



Steve's column

Welcome to our August edition of Agri-gate. It's certainly been a busy last couple of months, with various announcements, launches and other activities.

On 5 September, we'll be celebrating the ten year anniversary of the Sustainable

Land Management and Climate Change Research programme. SLMACC was the first comprehensive research and knowledge transfer programme to look into sustainable land management and climate change impacts on the primary sector. It's creating high quality research, engaging stakeholders and end-users, and growing climate change science capability in New Zealand. The event provides the opportunity to discuss the success of SLMACC funded programmes over the past decade and to build on this knowledge towards a more sustainable future.

Last week Minister of Agriculture Hon Damien O'Connor announced a new investment programme – Sustainable Food & Fibre Futures (SFF Futures), we launched a new Primary Growth Partnership (PGP) programme called Caprine Innovations New Zealand (CAPRINZ) with Dairy Goat Co-operative (NZ) Limited, and a report of findings from the independent review of the PGP was released.

We talk more about these in this edition of Agri-gate.

We also check in on the Wool Unleashed (W³) PGP programme that aims to drive fundamental change in the way strong wool is produced, marketed and sold, and profile a project that's looking at changes in management practices to increase the amount of carbon stored in New Zealand grasslands.

Early next week, we'll be publishing a report of findings from an independent progress review of the Passion2Profit PGP programme. The review concluded the programme is well managed and governed, and has achieved its targeted short-term outcomes.

The reviewer noted that good progress has been made with executing the work plan and highlighted the following strengths of the programme:

- The level of co-operation and collaboration by the marketing companies achieved through the market development work.
- The success of the Advance Parties in driving practice change and technology adoption across the deer industry.
- Early success with recent initiatives and tools to increase deer farmers' access to experts and improve animal health.
- Good programme management and governance.

The reviewer has provided recommendations to help better assess the potential benefits expected by the

programme, help to focus on areas that will generate the most benefits, and give the programme the greatest opportunity for success.

A copy of the report is available on the [Passion2Profit programme page](#) on the MPI website.

I hope you enjoy this edition of Agri-gate.

Steve Penno

Director Investment Programmes



At the launch of the Caprine Innovations New Zealand PGP programme. From left, Dairy Goat Co-operative (NZ) Limited Board Chair Campbell Storey, goat farmer Kerry Averill, Minister of Agriculture Hon Damien O'Connor, goat farmer Robyn Averill and DGC Chief Executive David Hemara.



John Parker's Column

Welcome to this edition of Agri-gate.

I'd like to welcome Dairy Goat Cooperative (NZ) Ltd and the new Caprine Innovations New Zealand PGP programme. This programme

was one of nine business cases for new Primary Growth Partnership (PGP) programmes in the "pipeline" prior to the announcement of the independent review of the PGP.

The Ministry for Primary Industries approved investment in the programme as it met PGP criteria including an innovation focus, delivering economic and environmental benefits and a focus on the value chain. The Investment Advisory Panel (IAP) was supportive of this programme, and we're excited about its potential and what it could achieve for New Zealand's goat milk industry.

The Minister of Agriculture recently announced the development of a new investment programme called Sustainable Food & Fibre Futures (SFF Futures) which, as you'll see in this edition of Agri-gate, will take the best of the PGP and the Sustainable Farming Fund to create a new programme. The IAP is pleased that SFF Futures will incorporate the PGP – it is an effective, successful model which has delivered economic, environmental, social and other benefits. This is backed up by the recent independent review of the PGP. The report of findings from the independent review has been published on the MPI website. This review concluded that the PGP is a worthwhile public investment that continues to deliver benefits for New Zealand.

Looking to the future, the IAP will remain involved with providing advice and recommendations to MPI on current PGP investment and future investment through SFF Futures, and we will continue our monitoring function, an important part of the governance process.

We look forward to seeing the breadth of the programmes that will be supported through SFF Futures and continuing our work with existing PGP programmes.

Finally, I would like to welcome our newest IAP member, Zoe Attwood. Zoe is a professional director who has been working in governance since 2000, successfully serving on the boards of private and listed companies, government entities, research institutes and not-for-profit organisations in both New Zealand and Australia. She has been a senior executive across many industries including food and beverage, specialising in science and technology, innovation and commercialisation.

Zoe will be a welcome addition to the IAP, and we look forward to working with her.

