

Agri-Gate



Agriculture & Investment Services

Ministry for Primary Industries
Manatū Ahu Matua

Latest news about MPI's Investment Programmes

ISSUE 52 | SEPTEMBER 2020



Steve's desk

Welcome to this edition of Agri-gate.

I hope everyone is keeping safe and well. It has been an unprecedented time for us all, with COVID-19

continuing to impact on countries worldwide. MPI continues to provide assistance to farmers and growers and their communities, but there is no doubt that COVID-19 has, and will continue to have, wide ranging impacts for our food and fibres sectors and New Zealand's economy.

This is our first issue of Agri-gate for the year. Our focus has been assisting our partners to progress their projects as well as possible during the pandemic and ensure our application and assessment process for new projects kept moving. This edition of Agri-gate provides an update on some of our work during 2020 to date, including new and completed projects, and some of those underway.

It has been full steam ahead for the Sustainable Food & Fibre Futures (SFF Futures) team, and recently we received our 200th application! As at 11 September we had approved 81 projects and contracted 55. While some projects have needed to revise their

timelines due to COVID-19, we are encouraging business as usual as much as possible.

New Zealand's economy relies strongly on the food and fibres sector. In July the Government announced its *Fit for a Better World – Accelerating our Economic Potential Roadmap* – a bold plan to boost primary sector export earnings by \$44 billion over the next decade while protecting the environment and growing jobs. This was good news for SFF Futures, as the plan includes bringing forward \$84 million to upscale this fund, to further boost innovation efforts. This is on top of the \$70 million available for the next two years.

SFF Futures will be two years old soon. Back in May we released a “snapshot” report, looking back on the fund's progress between its launch in October 2018 and May 2020. It features some key statistics, case studies and summaries of some of the projects both approved and underway to the end of May 2020. The SFF Futures Snapshot is available [here](#). I'm really proud of the diverse range of projects enabled by the fund, which will make a positive difference for New Zealand.

Two of our completed programmes under the previous Primary Growth Partnership (PGP), Marbled Grass-fed Beef and SPATnz, have been independently evaluated as part of our governance process for large programmes. These programmes have been able to increase profitability for their sectors by delivering higher value products in more sustainable ways. You'll find further information on these evaluations in this edition of Agri-gate.

Other stories

In this issue we also talk about:

- the final report on ANZCO's **FoodPlus** programme, which has found new and innovative ways to use lower value parts of the red meat carcass;
- **Don't Muddy the Water**, a new app developed with the help of the former Sustainable Farming Fund, which helps decision-making for erosion and sediment control on cultivated vegetable land;
- the outcome of Villa Maria's trial planting of native plants and cover crops under vines as an alternative to herbicides in commercial vineyards;
- YieldTec's plan to use robots and technology to support orchard staff during busy periods;
- **A Lighter Touch**, a new 7-year programme bringing together the horticulture, wine, and arable sectors to find ways to meet consumer demands for food produced through more sustainable pest management practices;
- a new system to help evaluate the performance of New Zealand's dairy genetics;
- the **Go Dairy** campaign to attract new recruits to the dairy industry.

Happy reading, everyone!

Steve Penno
Director Investment Programmes



Steve Smith's column

Turning a vision into action

I am a big believer in the power of a compelling vision for anything that is deemed important. A vision anchors everything. It is something you go back to when making

critical decisions.

The Primary Sector Council's *Fit for a Better World* vision for the food and fibres sector gives that anchor for decision-making, providing a very clear view on where Aotearoa New Zealand should focus its efforts. It calls for a focus on discerning consumers, outstanding products that speak of our place and ethical, regenerative production systems. It sets an outcome of an enriched future for our communities and children. The vision speaks of urgency and a generational window to measure success. While the Sustainable Food & Fibre Futures Fund (SFF Futures) is only one piece of the puzzle in the future for the food and fibres sector, investment in transformative research and innovation projects that support the vision will be critical.

We are especially excited about bringing the philosophy of Te Taiao to life through the investments we make on behalf of all New Zealanders. The Māori concept of Taiao acknowledges the deep relationship of respect and reciprocity with the natural world, meaning the health of our climate, land, water and living systems comes first. This philosophy resonates with people across the sector. Correctly designed and applied, we believe it could provide a real point of difference for Aotearoa New Zealand and our relationship with the discerning consumers of the world.

