes in the stomachs of cattle that cause them to burp when they eat grass.

Lower P losses with new fert [18 October/Farmers Weekly] After 10 years of development and Primary Growth Partnership funding, Ballance has released SurePhos, a superphosphate formulation it reports will help deal to one of the big two fertiliser nutrients tagged as being the culprits in waterway degradation. Ballance Innovation Leader Dr Jamie Blennerhassett stated that national attention has been directed at nitrogen levels in waterways but 75% of New Zealand waterways are also classed as phosphate limited and highly vulnerable to further phosphate run-off. Mr Blennerhassett reports that SurePhos is a highly stable, gradual release product with a lower water solubility than traditional reactive phosphate. Cost per tonne is about \$330, compared to \$320 a tonne for conventional superphosphate. SurePhos is available only in the North Island after a \$10 million investment in processing equipment at Ballance's Mount Maunganui plant.

Controversial biological methane target in Zero Carbon Bill unchanged despite lobbying [21 October/The Country] Strong lobbying from both environmentalists and farmers has not had an impact on the inclusion of controversial biological methane targets in the Government's Zero Carbon Bill. The new report on the Bill shows the legislation's original commitment to reducing biological methane by between 24 to 47 percent below 2017 levels by 2050 remains in place. This is despite intense lobbying for the targets to be fixed, not at a range, at either 24 or 47 percent. National's Environmental Spokesman Scott Simpson has stated that not nearly enough of the bill has changed. Mr Simpson reports that currently the only way farmers can reduce this type of biological methane is by reducing their stock count. But Prime Minister Jacinda Ardern states that the range is based on the Intergovernmental Panel on Climate Change (IPCC)'s science, which cited international evidence. Based on the original estimates of the bill's progression through the Parliamentary system, the bill was meant to be introduced into the House October last year and in force last month but currently still has a few stages to get through before it goes into force.

Farmers brace for snow after MetService warns of heavy snow for South Canterbury [21 October/Stuff NZ] Federated Farmers South Canterbury Branch President Jason Grant has reported that a late spring snow dump forecast to arrive this week in South Canterbury and parts of Otago would have an impact on farmers and stock, especially those in the midst or at the end of lambing and calving season. MetService Meteorologist Kyle Lee urged South Cantabrians to secure outdoor possessions ahead of the wind, rain and snow expected to batter the region this week.

Seaweed may be key to reduced emissions [22 October/The Country] Prime Minister Jacinda Ardern and Agriculture Minister Damien O'Connor last week announced government support for a project surrounding seaweed that has been billed as having the potential to substantially reduce agricultural greenhouse gas emissions from cattle. The Cawthron Institute is aiming to turn a native red seaweed (*Asparagopsis armata*) into a greenhouse gas-busting cattle feed supplement for domestic and global markets. In previous trials *Asparagopsis* has been proven to reduce greenhouse gas emissions in livestock by up to 80 per cent. Hon O'Connor states that aquaculture is a growth industry for New Zealand, and has the potential to play a more significant role in the economy. It is currently worth \$600 million a year, and employs more than 3000 people. Hon O'Connor has reported that this project could lay the foundations for a new high-value industry and also create export potential and on-farm economic benefits, including price premiums for milk and meat.

Federated Farmers 'disappointed' methane target unchanged [23 October/The Country] Federated Farmers is disappointed that the Government left the same biological methane targets in the Zero Carbon Bill, despite opposition from farmers and lobbying groups. Federated Farmers report that farmers will continue to work on their carbon emissions and water efficiencies on farm despite what they believe are unrealistic targets for methane proposed to be set by the Government. After months of scrutiny from MPs from both sides of the political aisle, the environmental select committee on Monday released its much-anticipated report on the Zero Carbon Bill which revealed that the legislation's original commitment to reducing greenhouse emission from cows and sheep by between 24-47 per cent below 2017 levels by 2050, remained in place. Federated Farmers reported that the science showed that a 10 per cent reduction by 2050, followed by stable emissions, was all that was required for methane from New Zealand's livestock to no longer contribute to increased global temperatures. The legislation's commitment to reducing all greenhouse gas emissions, aside from biogenic methane, to net-zero by 2050 also remained unchanged.