John Parker
Chairman, PGP Investment Advisory Panel

PGP review report released

On 21 August, the report of findings from the independent review of the Primary Growth Partnership (PGP) was released.

The review found the PGP:

- has a unique combination of eligibility criteria, rules and operating philosophy ideally suited towards transformation or longer-term step changes.
- supports the right conditions for future innovation investment, such as collaboration, capability building and culture change.
- locks in public benefits such as intellectual property, and affords greater accountability for public investment.
- is lifting capability including in scientific, engineering, farm management and innovation.
- is building confidence by partner organisations to further innovate and invest in future research and development.
- is improving collaboration amongst competitors and across the value chain.
- has already returned more than the government's investment through benefits like enabling innovation activities and capability, creating new jobs and increasing the value of our products and exports.

The review has made a number of recommendations, aimed at ensuring future innovation and benefits continue, which will be useful as the Ministry for Primary Industries (MPI) develops the new Sustainable Food & Fibre Futures (SFF Futures) programme.

A **copy of the report** is available on the MPI website.

New PGP programme to foster high value goat milk infant formula industry



Kidding around in front of the camera at the launch of the Caprine Innovations PGP programme.

A new Primary Growth Partnership (PGP) programme launched on 21 August has its sights on growing a sustainable, high value goat milk infant formula industry in New Zealand.

Caprine Innovations NZ (CAPRINZ) is a five-year, \$29.65 million PGP programme between the Ministry for Primary Industries (MPI) and Dairy Goat Co-operative (NZ) Ltd.

The end goals include improving the health and wellbeing of families, delivering a range of benefits such as growing research and farming capability, and increasing export revenue across the New Zealand dairy goat milk industry to \$400 million per annum by 2023.

The programme was launched in Hamilton by Minister of Agriculture Hon Damien O'Connor.

“Our CAPRINZ PGP programme aims to strengthen the position of goat’s milk infant formula as the preferred alternative to conventional milk infant formula,” says Dairy Goat Cooperative Chief Executive David Hemara.

“We recognise breastfeeding as the best source of nutrition for babies and infants. Our aim through this PGP programme with MPI is to target consumers in New Zealand and overseas by meeting demand in situations where breast feeding requires supplementation or isn’t feasible.”

The CAPRINZ PGP programme will develop innovative tools to enable all New Zealand goat farmers to measure and improve their performance, while ensuring any economic gains don’t come at the expense of the rural environment.

“Because many dairy goat farm systems use off-paddock animal housing facilities there’s the opportunity to decrease the environmental impact of pastoral farming through conversions from other farming systems,” says Mr Hemara. “Our programme aims to increase dairy goat numbers in the long term by 50 percent to over 100,000.”

MPI Director-General Martyn Dunne says the CAPRINZ PGP

programme expects to deliver a number of industry-wide benefits.

“In addition to the economic benefits, the CAPRINZ PGP programme also aims to create more than 400 new jobs on-farm, improve dairy goat farming practice and sustainable production, and boost capability across the industry,” says Mr Dunne.

“It will also grow New Zealand’s research capability in the science of high-value nutrition and health, and establish a dairy goat research farm to deliver and trial its innovations.

“The CAPRINZ PGP programme meets our criteria for investment, such as an innovation focus, delivering economic and environmental benefits and a focus on the value chain.

“Due to the uniqueness of our New Zealand pastoral farming, developments by the programme won’t be able to be easily replicated overseas, ensuring benefits are retained in New Zealand.

“We’re excited about the benefits expected from the programme and the difference it’ll make for New Zealand’s goat milk industry.”

For further information, see the [media release](#) and [programme page](#) on the MPI website.

Minister of Agriculture Hon Damien O'Connor greets the kids at the launch of the new Caprine Innovations New Zealand PGP programme.



PGP Programme spotlight: **Wool Unleashed (W³)**



Havelock Wool Batt Insulation.

Wool Unleashed (W³) is a seven-year, \$22.1 million Primary Growth Partnership (PGP) programme that aims to transform New Zealand's crossbred wool industry from volume to value.

This collaboration between The New Zealand Merino Company Ltd (NZM) and the Ministry for Primary Industries (MPI) involves developing a consumer-focused supply chain, from pasture to product, that responds to the needs of specific markets, and therefore increasing the demand for products made from New Zealand strong wool.