We do however need to ensure investments enhance the proposition of creating outstanding fit-for-purpose products that look, taste and feel good. Also, the relationship with our customers should allow us to retain a bigger share of value back in our country. Te Taiao by itself will never achieve the enhanced future we are looking for – everything needs to work together.

We are keen to move fast to capture opportunities and are constantly on the lookout for fresh ideas. Let's see these ambitious projects on our table.

Steve Smith
Chair, Independent Advisory Panel
SFF Futures

Bold primary sector plan to boost economic recovery

The Government has launched a bold plan to boost food and fibres sector export earnings by \$44 billion over the next decade, while protecting the environment and growing jobs.

Fit for a Better World – Accelerating our Economic Potential is a 10-year roadmap to unlock greater value for a sector vital to New Zealand's economic recovery.

The *Fit for a Better World* Action Plan centres on three themes:

- **Productivity:** adding an additional \$44 billion in export earnings over the next decade through a focus on creating value.
- **Inclusiveness:** employing 10 percent more New Zealanders from all walks of life in the food and fibre sector by 2030, and 10,000 more New Zealanders in the primary sector workforce over the next four years.
- **Sustainability:** reducing our biogenic methane emissions to 24-47 per cent below 2017 levels by 2050; and 10 percent below by 2030. Plus restoring New Zealand's freshwater environments to a healthy state within a generation.

Existing funding will be redirected to kick-start delivery of the *Roadmap* in two areas:

- Bringing forward \$84 million to upscale Sustainable Food & Fibre Futures (SFF Futures) to further boost innovation efforts. This is on top of the \$70 million available for the next two years.
- Using \$11.6 million from the One Billion Trees Fund to invest in the *Transforming Forestry and Wood Processing* initiative.

If you have any ideas for new projects that could benefit from SFF Futures investment, get in touch with our team at sff.futures@mpi.govt.nz or phone 0800 00 83 33.

Branching Out to boost Taranaki's economy

A collaboration to boost Taranaki's food and fibre enterprises was launched on 11 March 2020 by Agriculture Minister Hon Damien O'Connor at Egmont Honey, a local Taranaki business.

The two-year \$914,000 project, called *Branching Out*, is exploring, investigating and potentially piloting new commercial opportunities in Taranaki's food and fibres sectors. Venture Taranaki – Taranaki's regional development agency – is leading the project, in collaboration with MPI through its SFF Futures fund.

The project aims to stimulate more diverse and complementary forms of land usage within the region and then use this new primary produce in up to a dozen food or fibre ventures, boosting Taranaki's economy. This may include finding ways to add value to existing industries, and diversifying and complementing existing land-use and value chains, to better support biodiversity and environmental outcomes.

Branching Out is a collaborative effort across Taranaki land-owners (including iwi), food and fibres enterprises (existing and entrepreneurs), Crown Research Institutes (Plant and Food, Manaaki Whenua, AgResearch, Scion and NIWA), Massey University, and Venture Taranaki. It has funding support from the three district councils in the Taranaki region.



Minister of Agriculture Hon Damien O'Connor and Venture Taranaki Chief Executive Justine Gilliland launch the new Branching Out SFF Futures project to stakeholders at Egmont Honey.

The first step of the project is engaging with the local community to identify opportunities. Since the launch, webinar and Zoom sessions have been held to promote the project and share knowledge and ideas. An expert group has been formed to explore and test emerging opportunities; and research has been commissioned to better understand the region's land and climate profile and food and fibres value chain. This has led to the development of a database on available land.

Workshops targeting initial areas of opportunity are also under development. Short-listed ventures will undergo feasibility studies, which may lead to small-scale pilot projects.

Thinking beyond high value red meat cuts pays off

ANZCO recently released a final report on the outcomes of its \$27 million FoodPlus programme, which finished at the end of October 2019.

Implemented with co-investment from MPI's former Primary Growth Partnership, the seven-year programme explored new and innovative ways to use lower value parts of the red meat carcass. This included developing new food products, including stocks and broths; and healthcare products.

