

Agri-Gate

Ministry for Primary Industries
Manatū Ahu Matua



Latest news about MPI's Investment Programmes

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Justine's column



Last week, Martyn Dunne announced his approval of the business case for a new Primary Growth Partnership (PGP) programme called 'Sheep – Horizon Three' at an event in Auckland.

Sheep – Horizon Three is a \$31.39 million, six-year programme between the

Ministry for Primary Industries (MPI) and Spring Sheep Milk Co. (Spring Sheep) that aims to develop an end-to-end value chain for New Zealand's sheep milk industry, driven by the market.

It will enable Spring Sheep to help drive sustainable industry growth by investing in a number of important areas. This includes market intelligence to guide a programme of high-value product development and establishing a research farm to increase the genetic merit of the sheep. It also includes developing farming and environmental systems, and building the right capability and skills required for successful sheep milk farming in New Zealand. The programme includes work on sharing the latter with the industry as more sheep dairy farms will be needed for the programme to achieve its goals.

The Sheep – Horizon Three PGP programme is expected to generate annual revenues of between \$200 million and \$700 million by 2030.

Minister for Primary Industries Hon Nathan Guy and Associate Minister for Primary Industries and Minister for Food Safety Hon Jo Goodhew attended the announcement event. You can see some photos from the event in this edition of Agri-gate.



MPI Director Investment Programmes Justine Gilliland addresses guests at the Sheep – Horizon Three announcement.



MPI Director-General Martyn Dunne speaks to guests about the PGP and the Sheep – Horizon Three PGP programme.



From left: Spring Sheep Milk Co Chief Executive Scottie Chapman, MPI Director-General Martyn Dunne, Minister for Food Safety and Associate Minister for Primary Industries Hon Jo Goodhew, Minister for Primary Industries Hon Nathan Guy, and Landcorp Chief Executive Steve Carden.



Spring Sheep Milk Co Chief Executive Scottie Chapman, Susan the Sheep, and Minister for Primary Industries Hon Nathan Guy.

round will close on 8 September so I encourage those who are working on applications to ensure they are in by 3pm on the 8th. We will have an update on all of these funds for you in next month's edition of Agri-gate.

In this edition, we feature a successful Sustainable Farming Fund project which

explored sustaining vineyards through practical management of grapevine trunk diseases.

We also profile a website that has been produced as part of the SLMACC Tech Transfer Programme. The website is a digital library of resources related to climate change.

I hope you enjoy this month's edition of Agri-gate.

Justine Gilliland
Director Investment Programmes

MPI and Spring Sheep are currently negotiating a contract so the programme can formally start.

The Transforming the Dairy Value Chain PGP programme has developed a new brochure called 'People Power – from Gate to Plate' about some of the people involved in it. This provides a glimpse into some of the cutting-edge and diverse work underway, the people behind this work and the valuable skills and capability this programme is enabling. You can download a copy of this brochure on the [Transforming the Dairy Value Chain's page](#) on our website.

Over the next month, we hope to confirm successful applicants for the Afforestation Grant Scheme (AGS), the Erosion Control Funding Programme (ECFP) and the Sustainable Land Management and Climate Change (SLMACC) Research Programme. The 2017/18 Sustainable Farming Fund

From the Chair, PGP Investment Advisory Panel



I'd like to welcome the announcement of MPI's approval of the business case for the Sheep – Horizon Three PGP programme. The PGP Investment Advisory Panel (IAP) considered the application for this new PGP programme in detail and supported the outcomes it is seeking to achieve. Once contracted, the IAP believes the programme will deliver a number of benefits, such as identifying new markets, producing high value sheep milk products and establishing a larger sustainable sheep milk industry in New Zealand. The programme will have a clear focus on establishing a sheep milk value chain in New Zealand. It will deliver returns across this value chain through to value-add products.

By their very nature, innovation programmes involve significant investment. This includes time, effort and funding. In a previous column I talked about large programmes of innovation being complex and, therefore, carrying some degree of risk. This holds true for PGP programmes.

PGP programmes must demonstrate that they're beyond business as usual, and have the potential to deliver significant economic and non-economic benefits. Without risk, innovation programmes can't push the boundaries of what is possible. PGP programmes are therefore ambitious, often high-risk, and required to adapt over their lifetime to respond appropriately to new knowledge, challenges and opportunities. And because of these factors, the level of those predicted benefits can vary up or down.