The W³ programme has now entered its fourth year, and set out to bridge the void between our nation's expertise in producing wool and end user preferences. Applying learnings from 22 successful years creating a new category in the fine wool industry, NZM intends to move strong wool from a commodity-based model to branded marketing.

Traditionally, strong wool has been used for carpeting but it lost massive market share with the proliferation of fossil-fuel derived synthetic carpets. NZM's CEO John Brakenridge believes that therein lies the opportunity for strong wool.

"We have removed nature from our homes and replaced it with fossil fuel fibres such as nylon carpets. We are also spending more time inside than any other time in our history," says Mr Brakenridge.

"We are working with some of the world's most innovative companies and thought leaders to find

new uses for wool, as well as reinvigorating the traditional uses. We believe that wool, along with other natural fibres, is the answer to the growing issue of plastic pollution and the resulting detrimental health outcomes."

Since the programme began, NZM has been identifying and developing new wool opportunities and products for premium markets through a collaborative effort with crossbred growers, research providers and market partners.

With increasing global awareness of the impact synthetic materials and chemicals are having in our environments, proactive consumers are seeking out natural alternatives, to improve indoor air quality and promote healthier spaces for them and their families.

US insulation company, Havelock Wool, understand this and want to differentiate by focusing on a natural, fire resistant and long lasting alternative insulation for the conscious consumer home. They're keen to tell a more ethical wool story, tracing their wool fibre back to the farm source.

Havelock Wool Managing Partner Andrew Legge says, "the materials in our homes are contributing to poor indoor air quality that we now know is up to 500 percent worse than the air outside. Compounding this, we're spending 90 percent of our time indoors. People are becoming more and more aware of Sick Building Syndrome – our homes are making us sick."

“Wool responds perfectly to the challenges in the built environment by managing moisture, absorbing indoor air contaminants and noise.”

Legge says one of the key benefits that building designers see in using wool insulation is that it removes fibreglass from buildings, meaning there are no concerns about what contractors might ingest during installation, or inhabitants, while occupying the space. Moreover, it's easier to handle and there are no long-term concerns about the impact on the environment.

Brakenridge says that partnerships with innovative companies like Havelock Wool are a key part of the W³ strategy to shift the strong wool industry from volume to value, learning lessons from the success and hard work of the merino community.

“As well as supporting traditional uses for wool, we need to seek out new markets and categories to realise the true value of ethically grown, sustainable New Zealand wool fibre,” says Mr Brakeridge.

“To reposition wool fibre as a premium natural alternative to synthetic fibre, we are focusing on strategic alignment with leading global brands, to tell a positive New Zealand wool story to the world.”

Key to this was a gathering of global wool industry leaders at Stanford University in the US in July 2018. The Vanguard wool event, initiated by NZM, included existing and potential wool partners collaborating together for a week long workshop to develop new ways wool can be a solution for the global plastic pollution.

While many of the global brand names or innovation projects can't be discussed yet due to non-disclosure agreements, new launches are planned for the coming year.

Following the Vanguard wool event, work now begins on how each brand can contribute to growing the demand for natural fibre in an ever-increasing synthetic world.



Tim Brown from Allbirds speaking with growers at the Vanguard wool event in July 2018.

Minister announces new Sustainable Food & Fibre Futures programme

On 21 August, Minister of Agriculture Hon Damien O'Connor announced the development of the new Sustainable Food & Fibre Futures (SFF Futures) programme.

SFF Futures will enable the Ministry for Primary Industries (MPI) to take the best of its Sustainable Farming Fund (SFF) and the Primary Growth Partnership (PGP) and create a new future-focused programme.

“SFF Futures provides a single gateway for applications for applied research and development projects in the food and fibre sectors – this will both simplify the process for applicants and enable us to identify the most suitable option to provide investment,” says Steve Penno, Director Investment Programmes at MPI.

“It also enables us to have a wider breadth in terms of the size and scope of programmes and projects we can invest in.”

Around \$40 million will be available each year.

MPI will continue with existing commitments to current PGP programmes and SFF projects. While they already deliver economic, environmental, social, and cultural benefits, SFF Futures will place more emphasis on the environment and value to New Zealand.

“We're currently developing SFF Futures – we've acquired a lot of experience and expertise from our many years of operating the SFF and PGP, so we started from a good foundation,” says Mr Penno.

