



PMAC weekly update 13th to 20th November

- 1. Government agencies:** WTO Notifications
- 2. New Zealand News:** CPTPP the changes and next steps; IrrigationNZ accuses Greenpeace of misrepresenting irrigation funding in New Zealand; Cherry harvest begins; New Zealand avocados step closer to China; Avocados causing shifts in land use in New Zealand; AVOCO's avocado exports growing; Roses to shine at international rose trials;
- 3. International news:** GAIN reports; EU focuses on growth markets for food and drink; Europe and China sign cooperation agreement on plant variety rights; Global food import prices set to increase by 6%; Australia looks at cold plasma sanitation; Chemical-free sanitising wins Vic's Premier's Sustainability Awards; Naturally based Antimicrobial being developed in Australia; Video on indoor farming; How is the marriage between biologicals and chemicals really going?; Maersk announces ambitious cut to CO2 and revises cold treatment surcharge; Scientists invent app to increase Australian's vegetable consumption; Block chain being trialled on tomatoes.; Researchers create healthier fruit and veg using genes from red beets; Robots in agriculture could help lower pesticide use on farms; How artificial intelligence is helping farmers improve decision making

Editors comments

A great edition for news about New Zealand avocados. The news that New Zealand avocados have been given access conditions to China is followed by an article on large plantings of avocados particularly in Northland and a description of the approach AVOCO is taking in marketing avocados overseas. These articles show a rapidly growing sector that have all the right elements in place to continue growing into the future .

In the international section the news that China and EU are working together to harmonise plant variety rights activities bodes well for improved protection of our varieties in China.

Potential technologies that will decrease our environmental input or provide a non-toxic approach to food safety dominate the rest of the international section . While the food safety tools are still not commercially available cold plasma, a water splitting technology and a naturally derived antimicrobial offer interesting developments that may provide a technology to remove bacteria from food without affecting quality.

In the technology space another look at blockchain technology for use in the supply chain, the use of robots and the potential for artificial intelligence are discussed. With the international effort being applied in these areas it looks more and more as if it's not if but when such technologies become available. A discussion piece also looks at the use of biorational's in the disease and pest control space and why more of these compounds are not becoming available .

1. Agency news



1.1. WTO Notifications

Please find attached the most recent WTO notifications from countries that are considering changes to their plant import requirements for specific products. If you have any concerns about the notifications being presented please contact Plant.exports@mpi.govt.nz so that they can potentially make a submission to the notifying country. Changes notified over the last week includes:

- India - Food packaging
- India - Draft Plant Quarantine changes seek to further liberalize provisions governing import of 18 items under to further allow import of plants and plant materials into India.

The embedded files for the last weeks(which has links through to the original notifications)is available here



2017 - WTO
Notifications 17-11-1



2. New Zealand News

General

2.1. CPTPP the changes and next steps

A revised TPP, the 'Comprehensive and Progressive Agreement for a Trans-Pacific Partnership' (CPTPP), emerged at the eleventh hour from high-level meetings in Da Nang, Viet Nam. If signed it shows a renewed commitment of a significant bloc of countries to ongoing trade liberalisation when enthusiasm for such efforts has otherwise been in pretty short supply.

Since US withdrawal, negotiators had already spent considerable time revisiting the text, focusing in particular on sensitive issues that had been included primarily at US instigation.

Ultimately, the outcome preserved the most valuable elements of the original TPP while also successfully dealing with the more contentious provisions. A number relating to intellectual property (copyright, patents, medicines) have been suspended. New Zealand also succeeded in achieving a further narrowing of the parameters for investor-state dispute settlement (including in relation to specific contracts between governments and investors), the right to restrict the purchase of residential property by overseas tax residents and removal of new administrative measures for Pharmac. The right of governments to regulate in the public interest, including in relation to public health and the environment, and in New Zealand's case, obligations in relation to the Treaty of Waitangi, have been fully retained and protected. These are all notable achievements. New sections

have also been included on entry into force (a simple head-count of six parties having ratified is now all that is required to trigger this), and on withdrawal and accession by new members.