"FoodPlus was about doing more with what was already available. As well as making good business sense, we aimed to address the underlying profitability of the sector and secure a stronger future for ANZCO and the wider red meat industry in New Zealand," said ANZCO Chief Executive Peter Conley.

Successes included:

- commercialising more than 26 products, with a number of new products in the pipeline for development and commercialisation;
- supplying pericardium to major healthcare providers for use in heart-valve replacement surgery;



Stocks and broths were important parts of the FoodPlus programme.

- collecting and processing blood for a range of uses, including serum for manufacturing vaccine;
- expanding into using bones for culinary stocks and extracts;
- creating 102 new roles in fields such as advanced processing, technical product development and commercialisation.

Lessons from FoodPlus have enabled ANZCO to refine the way it develops new products, to help give them the best opportunity for success. Peter Conley said he is proud of the achievements the business has been able to make towards a step change in lifting sustainable industry performance.

“The longer-term legacies of FoodPlus are a stronger culture of innovation within the business and a continued focus on, and awareness of, the opportunities to add value across the business.

The New Zealand Institute of Economic Research estimated FoodPlus would increase GDP by \$200 million, and ANZCO says it's on track to deliver this by 2030.

[Read the FoodPlus final report](#)

Programme sees “seismic shift” in perception of New Zealand marbled grass-fed beef

A recent independent evaluation of the seven-year Marbled Grass-Fed Beef programme found that it was “successful and worthwhile” for all parties.

The programme began in 2012, with MPI contributing \$11 million to the \$23 million programme through the former Primary Growth Partnership. The balance came from the three programme co-investors – Firstlight Foods, Firstlight Wagyu NZ Ltd and Brownrigg Agricultural Group.

The programme aimed to capitalise on a rapidly growing global appetite for high-quality, humanely raised grass-fed beef. This was achieved by developing an integrated value chain to connect farmers in New Zealand with consumers across the globe.

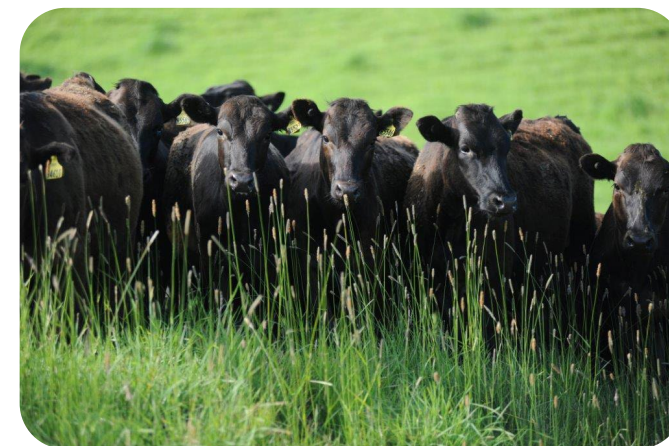
“From the outset, the vision was for our delicious New Zealand beef to be prized globally as the best grass-fed beef in the world,” said Firstlight’s Managing Director Gerard Hickey. “We’ve absolutely seen a seismic shift – particularly in the United States – in the perception of our product and its attributes. These include its marbling and associated eating quality, non-GMO and antibiotic free production, provenance, health benefits, and our ongoing focus on animal welfare.”

Highlights in the evaluation include:

- Firstlight grass-fed Wagyu can be produced year-round, to provide consistent and reliable supply;
- 80 percent of Firstlight Wagyu cattle are now from dairy industry calves, providing a higher-value alternative for bobby calves;
- progress has been made towards a farm-gate price premium target of \$2.12/kg for Firstlight grass-fed Wagyu;

- Firstlight grass-fed Wagyu has achieved premiums of \$0.80 to \$1.22/kg throughout the programme. This reached a high of \$2.93/kg in April 2020 during disruptions to the global market due to COVID-19;
- processing numbers are increasing and will soon reach 20,000 head of cattle per annum;
- a target annual volume of 30,000 head of cattle is feasible by 2025/26;
- farmer support and feedback shows that adding Wagyu to their operations has been profitable;
- Firstlight grass-fed Wagyu is profitable, and produces higher returns than typical prime beef operations;
- farmers, processors, and retailers see social or values-based benefits.