“Under SFF Futures, we're also exploring special targeted funding rounds to invest in projects focused on specific outcomes, such as climate change or the environment.”

SFF Futures will formally launch in October.

For further information, see the [MPI website](#) and the Minister of Agriculture's [media release](#) available on the Beehive website.

Soil carbon research moves forward



More research on soil carbon will translate into better guidance to farmers on mitigating greenhouse gases.

Small changes in the amount of carbon stored in soils can have large impacts on the amount of carbon present in the atmosphere and hence help the effort to reduce global warming. New Zealand scientists, funded by the Ministry for Primary Industries through the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), have been working on how management practices can be changed to increase the amount of carbon stored in New Zealand grasslands. A comprehensive review of eight years of work has recently been published in the prestigious international journal *Agriculture, Ecosystems and Environment*.

The review, 'Management practices to reduce losses or increase soil carbon stocks in temperate grazed grasslands: New Zealand as a case study', was commissioned by the NZAGRC and sets a benchmark on what we currently know about soil carbon management.

The review's lead author, Manaaki Whenua – Landcare Research scientist Dr David Whitehead, leads the NZAGRC's soil carbon research programme along with Professor Louis Schipper at University of Waikato.

The review summarises eight years of scientific research and identifies a list of criteria that can be used to assess the impact of changes to farm management practices on soil carbon stocks.

Key findings include:

- new, more rapid, methods for estimating soil carbon stocks based on remote sensing show great promise;
- confirmation that soil carbon stocks in New Zealand's grasslands are already high, and that increasing them is challenging – research should focus on reducing the rate of loss of carbon from soils in some situations;
- there is no evidence that addition of nitrogen and/or phosphorus fertilisers leads to increases in soil carbon stocks, but soil carbon may benefit if fertiliser applications are incorporated alongside changes made to the intensity and frequency of grazing;
- supplementary feeding can lead to small increases in soil carbon stocks but that must be balanced with possible negative impacts on soil carbon where the feed is grown;
- irrigation can increase carbon stocks where plant production has been severely constrained by lack of water but in more humid environments irrigation can have a negative effect.

The report also identifies priorities for research to address knowledge gaps that currently prevent scientists from being more certain in their advice to farmers and policy makers.

NZAGRC Director Harry Clark says the review is an important step in deciding where future solutions might be found and where research should be targeted.

“As a substantive study into New Zealand soil carbon, this gives us a benchmark to work from. It also gives us a better understanding of what the next steps should be for the NZAGRC’s programme of work dedicated to soil carbon,” says Dr Clark.

Dr Clark says New Zealand is also playing a full part in international research aimed at finding options to increase soil carbon stocks.

“For example, new research is underway in New Zealand to evaluate full inversion tillage to depths greater than 0.5 metres. The intention is that surface soil carbon will be buried and retained at lower depths and new surfaces with a high potential to absorb and retain carbon are exposed.”

This new research is funded via the New Zealand Government’s investment that supports the objectives of the Global Research Alliance of agricultural greenhouse gases (GRA).

More broadly, the NZAGRC and New Zealand’s research investment is contributing to the “4 per 1000 Initiative” that sets a goal to increase carbon stocks across the world’s agricultural land by 4 parts per 1000 or 0.4 percent per year.

“Global soils contain two to three times more carbon than the atmosphere. If this carbon level was increased by 0.4 percent per year in the top 30-40 cm of soils, the annual increase in carbon dioxide in the atmosphere would be stopped,” says Dr Clark.

A second international research project that the NZAGRC is contributing to, with the aid of GRA funding, is CIRCASA (Cooperation of International Research Coordination on Soil Carbon Sequestrations in Agriculture).

CIRCASA takes stock of the current understanding of carbon sequestration, identifies stakeholders’ knowledge needs and fosters the creation of new knowledge.

Its research recognises there are knowledge gaps in soil carbon such as permanence of sequestered organic carbon, long-term changes in agricultural systems and agricultural practices in diverse climatic conditions, and the difficulty of detecting improvements.

“Continued international research on soil carbon, its storage potential and changes over time will translate into better guidance to farmers on what they can do to mitigate greenhouse gases,” says Dr Clark.

The **full review is available on the ScienceDirect** website.



Soil sample collection.