The “core elements” of the CPTPP have now been concluded by TPP-11 Leaders. A small handful of technical issues remain to be resolved, but, while further back-sliding cannot be completely ruled out, it seems hopeful that the final details can be tidied away in the next couple of months. Once finalised and signed, the new agreement will go back to Parliament (including a select committee process) before the Government commits to ratification.

For New Zealand exporters (and ultimately, households), there will be tangible market access benefits in key markets, especially Japan, Mexico and Canada, not least by ensuring that they maintain a level playing field in the face of competitors’ preferential trade deals and thanks to the removal of red tape and other obstacles. [Full article available here](#)

Simon Baptist head economist for the Economist magazine made the additional points in his weekly blog. With the removal of the US the ratification hurdle has been changed so that the agreement will come into force if only six countries ratify it. This means that if some of the less enthusiastic members, such as Malaysia or Canada, become too troublesome, the countries that are keen can cut them loose and go ahead and ratify the deal, leaving the door open for others to join later. Australia, Japan, New Zealand and Singapore are all but certain to sign. Brunei and Chile are very likely to sign as well, so the six-member threshold should be met fairly easily. That means that the TPP could well become the basis of a future global trading system.

2.2. IrrigationNZ accuses Greenpeace of misrepresenting irrigation funding in New Zealand

Last week Greenpeace presented a petition seeking to stop government funding of irrigation schemes. IrrigationNZ considers the petition is misleading as the majority of money provided to irrigation schemes by Crown Irrigation Investments has been in the form of loans which have to be paid back with interest. The loan funding supports both new irrigation schemes and work to modernise existing irrigation schemes so they can use water more efficiently, something many people would support if they knew about it.

The petition’s focus on irrigation being used by dairy farms and does not fairly represent how irrigation is used in New Zealand. Over half of New Zealand’s irrigated land is not used for dairy farming but to grow crops, for sheep and pasture grazing, and for fruit, vegetable and wine production. Most dairy farms in New Zealand do not use irrigation.

Modern irrigation schemes can also have a range of environmental benefits including

- Less leaching of nitrogen on arable farms
- Reduced risk of wind erosion of soil and surface sediment runoff due to better vegetation cover

Other benefits include

- Feeding our growing population by providing good quantities of local food that can be grown throughout the year lessening the impacts of dry periods that result from climate change.
- Providing infrastructure for smaller towns by supplying their drinking water [Full article available here](#)

Industry news

2.3. Cherry harvest begins

Last week the first cherries were picked in Central Otago. Orchardists consider a slightly warmer spring had brought picking forward about a week from last year. [Full article available here](#)

2.4. New Zealand avocados step closer to China

New Zealand and China have signed a protocol to agree export requirements for avocados from New Zealand to China. The next step before trade commences is an audit of New Zealand's regulatory system for exporting avocados by AQSIQ in mid-December 2017. China is expected to be a significant market for New Zealand avocados.

2.5. Avocados causing shifts in land use in New Zealand

Climate and new market opportunities are opening the door to major land-use shifts in the upper North Island, New Zealand. Northland is experiencing one of the most significant horticultural uptakes since much of the western Bay of Plenty moved into kiwifruit in the 1980s. Pastoral farmers are increasingly selling up to avocado orchard developers keen to capitalise on the region's idyllic growing conditions and the availability of quality land.

Avocado NZ chief executive Jen Schuler said the 3700 hectares of avocados are largely around Northland and Bay of Plenty, but the new plantings in Northland stood to add 850ha to that. [Full article available here](#)

2.6. AVOCO's avocado exports growing

Dealing with irregular bearing is a problem the New Zealand avocado industry needs to solve, according to AVOCO the nation's largest marketing company for the fruit. AVOCO is a joint venture marketing company between Primor Produce Ltd and Southern Produce Ltd. AVANZA is a brand of AVOCO used in markets outside of Australia, which is the major export market at around 80 per cent. It also supplies to Asian markets including Korea (7%), Japan (5%), Singapore (3%), as well as small volumes to Thailand, Malaysia, and India.