Wool

Shearing costs eat wool cheques [18 October/Farmers Weekly] A fourth straight year of poor strong-wool prices lies ahead for sheep farmers. After the increase in shearing charges over the past year, Beef + Lamb New Zealand have estimated that shearing costs take up 90% of farm wool receipts. Until the start of the downturn four years ago shearing costs typically accounted for just 45% of wool returns. In its New Season Outlook B+LNZ reported that crossbred prices should be little changed on last year but overall the wool clip, from fine and mid-micron flocks as well, should be up slightly in volume, by about 1%, because of good seasonal conditions. In 2018-19 mid-micron provided 15% of wool supply and 18% of export receipts. This illustrates the poor returns for strong wool with 78% of total supply but just 53% of receipts. The New Season Outlook stated in inflation-adjusted terms, the estimated strong wool price will be the lowest since at least 1960-61. This year average export receipts for all wools are expected to be down 1.7% at \$5790 a tonne.

Dairy

Fewer cows produce more milk [17 October/Farmers Weekly] An emerging approach to dairying might let farmers obey environment rules while maintaining or growing milk production. The farm system change project has found farmers can run fewer but higher-performing cows while maintaining or growing milk supply. It is done by accurately managing costs, feed quality and quantity to maintain cow condition, which results in a more efficient farm and conversion of feed by cows. Farm system change has been developed over many years by Consultant Bryan McKay of Dairy Production Systems who says he has compiled up to six years of data from 18 farms to show it is workable and profitable. Mr McKay reports that running fewer, more productive cows means feed use is higher and lowers the farm's environmental footprint, helping it meet climate change and freshwater requirements. The farms are also profitable. In the low milk payout of 2015-16 McKay's clients averaged profits of more than \$2000 a hectare compared to average Dairy Base farms, which recorded a loss. The key is to treat cows as a central processing unit and that means ensuring they operate efficiently and are fuelled with correct volume of high-quality feed.

S&P Global launches skim milk powder index [22 October/The Country] S&P Dow Jones Indices reports that it has collaborated with the NZX to form a skim milk powder index to track the progress of the world's most actively traded dairy export. The index is the latest in a series of single commodity indices to be introduced by S&P Dow Jones. S&P Dow Jones collaborated with the NZX to create the index, based on NZX Skim Milk Powder futures contracts. Nick Morris, Head of Derivatives at NZX, said the index is the first Oceania-based single commodity index added to the S&P GSCI family of indices. New Zealand is the world's largest exporter of dairy products and the third largest skim milk powder exporter after the European Union and United States.

Open Country Dairy fined a record \$221,250 for discharging objectionable odour [22 October/Stuff NZ] Open Country Dairy was fined \$221,250 by the Waikato Regional Council after its Waharoa factory discharged an objectionable odour which left residents unable to open doors and windows and also caused headaches and vomiting. The fine and conviction was handed down to the country's second largest dairy company in the Morrinsville District Court by Judge Melanie Harland last week for discharging objectionable odour, which caused significant impacts on a local community, and also unlawfully discharging wastewater, impacting on a local river. The case was brought against Open Country Dairy following numerous complaints from local businesses and residents. After an investigation, the Council found in March 2018 that the odour was connected to the failure of the company's wastewater pond liner. As a result, contamination of the Waitoa River also occurred which was sufficient to create a sewage fungus growth that was visible within the river. The company is a repeat offender and Judge Harland also issued an enforcement order, which the company agreed to, prohibiting further objectionable odour from the site.

Fonterra lifts forecast milk price to \$6.55-\$7.55 range [22 October/Stuff NZ] Fonterra Co-operative Group farmers has lifted its 2019-2020 forecast farmgate milk price range from \$6.25-\$7.25 per kilogram of milksolids to \$6.55-\$7.55 kg/MS. It will pay an advance rate which will be set off the mid-point, \$7.05 per kgMS, of the revised range. Bay of Plenty Farmer Ian Jeffrey said the raised forecast would be welcomed by farmers and states the price is backed by global returns and the co-operative's new strategy starting to work. Fonterra Chairman John Monaghan has reported that the dairy giant has been achieving good prices for its milk so far this season with firm demand and that their skim milk powder had been selling at higher prices than European Union and United States dairy companies in global dairy trade auctions. Chief Executive Miles Hurrell warned while the signals looked positive, there were global trade tensions and political instability in some of key sales regions. This was why there was a wide forecast price range.

International

Why plant-based meat uses many protein sources [15 October/Food Dive] PreScouter Inc. has released a report on meat alternatives which found that Beyond Meat, Field Roast Grain Meat Co. and Impossible Foods all use more than one type of plant protein in their products. Protein sources being used include pea, rice, mung bean, soy and potato. PreScouter reports that the main concerns driving the increased demand in plant-based proteins are health and environmental issues. Diversification in protein sources may be a solid strategy for makers of plant-based meat alternatives as there have been concerns about the sustainability of pea protein. This situation could also present additional market opportunities for makers of plant proteins according to PreScouter Inc because through companies using multiple protein sources lends itself to better texture and nutrition. The 64-page report also looked at technologies used to produce meat alternatives and described some current academic research looking into potential protein sources such as lab-cultured insect tissue.