PGP programmes will be familiar with the 'fast-fail' approach, which is often adopted as a route to long-term success in projects or work streams that make up significant innovation programmes. As a reminder, using a fast-fail approach means all projects or work streams have set stages at which any failures or risks are assessed for impact. If a project or work stream is deemed unlikely to succeed, then it's stopped, and any relevant lessons are applied to the remaining ones. This doesn't necessarily mean investment in the programme or project has been a waste, as important knowledge and understanding would have been gained up to that point.

PGP provides government and industry with the means to share the investment and risk of innovation – no one PGP partner would have embarked on innovation programmes of this magnitude alone. However, we need to be open to the fact that with innovation comes risk, and with risk can come reward or failure.

John Parker
Chair of the IAP

Agri-Gate Article

Doing more with less

How PGP programmes are helping farmers to manage nutrients while increasing their productivity and profitability.

Increasingly consumers expect the food they eat to be produced to the highest quality and safety standards – and they expect that it's produced in a way that's friendly to the environment.

A challenge for farmers and others involved in the supply and production of food is improving their profitability, while minimising the environmental impacts of their farming or production systems.

One area of environmental concern is nutrient runoff. Nutrient runoff can affect water quality, with some regions imposing limitations on farm systems, such as Taupo's Discharge Allowance System. A key recommendation from the Land and Water Forum is to have water quality targets in most catchments. This represents a challenge but also an opportunity for land managers.

Being 'green' and profitable are not mutually exclusive, and it'll take a collaborative effort and a multi-pronged approach to achieve the best possible outcomes for industry and our environment.

How is PGP Helping?

Two PGP programmes are helping farmers improve their fertiliser use – improving productivity and profitability while minimising impacts on our environment. These are Ballance Agri-Nutrients' Clearview Innovations PGP programme and Ravensdown's Pioneering to Precision PGP programme. In this story we feature complementary precision fertiliser application technologies being developed by these two programmes.

Clearview Innovations

The Clearview Innovations PGP programme seeks to provide farmers with a range of new products and expert advice that improve the efficiency of fertiliser application on farms. The aim is to get more output with lower nutrient inputs and costs, while reducing nutrient losses to the environment – in other words, doing more with less.

To date the programme has developed three new products:

- N-Guru™, modelling software that more accurately predicts pasture responses to nitrogen
- MitAgator™, a tool designed to identify and quantify the areas on farm which are at risk of losing phosphorus, sediment, nitrogen, and microbial contaminants
- SpreadSmart™, precision technology developed for fixed-wing aerial topdressing.

Spreadsmart combines Global Positioning System (GPS) and Geographic Information System (GIS) technology to provide guidance and tracking systems. It also utilises digitised farm mapping to automate the opening and closing of an aircraft's fertiliser hopper at the right time, in the right place. Where older technology relied on manual controls for fertiliser hoppers, this system is fully automated making it safer for the pilot and the environment. This technology uses prescription maps which enables fertiliser to be applied at more than one rate to more accurately match fertiliser placement with potential productivity, based on slope and aspect topography characteristics, and develops automatic maps showing proof of placement.

The newly developed technology has been fitted into Ballance's Super Air topdressing division's aircraft in Wairarapa and King Country and launched in these areas for wider commercial application.

The advantages of this sophisticated technology include ensuring fertiliser is not applied to environmentally sensitive areas such as waterways, and native bush and allows for different fertiliser rates to be specifically targeted to different areas of the farm, improving overall production. With fertiliser as one of the largest on-farm costs, precision applications also mean budgets go further, improving farm margins.

Pioneering to Precision

Ravensdown's Pioneering to Precision PGP programme seeks to tackle the challenges of increasing productivity and profitability, while minimising the environmental impacts, by transforming the way soil nutritional information is measured and mapped through the use of smart, remote sensing technology.

Currently fertiliser is often applied in equal amounts over the entire area of a farm by plane. Due to the variability of factors like topography, soil type and micro-climate, which invariably exist in combination, nutrient requirements can vary considerably within a typical farm. Averaging the application of fertiliser across a whole farm can result in over or under fertilising areas, wasting fertiliser and increasing environmental impacts where other areas could have benefited from the applied nutrients.

Ravensdown seeks to remedy this by applying fertiliser according to the nutrient status of the land. This first requires an understanding of the nutrient status of the soil, in detail that can currently only be achieved by intensive manual sampling which is uneconomic and impractical.

The Ravensdown Pioneering to Precision programme seeks to change this by developing a means to measure the soil nutrient status of land from the air, a technology called AirScan™.