This year AVOCO volumes are half that of last year, but values are up around 30 per cent. Some reasons behind this is the lower than predicted volume from within Australia has seen the Australian market a lot firmer than expected for this time of the year, with current values usually seen in

January and February when Australian volumes are at their lowest. He anticipates prices staying firm with retail prices currently at AU\$3.90/piece which challenges consumption.

AVOCO/AVANZA's share of New Zealand industry is around 64 per cent, and the company is also reporting that industry export volumes are around half of last year; 2.5million (5.5kg) trays compared with 4.8m last year. But he sees plenty of future opportunity in the medium to long term for expansion in the company's major market, to meet the rapidly growing demand across the Tasman.

"New Zealand has a good global image as a safe and trustworthy food exporter from a healthy environment," he said. "We also have a minimum harvest dry matter of 24 per cent which is the highest in the world and a strong creamy flavour from a long growing season where the fruit is harvested between 10-15 months from flowering. New Zealand researchers have also discovered that New Zealand-grown avocados have unique nutritional qualities, with double the amount of vitamin B6 and 20 percent more folate than those grown in other countries."

AVANZA has formed a marketing alliance in its Asian markets with its US importer Mission Produce who are the largest growers, packers and marketers of avocado in the world. For the past three years Mission and AVANZA have shared a booth at Asia Fruit Logistica in Hong Kong promoting "Partners in Asia" – 12- month supply capability. In our joint-markets of Japan, Korea and Singapore we share the same customers, with AVANZA supplying them from September to January and Mission for the rest of the year, with Californian or Mexican fruit. This enables a seamless avocado supply to its customers.

"We aim to form long-term business relationships with our customers and teach them how to be experts in the avocado category," Mr Napper said. "For example, over the past three years in Korea we have run over 1200 retail samplings and annually send our technical manager to teach handling and ripening techniques. Category Managers regularly visit customers in-market. The NZ industry body, NZ Avocado, also develops websites and a social media presence in most export countries and these act as reference sites for AVANZA's promotional activities." [Full article available here](#)

Other

2.7. Roses to shine at international rose trials

National and international rose growers will soon learn what rose is judged the Best Grown at the New Zealand International Rose Trial Grounds in the Palmerston North Victoria Esplanade Gardens. Most of these roses are new to New Zealand and represent the latest rose industry trends.

The roses are evaluated by a panel of 20 judges over a two year period, on characteristics including colour, fragrance, health, flower form and novelty. [Full article available here](#)



3. International news

Comment

3.1. GAIN reports

Gain reports are from the "Global Agricultural Information Network" and are produced by the USDA. They are designed to provide timely information on the economy, products and issues in foreign countries that are likely to have an impact on United States agricultural production and trade. The information in them is written for USA exporters but the majority is equally relevant to New Zealand. With regard to import regulations for a particular market New Zealand exporters should first check the countries ICPR on MPI's web site. These are collated specifically for New Zealand product. However the Gain reports often provide additional information that is useful e.g. on grading and labelling, economic profiles. This week see:

- a) **China Trade Shows** This goal of this report is to introduce U.S. exporters of farm, fishery and forest products to the major trade shows taking place throughout China. [China Trade Shows Report Shenyang ATO China - Peoples Republic of 10-25-2017](#)
- b) **Malaysia Retail Foods** Malaysia's retail sector is forecast to grow at 3 percent due to cautious consumer spending, increased subsidy rationalization and effects from the introduction of a goods and services tax effective April 1, 2015. This is in line with GDP growth of 4% projected by GOM. [Retail Foods Kuala Lumpur Malaysia 11-9-2017](#)
- c) **Philippines Workshop on Common Food Names and GI** | If properly used, Geographical Indications (GIs) have important potential to add value for agricultural producers, but can also easily be misused to stifle trade in products with common food names. In September, FAS/Manila joined forces with the Philippine Intellectual Property Office to host a one-day workshop on Common Food Names and GIs. The audience included government officials, industry, and congressional staff. U.S. Patent and Trademark Office experts demonstrated how a sound trademark...
[Workshop on Common Food Names and GI Manila Philippines 10-24-2017](#)

Regulatory

3.2. EU focuses on growth markets for food and drink

The EU's 2018 programmes for the promotion of EU agri-food products will focus primarily on the markets with the greatest potential growth, essentially countries outside the European Union (EU). Only 20% will be for campaign's within the EU.