Kind expands better-for-you footprint with Creative Snacks Co. buy [16 October/FoodDive] Kind Healthy Snacks have acquired Creative Snacks Co., a better-for-you snack manufacturer from North Carolina. Financial terms of the deal were not disclosed. This acquisition marks Kind's first time to broaden its product portfolio through merger and acquisition. Creative Snacks Co. was founded in 2009 by a husband and wife team and produces products that include almond and coconut nut clusters, trail mixes, dried fruit, granolas and pretzels. This move has come after CEO Mike Barkley stepped into the role around a month ago, taking over from company Founder Daniel Lubetzky. The company is focused on revolutionising snacking for adults by creating snacks that are healthier and more nutritious to consume.

The Impossible Whopper is driving steady traffic to Burger King, data shows [16 October/CNBC] After Burger King launched its Impossible Whopper in mid-July as part of a trial phase, data has shown that customer traffic has lifted across all American stores for the chain. Data reveals that the introduction of Burger King's meat-alternative patties increased traffic at the global fast-food franchise both during city-specific testing as well as after a nationwide rollout. The burger patty is supplied to Burger King by Impossible Foods.

Danone invests in plant-based food company Forager Project [17 October/FoodBev Media] Danone has invested in plant-based food and beverage firm Forager Project, which manufactures a range of dairy-free yogurts and milks. Forager Project has reported that the collaboration will help it build its portfolio, enhance sustainable sourcing and production, increase brand awareness and widen distribution. Danone stated that it believes Forager Project is a unique brand with strong potential. Last year, Danone revealed plans to triple the size of its plant-based business by 2025 by combining its position in the dairy industry with the high plant-based growth potential. In February, Danone North America opened a new building at its DuBois, Pennsylvania facility to increase production of its plant-based foods.

Why employees are leaving Big Food to work for Motif FoodWorks [17 October/Food Dive] Although Motif FoodWorks is still in its R&D phase, the ingredients innovation company is ramping up its growth efforts. With USD\$117.5 million (approx. NZD\$183.5 million) in funding raised this year, the company has been stacking its teams with experienced hires and continuing to build up its biological engineering platform to recreate proteins from dairy, egg and meat to use in plant-based alternatives. Motif's Chief Commercial Officer Michele Fite has reported that the company is working to create high-quality, animal-free ingredients that meet consumer demands for sustainability. The company is preparing to launch products by 2021. Employees making the move from well-known businesses and CPGs to Motif report that they made their moves because the company is paving the way for more functional and sustainable ingredients.

'Avoid solving one problem by creating another': Plant-based boom faces sustainability and nutrition challenges [17 October/Food Navigator] Booming demand in plant-based foods is raising complex issues, from the nutritional profile of formulations through to the sustainability of ingredient sourcing. Experts have warned that the industry may be avoiding one problem through creating another. Plant-based options are commonly viewed as being healthier and more sustainable however in pursuit of desired taste and texture, some manufacturers are turning to ultra-processed ingredients in order to satisfy consumer wants. As plant-based ingredients gain higher demand, deforestation, loss of biodiversity and degrading soils are also challenging topics that will need to be overcome. In order to develop a sustainable food chain it has been reported that a diversification of protein sources needs to be adopted.

Calorie labelling on restaurant menus produces healthier meals: study [17 October/Food Navigator] A UK study argues that if government policy made calorie menu labelling mandatory, it could encourage restaurants to produce healthier options, leading to public health benefits. Items from the restaurants they studied with in-store menu labelling had on average 45 percent less fat and 60 percent less salt than items from other restaurants. The researchers stated that compulsory menu labelling could lead to restaurants altering the content of their food in order to make healthier meals for citizens as they would be under greater scrutiny from media, campaign groups and the public.

Shellfish plant is putting scallops on IBM's food tracking blockchain [17 October/Coin Desk] The Raw Seafoods plant in Massachusetts, is collaborating with IBM Food Trust to track the provenance of fresh scallops using blockchain technology. A fleet of scallopers owned by Capt. Danny Eilersten will upload data about each catch sourced in a local fishing ground onto the blockchain platform. The project also shares data with distributors, suppliers and retailers, including when a boat landed port-side and when each scallop lot was hand graded, selected, packed and shipped to its final destination. Raw Seafoods plans to launch a mobile app allowing customers to access scallop provenance starting this November. The partnership is designed to give consumers increased trust in the seafood they are eating. Daniel McQuade, Vice President of Marketing at Raw Seafoods, hopes the system will also help fisheries manage their scallop stocks more effectively, matching up supply and demand.