[Read the independent evaluation report](#)



Firstlight Foods accesses the best Wagyu genetics from Brownrigg Agriculture to produce highly-marbled grass-fed beef.

Startling trial results for Greenshell mussel breeding

An independent evaluation of the seven-year SPATnz Primary Growth Partnership programme between MPI and Sanford Ltd, which wrapped up late 2019, confirms the “transformational change” the programme has made to New Zealand’s Greenshell™ mussel industry.



SPATnz aimed to selectively breed high-value Greenshell™ mussels to provide a more consistent supply of market-quality mussels.

The evaluation showed that the programme has strengthened New Zealand’s place as a world leader in mussel hatchery technology and selective breeding.

New Zealand’s mussel farming industry has traditionally relied on spat (baby mussels) collected from the wild. Wild spat can vary in quantity and quality. SPATnz aimed to selectively breed high-value Greenshell™ mussels to provide a more consistent supply of mussels with the characteristics demanded by premium markets.

“There may be no Olympic Games for mussels, but if there were, you could certainly say our Greenshell mussels are taking the motto ‘faster, higher, stronger’ to heart, except in our case it is more like faster, fatter, stronger,” said SPATnz programme

manager Rodney Roberts. “We believe they are a wonderful kiwi success story for both science and business.”

The programme won a New Zealand Innovation Award in 2017 and the Marine Farming Association 2016 Research and Development Award.

Highlights from the programme included:

- developing methods to produce hatchery-reared Greenshell™ mussels at commercial scale, and at a commercially viable cost;
- discovering how to breed mussels with more meat, stronger shells, vibrant colours and better resilience against biosecurity threats;
- being able to grow mussels up to twice as fast as those caught from the wild;
- creating jobs and increasing retention of specialist skills within New Zealand.

[Read the independent evaluation report](#)

New app helps decision-making about erosion and sediment control

Farmers and regional authorities now have an app to help them make better decisions about how to control erosion and reduce sediment entering New Zealand waterways, thanks to a four-year project supported by MPI's Sustainable Farming Fund (now superseded by SFF Futures).

Developed through the *Don't Muddy the Water* project, led by Agrilink NZ, NIWA and Landcare Research, the app measures the impact of various practices for reducing sediment and phosphorus loss. The app user is required to enter factors such as soil type, slope and location. Mitigations, such as vegetated buffer strips and sediment retention ponds, can then be added to assess the impact of these practices.



Andrew Barber, Managing Director, Agrilink.

"Demonstrating the key control measures and collecting the data that can be used in our tool to calculate their effectiveness, has enabled a more cohesive approach nationally to soil management," said Andrew Barber, Managing Director, Agrilink.

"It allows farmers to do a paddock risk assessment and subsequently prioritise their actions as part of their

future Farm Environment Plans. The app also allows them to provide robust evidence to support consents or prove to regional authorities that their control measures are effective."

The *Don't Muddy the Water* app is available on the Vegetable Research & Innovation website: www.vri.org.nz/esc/



A sediment retention pond being built in December 2015 at the beginning of the SFF Don't Muddy the Water Project.

Native plants trialled as an alternative to herbicides in vineyards

Family-owned winery Villa Maria recently completed an investigation into planting native plants and cover crops under vines as an alternative to using herbicides in commercial vineyards, with support from SFF Futures.



The project team worked closely with Robert McGowan, an ethnobotanist and pre-eminent expert on New Zealand native plants. He advised and helped to test a range of native plants and cover crops at two different vineyard trial sites in Hawke's Bay.

For the trial, the project team planted mature plants from a local nursery by hand and weeded them with hoes. They measured the weed density, to see which plants were most effective at out-competing the weeds.

The results showed few statistical differences between using herbicides and the trial method of growing vegetation under the vines, which is an encouraging outcome. Villa Maria is looking at extending the trial into at

least one more season to get a fuller picture of how the vines and native plants can grow together.

Conventional practice in New Zealand vineyards is to maintain a bare strip under the vines by applying herbicides, typically two or three times per season. A common approach by organic producers is under-vine cultivation or mowing. However, this can cause physical damage to vines and vineyard infrastructure such as irrigation.