As in previous years, a portion of the funding allocated for 2018 promotion campaigns is targeted at particular sectors: this year, the focus will be on promoting sustainable sheep/goat production to try to counter the impact of the ongoing difficulties the market is experiencing. An additional allocation has also been set aside for campaigns designed to promote healthy eating and increase the consumption of fruits and vegetables within the EU, a direct response to the difficulties the fruit and vegetable sector in particular has faced as a result of the Russian embargo.

Of the funds for international promotion 35% will be used in China, Japan, South Korea, South east and Southern Asia while 30% will be spent in Canada , USA, Mexico and Columbia 20 % of funding. [Full article available here](#)

3.3. Europe and China sign cooperation agreement on plant variety rights

The relative agencies for registering plant varieties in China and the EU are initiating technical cooperation in the area of plant variety rights. These include Development Centre of Science and Technology (DCST), Ministry of Agriculture, People's Republic of China, and the Community Plant Variety Office (CPVO).

The cooperation activities will take place over three years (2018-2020) and will include exchange of best practice and technical information with the aim of closer international harmonisation is hoped to encourage breeders to make new varieties available and will offer farmers and consumers a better access to adapted varieties meeting their needs. [Full article available here](#)

Business

3.4. Global food import prices set to increase by 6%

According to the FAO's latest Food Outlook report, the cost of importing food is set to rise in 2017 to \$1.413 trillion - a 6% increase from the previous year and the second highest tally on record - driven by increased demand for international demand for most foodstuffs as well as higher freight rates. The higher import costs come at a time when inventories are robust, harvest forecasts are strong and food commodity markets remain well supplied. [Full article available here](#)

3.5. Australia looks at cold plasma sanitation

The mother of all produce sanitisation machines has arrived in Australia, fresh off the ship from Germany. Dubbed 'The Food Safety Supercharger', the custom-made 250-kilogram test-unit creates a stream of 'supercharged air' by applying an electric current to normal air. Using this disruptive technology, it has the capacity to kill microbial pathogens on the surface of fresh produce and nuts, without leaving any chemical residues.

It aims to remove microbial contaminants such as Salmonella, Listeria and E.coli which cause foodborne illness outbreaks. Other spoilage-causing moulds can also be suppressed, offering a longer shelf-life and reduced food waste.

Lead researcher, Dr Sukhvinder Pal Singh, explained that supercharged air is plasma, which is the fourth state of matter after solid, liquid and gas. "Natural plasma in the universe, such as the sun's surface, has a temperature of thousands of degrees Celsius, while human-made, non-thermal plasma is only 30 to 40 degrees. That is why the technology can also be referred to as 'cold plasma'," he said.

"It is a transformative idea that presented a high reward for the horticulture industry if it worked," he said. "Non-food sectors such as automotive, aerospace, textile, polymer, electronics and biomedical were already using the technology – particularly overseas, but it had never been applied to fresh produce. His team will test the plasma unit and work with the German manufacturer in Germany to create a custom unit." The team will determine which fruit, vegetables and nuts are responsive to the treatment, the research team needs to ensure the killing of microbial pathogens does not

compromise the quality and nutritional value of food. The research is due for completion in 2021. See a [video](#) of the technology in action. [Full article available here](#)

3.6. Chemical-free sanitising wins Vic's Premier's Sustainability Awards

A new 'water-splitting' technology developed in Australia has just won a sustainability award in Victoria, It can be used as an alternative to packaged chemicals that kills bacteria without impacting the taste of food.

The systems work by electrolysis, which splits the water into positive and negative ions and creates two effective and safe solutions — the acidic, low pH solution is suitable for antimicrobial sanitising while the high pH, alkaline solution is an effective cleaner. It is claimed that the antibacterial and fungicidal sanitiser is up to 80 times more effective at killing bacteria and pathogens such as *E. coli* and *Salmonella* than its chlorine-based competitors. And it does this with just five seconds of contact. The cleaning solution is claimed to be a highly effective detergent and degreaser that can effortlessly break down oils and biofilms on all types of surfaces — from stainless steel benchtops and kitchen equipment to hand washing.