Could rapeseed protein be the new soy? Start-up develops tech for ‘Raptein’ extraction [18 October/Food Navigator] Polish start-up NapiFeryn Biotech has developed technology that isolates and purifies rapeseed protein for food formulation. Rapeseed, or canola contains approximately 20 percent protein and the company has developed technology it hopes will reduce food insecurity and encourage an increased uptake of plant-based eating. Their purification process helps to remove rapeseeds intense bitter taste. The company argue that the protein may challenge soy’s leading position in plant-based proteins as it does not use chemical solvent hexane present in the soy industry and also contains higher levels of certain amino acids. NapiFeryn is currently in the pre-commercialisation phase, delivering sample quantities to the food industry from a pilot facility. NapiFeryn plans to license its technology to oil producers, who will manufacture the food additive themselves.

Nestlé aims to quench sagging water sales by restructuring [18 October/Food Dive] Nestlé Waters will restructure from a globally managed business to one that is managed locally in each of the company's three geographic regions, according to Nestlé CEO Mark Schneider. Maurizio Patarnello, who oversees the water division, will leave after 16 years. According to Mr Schneider, 60% of the unit's business by volume in the water category is local brands in various countries so operating with regional units will improve proximity to the customer and allow for Nestlé to focus on higher-margin segments. Jefferies Analyst Martin Deboo has reported Nestlé is losing share in still water and has been slow to respond to rapid growth in sparkling and flavoured water as demand for water is still growing.

Personalised nutrition: A chance for real change [21 October/Food Navigator] Personalised nutrition has the potential to be at the forefront of real change in the fight against nutrition and lifestyle caused chronic diseases, according to experts speaking at the Future Food-Tech Summit. Experts reported that personalised nutrition would allow companies to take a lead role in helping people to understand the importance of lifestyle and nutrition. One expert pointed out that personalised nutrition apps and wearable devices are also a good way to start advertising healthy food. Personalised data will help consumers stick to compliance, as personal data and feedback will help them to move forward. It has been reported that interest in personalisation will appeal to a wide range of customers, from those trying to boost performance to those concerned about healthy ageing.

Good, cheap vegan chocolate: Bite Society launches first products into APAC [21 October/Food Navigator] Zero-profit vegan start-up Bite Society has just launched its first chocolate products into APAC, and has revealed plans for further portfolio and geographical expansions, as well as a focus on competitive pricing for its products. The first two products being released are a crispy rice chocolate ball and a crispy rice chocolate bar and both carry claims of being vegan with no palm oil or malt. The products are available in selected stores across America, New Zealand, Australia and Hong Kong. Founder Simon Newstead stated that the company has their eye on more Asian locations such as China and Singapore. Mr Newstead reports that the company’s focus is affordability and taste. The company wants to launch into a major supermarket chain as soon as possible and is trialling new flavours and products. The firm has faced struggles finding a vegan co-packer and dealing with cold-chain logistics.

World-first plant-based salt: South Korean firm utilises sea-based crop to develop product range [22 October/Food Navigator] South Korean food technology company Phyto Corporation has developed a range of unique products all based on its research into a single plant, the seawater-grown crop Salicornia including salt. The sea-based crop has been known for a while as a sustainable crop but has not been a practical food so far as it is too salty to eat. The corporation holds more than 30 patents for Salicornia-based products including PhytoSalt which is the world’s first plant-based salt and is also the world’s only naturally low sodium salt which can help to reduce sodium intake. They also have flour alternative PhytoMeal, which has 40 percent less calories and 60 percent more calcium than regular flour and MemoryTea which has been claimed to have memory enhancing properties and is being targeted at both the elderly and students. The products will first be sold in South Korea before moving into global markets.

Meet the ‘supermarket rebel’ shaking up retail: ‘It’s important we are copied. So copied that we ignite a food revolution’ [22 October/Food Navigator] Alternative supermarket HISBE is balancing purpose and profit to ‘set a new course’ for conventional retail and Executive Director Ruth Anslow reports that now is the time that supermarkets need to evolve, and they want to pave the way forward. Its values include local and sustainable sourcing, meeting animal welfare standards, reducing food and packaging waste as well as high ethical standards. The supermarket gives 67% of what is spent at the store back to suppliers, as they are trying to improve the entire supply chain. The retailer now wants others to copy their method of ethical consumerism in order to make a bigger difference both in the UK and globally.

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Field Notes

Weekly news update from the KPMG Agribusiness Network – 24 October 2019

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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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