This 'remote sensing' of the nutrient status of land is technically challenging and hasn't been achieved anywhere else in the world. However, Ravensdown has made promising progress to date towards making this a reality using recent advances in hyperspectral camera technology to 'sense' the nutrient status of hill country pasture.

Ravensdown currently offers a variable rate fertiliser application service called Intellispread™ that they developed outside of their Pioneering to Precision PGP programme. This enables a prescription map to be loaded onto a GIS/GPS system in the aircraft that automates the opening of the plane's fertiliser hopper, delivering the right amount of fertiliser where it's needed. The PGP-funded research on remote sensing will enable this technology to be more precise and targeted to the nutrient status of the pasture.

Multiple options, better outcomes

Between them, Ravensdown and Ballance Agri-Nutrients share 98 percent of New Zealand's fertiliser services

market. While both companies compete commercially, the scope of their PGP programmes provides complementary solutions which will benefit farmers and the environment and make top dressing safer for pilots.

Both programmes will increase pasture returns by ensuring the nutrient levels are at optimum levels, delivering economic, productivity and environmental benefits. Opening up this new, transformational technology to all farmers will help them get better returns in a sustainable way.

These two programmes also complement work by other programmes to minimise the impact of nutrients such as FarmIQ, the Red Meat Profit Partnership, Wool Unleashed (W³), and Transforming the Dairy Value Chain. Collaboration across these programmes is leading to the sharing of information and expertise, broader industry uptake and wider economic and environmental benefits.

While the catchphrase of 'doing more with less' has become commonplace in the modern corporate world, in this case it has become a rallying cry for transforming the fertiliser industry in New Zealand.

Solutions explored for grapevine trunk disease

A recently completed Sustainable Farming Fund project brings good cheer to New Zealand winegrowers struggling with grapevine trunk disease.

The project studied the extent of grapevine trunk disease in New Zealand vineyards and has advanced control strategies for managing the disease and the costs and benefits associated.

The project started by surveying over 700 vineyard blocks, consisting of 22 varieties, ranging from 4 to 33 years of age in Hawke's Bay, Marlborough and Central Otago. The grape varieties most susceptible to the disease were Malbec, Cabernet Sauvignon, Chardonnay, Syrah and, crucially, Sauvignon Blanc. The least susceptible varieties were Merlot, Pinot Gris and Riesling. Vines that were 15 years old or more were found to be more likely to have symptoms of the disease. Given the average age of vines in Marlborough and Hawke's Bay is 12 years, and that Sauvignon Blanc was found to be most susceptible, it is likely that there will be more cases of the disease in New Zealand vineyards over the next decade if strategies are not implemented.

The project also included evaluating fungicides to apply to pruning wounds on vines, which is the most common point of infection. Data from the evaluation was then supplied to fungicide companies. Cost-effective methods of applying the fungicides were also explored and are already being adopted by industry as the fungicides become available.

This project was carried out by New Zealand Winegrowers, and was proudly supported by MPI through the Sustainable Farming Fund.



Climate Cloud – your climate change resource hub

A wealth of climate change related resources is available to scientists, rural professionals, farmers, growers and foresters at the click of a button.

Climatecloud.co.nz is a digital library with over 2000 resources relating to the risks, impacts and solutions for adverse events, weather and climate change in land based businesses.

The Climate Cloud digital library has been developed by AgResearch and Scion through funding from MPI's Sustainable Land Management and Climate Change Tech Transfer Funding Programme. The resources are produced by Crown Research Institutes, primary sector industry bodies, private companies universities, and government.

The resources available provide information on a range of subjects including adapting to climate change, adverse events, lessons learnt from droughts, monitoring and planning guides and sustainability tips.

Visit www.climatecloud.co.nz to check it out.



Climate Cloud

Welcome to Climate Cloud - Your Resource for Information on Adverse Events, Weather, Climate and Climate Change in Land Based Businesses

Climate Cloud is a digital library with a collection of resources relating to the risks, impacts and solutions for adverse events, weather, climate change in land based businesses.

It contains physical copies and links to reports, fact sheets and video, largely from New Zealand organisations.

Each resource has classified using sector and subject keywords and is also searchable by any word within the resource.

Use the search box on the right to access the library. [Search help is here.](#)

Detailed Search allows searching by Sector and Subject.

Advanced Search allows for using the advanced search features of Sharepoint. See the [Help](#).

The sector pages provide introductory information about climate change risks impacts and adaptation options.

 Cropping	 Dairy	 Forestry	 Horticulture	 Meat & Fibre
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