The water produced by the systems is non-toxic and hypoallergenic, does not require the use of goggles, gloves or HazChem signage and is much better for the environment. Both standalone and reticulated systems are available and typical ROI is claimed to be just 2–3 years. [Full article available here](#)

3.7. Naturally based antimicrobial being developed in Australia

An antimicrobial found in local foxes has produced a beneficial biofilm of good bacteria that may protect produce against external bacterial and fungal attack. Initial tests in the laboratory have proved to be successful and have involved dipping and spraying avocados, bananas, tomatoes, strawberries, lettuce and other produce in the organic Apical Foodie biopreservative. [Full article available here](#)



Sustainability

3.8. Video on indoor farming

By 2050, Earth's population is expected to rise to 10 billion, while the resources on the planet continue to shrink. Researchers in the Netherlands are experimenting with one way to feed more people with less: growing crops indoors. NewsHour Weekend's Ivette Feliciano takes a look at how indoor farming could shift our relationship with food. [Click here to watch the video.](#)

3.9. Maersk announces ambitious cut to CO2 and revises cold treatment surcharge

In a letter released this week, Maersk head of sustainability strategy John Kornerup Bang called for a concerted effort from shipping to reduce its carbon dioxide emissions. Maersk also announced they will be revising the cost of Cold Treatment Surcharge effective from 1st January 2018. The new tariff

will apply only for the combination of origin/destination/commodity defined in the CTS protocol. And the levels will be as follows:

- World (Except Australia) to World: 900 USD per container
- Australia to World: 1100 USD per container

Over the coming three decades, shipping's share of the world's CO2 output is set to rise to about 15 percent from its current level of about two percent,. Climate activists say that due to shipping's rising share, reining in carbon emissions on the high seas is an important part of keeping the world's atmospheric CO2 concentration in check. Overall, Maersk Line has cut its CO2 emissions per TEU by 40 percent over the last ten years, and Bang said that it is aiming to take this to 60 percent by 2020.

Marek is calling for is regulatory guidance that would level the global playing field for sea transport [Full article available here](#)



Health

3.10. Scientists invent app to increase Australian's vegetable consumption

The CSIRO's new VegEze app aims to encourage healthier eating habits for the long-term, by getting users in the swing of a new routine through a 21-day 'Do 3 at Dinner' challenge. The VegEze app uses a gamified approach, an intake tracker and daily reminders so users stay motivated to transform their eating patterns. [Full article available here](#)



Innovation

3.11. Block chain trialled on tomatoes.

An ex-banker has tried to use blockchain for the tracking of tomatoes from field to plate. He used to sensors in the field to record environmental factors including light, humidity and air temperature. In the buckets of tomatoes loaded on to trucks for distribution, another set of sensors logged the humidity where they were stored and so on through the supply chain

While an easy-to-use database is key to managing a complex supply chain, sceptics say it doesn't necessarily need blockchain. The technology also requires adaptation. While bitcoin exists only on a blockchain, tomatoes exist in the real world. At most, one can provide a detailed record of their qualities and condition at each step of the growing and distribution process. For those reasons, blockchain isn't an immediate cure-all, said Charles Cascarilla, CEO and co-founder of Paxos, a blockchain company that caters to financial institutions. It's a tool, and you have to apply it to the right set of problems," he said. "What it tends to be very good for is knowing who owns what and when.

Beyond quality, the sensor and blockchain tracking system can also prove where an agricultural product came from So the ex banker said the project could potentially apply to all kinds of produce, seasons and farms. Tomatoes were just a test. And the team are still drawing the maps and laying the foundation for future work. [Full article available here](#)

3.12. Researchers create healthier fruit and veg using genes from red beets

Researchers from Israel's Weizmann Institute of Science have been working on developing new varieties of vegetables and fruits in new and unconventional colours and with even more nutritional values. They introduced three genes of red beets into potatoes, tomatoes and eggplants. The result led to purple-red tinted vegetables but also increased their nutritional value considerably: They now contain 60% more antioxidants and are 90% more resistant to mould. There is some controversy surrounding genetically modified produce, but Professor Aharoni believes that such developments will become more and more dominant and will ultimately allow for people to consume less food while receiving higher nutritional value per fruit or vegetable. [Full article available here](#)

3.13. Robots in agriculture could help lower pesticide use on farms

Miniature robot farmers may be the answer to concerns over chemical use on farms and cutting down on food waste, as well as easing labour shortages, academic farming experts have said.