"We experimented with planting native plants and other cover crops to enable us to work in co-operation with nature rather than against it and reduce our use of chemicals and tractor fuel," said project coordinator Raquel Kallas. "The idea was to reduce the labour required for weeding in the long-term. Other benefits we hoped to see were increased biodiversity, improved soil structure, reduced runoff and potentially better retention of soil moisture."

Plants used in trial

Native species in the trial included *Carex comans* (brown sedge), *Leptinella squalida* (Platts Black), *Lobelia angulata*, *Muehlenbeckia axillaris* and two varieties of *Coprosma acerosa*. Also included in the trial were cover crop mixes, including fescues, clovers, plantain, sheep's burnet and alyssum.

Trial sites

There were four separate trials at two different vineyard sites in Hawke's Bay. One was on Syrah planted in the Gimblett Gravels and the other on Merlot planted in Bridge Pa silt loam.



One of the plants used in the project trial, *Leptinella squalida* (Platts Black).

Robotics enhances productivity and performance in fruit picking

YieldTec is a Christchurch-based start-up looking for ways to use mobile robots to support the fruit picking industry during labour shortages.

Discovered through the Ministry of Awesome's Te Ōhaka start-up incubator, and supported by MPI, YieldTec plans to use robots, "smart bags", tracking software and an app to support orchard staff during busy periods.

The orchard staff pick the fruit and deposit into a 'smart bag' that sends a notification to the robots when they're full. The robot will then deposit the fruit at the sorting and packing location, and return to the orchard to repeat the process.

YieldTec Founder, Khalid Salah said his PhD study led him to investigate the labour shortage in the fruit picking industry. "I wanted to research New Zealand's main industry, which is agriculture, and see how to solve such issues with technology."

"In all my research I found that over the last 70 years, hundreds of prototypes have been created to automate crop picking but none have been commercialised.

"They're missing the fact that both the technology and agriculture environments are completely different so I knew I had to come up with a different approach – a cooperative system to do a task.

"It's not possible to replace orchard staff as they are essential, but there are other things that can be automated.

"YieldTec comes in the middle of the process to provide a robotic system to enhance productivity and performance."

YieldTec has already created a prototype and is working to scale it to become a viable product for investment through SFF Futures.



L-R, Angus MacGregor (Co-Founder & CTO), Yousra Chalabi (Programmer), Khalid Salah (Founder & CEO), and Jacob Varghese (Ministry of Awesome Incubation Manager).

Large-scale programme to boost sustainable horticulture production

***A Lighter Touch*, a new \$27 million seven-year partnership between SFF Futures (\$10.8 million) and Horticulture New Zealand and affiliated partners (\$16.2 million) aims to boost sustainable horticulture production in New Zealand, while assisting COVID-19 recovery efforts.**

The horticulture sector has long been one of New Zealand's export star performers, contributing around \$6 billion a year to our economy. During and post lockdown it has become a lifeline for a number of redeployed workers from industries such as tourism, forestry and hospitality.

A Lighter Touch aims to create new growing methods and crop protection measures that reduce chemical use, and spur greater production. It will investigate effective, efficient and sustainable weed, pest and disease management options. This recognises the increasing demand from consumers around the globe to know the story behind their food, and the willingness to pay a premium for food and fibres produced sustainably.

Affiliated partners include the Foundation for Arable Research, Bragato Research Institute and Zespri.

Announcing the project in June, Agriculture Minister Hon Damien O'Connor said it will see the horticulture, arable and wine industries work together in a way they never have before.

"This project will enable these sectors to achieve much more, and in much a shorter time, than if each worked alone. This is exactly the sort of collaboration I hope other sectors will embrace."

[Read more about *A Lighter Touch*.](#)



A Lighter Touch aims to grow top quality produce at scale using more sustainable methods. Photo courtesy of Vegetables New Zealand.

New system to help evaluate performance of New Zealand's dairy genetics

A new \$1 million project backed by funding from SFF Futures is developing a new information system to help shape the genetics powering New Zealand's multi-billion-dollar dairy sector.

The system will be used to record and collate vital data on a range of important traits of dairy cows.