Robots set to work in the fields would be able to target pesticides to the plants that need them, in contrast to current practices, dubbed "spray and pray", which waste 95% to 99% of pesticides and herbicides because they are blanketed across entire fields. Instead such products can be used in tiny quantities and directed by robots so that 100% of the pesticide was going straight to the plant needed, then it might be possible to resume the use of banned or restricted pesticides, said Prof Simon Blackmore, head of robotic agriculture at Harper Adams University.

Robots would also be able to detect and remove malformed fruit and vegetables early in the cropping cycle In the UK while lab development of such technology is now at an advanced stage, more will be needed to bring it to market. Many farm technology companies are wedded to the existing model of large vehicles and blanket spraying, and fear the destruction of their business model from more targeted and higher-tech approaches.

The author also notes that a complementary approach in reducing pesticide use was for chemicals companies and farmers to work with biotech experts to use already available technology such as pheromone traps, which capture pests without using pesticides and give an indication of whether pests are present and in quantities that require spraying. He said experts were also increasingly using plants' own genetic qualities to repel pests. [Full article available here](#)

3.14. How artificial intelligence is helping farmers improve decision making

To provide food of sufficient quantity and quality to sustainably feed and nourish the growing world population the World Economic Forum consider “smarter agricultural growth” must be promoted. Data generated by sensors in farms, on the field or during transportation, offer an unprecedented wealth of information. Consequently, artificial intelligence applied to agriculture can potentially optimise and increase yields, improve farm planning, optimise resources, and considerably prevent waste. It is estimated that by 2020, more than 75 million agricultural connected devices will be in use, while the average farm is expected to generate an average of 4.1 million data points every day in 2050.

Several use examples are provided in this article including robot weeding, brown leaf spot identifications are several examples across the farming industry: from optimising soil microbial populations , to precision weeding and picking to disease recognition, artificial intelligence has the potential to carve out new scenarios for the farming system. [Full article available here](#)

3.15. How is the marriage between biologicals and chemicals really going?

The pressures on conventional crop protection products have been increasing over many years now. They come both from within the industry, in terms of regulatory issues, and from outside the industry, in the form of demands for chemical residue-free foods from the supermarkets and consumers. In response, a number of major multi-national companies and some smaller ones have started to acquire companies involved in biologicals and biopesticides, together so-called biorationals, over the last five years. The investments made have been substantial and their aim has clearly been to make progress in the creation and development of new biorational or combination products in response to these pressures and demands.

Unlike conventional chemical products, microbiologicals are living organisms and need the right conditions to work. For example, in northern European countries with lower temperatures and different climatic features, these microbiologicals were not always as effective as anticipated, based on information from laboratory tests.

From a regulatory point of view there was a perception that the process for biorationals would be easier than for chemical products; that if the product is seen as lower risk there should be less requirement to go through all the same regulatory hurdles. However, although less data may be needed, most authorities view the dossier for a biorational product or active substance as they would that of a conventional product, expect to see similar argumentation for approval and, in many cases, demand similar data. A number of companies have found biorationals that work in the laboratory but they frequently have neither knowledge nor experience of the regulatory system and often do not even know the mode of action. The larger companies who take them over then find themselves lacking the information they need to prove what a product is, how it works and that it does not have undesirable effects. Furthermore, in Europe it is still necessary to prove efficacy for biorationals so trials data over several years is required and for biorationals this is not always consistent.

So the main successful developments with biorationals still seem to be in the niche markets of horticulture or organic production. But his whole area has been moving forward much more slowly than the industry was expecting. The anticipated new era of biorational compounds and mixes seems

not to have come to fruition, perhaps because it is not as easy as many expected to achieve such mixes or rotations. [Full article available here](#)

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