Each year physical and behavioural traits of 50,000 dairy cows are assessed by breed societies to help evaluate the performance of New Zealand's top breeding bulls.

"The data collected is hugely important. It enables the sector to fast-track genetic gains for traits important to farmers using artificial insemination," said Brian Wickham, New Zealand Animal Evaluation Limited (NZAE) manager.

The current system used by breed societies to collate the information is more than 20 years old and is no longer fit for purpose.

"It's a threat to the dairy sector's competitive advantage. The system has major limitations and is inadequate to deal with the rise in the use of genomic technologies," said Cherilyn Watson, Holstein Friesian New Zealand general manager.

"The data collected by breed societies on behalf of their members and genetics companies is accessible to all dairy farmers. It's a vital industry-good service which is independent and impartial."



Amelia Griffin, HFNZ TOP Inspector and HFNZ TOP Co-ordinator Sharon Goldsbury demonstrating the new TOP mobile device.

The new database is being jointly developed by New Zealand independent, not-for-profit dairy cattle breed societies, which include Holstein Friesian New Zealand and Jersey NZ. It will enable the whole dairy industry to have more options when selecting genetics for physical traits of cattle, like height and teat length.

MPI, through SFF Futures, is contributing \$792,000 towards the 10-month project.

The new independent system will integrate with the Dairy Industry Good Animal Database (DIGAD), managed by DairyNZ subsidiary New Zealand Animal Evaluation Limited.

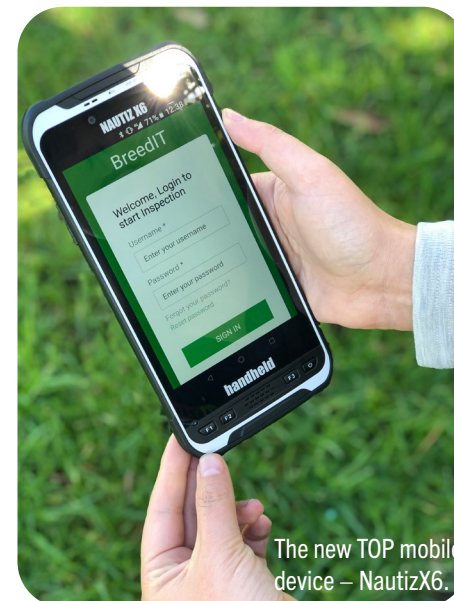
It will provide New Zealand's dairy industry with access to the latest technology, improved data, and the ability to add new traits in line with world standards, something not currently possible.

"The key to utilising genomic technology is having access to accurate phenotypes in suitable training populations," said Brian Wickham.

"The more flexible and adaptable TOP system we're developing will facilitate independent collection of phenotype data for calibrating and validating our genomic predictions."

"This new system is expected to be completed and fully integrated into the DIGAD by November 2020," said Cherilyn Watson.

"It will serve the dairy industry well for many years to come, while delivering a range of benefits for New Zealand."



The new TOP mobile device – NautizX6.

GoDairy campaign encourages careers in dairy

The Government and dairy sector have joined forces on a new campaign to support COVID-19 affected workers into a farming career.

The 2020 GoDairy campaign, led by DairyNZ in partnership with MPI's Sustainable Food & Fibre Futures (SFF Futures) fund, the Ministry for Social Development, and with support from Federated Farmers, aims to attract workers to the dairy industry.

There is significant and urgent demand for a wide range of trained workers in the dairy industry. Anyone interested in a dairy farming career can discover more about GoDairy's Farm Ready Training and sign up at. There's even a quiz to help you work out what job would be the best fit for you.

www.godairy.co.nz



Go Dairy is a new campaign aimed at supporting COVID-19 affected workers into a farming career.

New website highlights primary sector career opportunities

Do you know someone who would be a good fit for a career in the primary sector?

There are opportunities at all levels right now on our vineyards, forests, farms, orchards, and seas.

Go to the *Opportunity Grows Here* website for information about career and training opportunities.

www.opportunitygrowshere.nz



JOBS ARE HERE.

Opportunity grows here

New Zealand Government

Ministry for Primary Industries
Manatū Ahu Matua

