

# CONNECT

Updating shareholders about their co-operative

## Supporting farmers as they face the new decade



### Speaking up for farmers

**As a co-operative, everything we do is about providing solutions, developing new ways of helping and supporting farmers so that they thrive not just survive.**

It's about standing shoulder to shoulder with shareholders so we can all hold our heads high. Knowing that we are all doing right by the community and the environment as well as staying viable and achieving our financial goals.

When it comes to standing up for farmers – speaking out to government, regional councils or regulatory bodies, we're no shrinking violets. Most recently we delivered science-based submissions on the zero carbon bill and the proposed action for healthy waterways. We will also be playing our part in the agsector's development of an alternative to the Emission Trading Scheme.

We are unashamedly in the corner of a food creation sector that is the envy of the world. We will keep advocating practical workable solutions, showcasing what can be achieved and staying positive. After all we have plenty to be positive about - we help wonderful people grow fabulous food in a remarkable part of the world.

### Phosphate fate

**I have just come back from Togo in Africa which is one of the few countries in the world that exports phosphate rock (P).**

We are always looking for additional sources to assure supply of this nutrient which is so strategically essential to New Zealand's soils and economy. It regularly takes us to some exotic places!

Options come with constraints; whether it's the dust or cadmium in Peruvian rock or the lack of solubility of South African rock. The reality is that there are very few



Taking Togo tour: The Ravensdown team check the phosphate mine.

choices for any country that renews the sulphur and P in their soils predominantly via granules of superphosphate. And with its pasture-based system, New Zealand is one of the only countries in the world to apply superphosphate in equipment like topdressing planes.

### Morocco's role

**Morocco is by far the largest of the dozen or so exporting countries with 70 per cent of the world's known phosphate reserves.**

The company that supplies New Zealand's rock from that part of the world is called OCP and they supply us with information about how they help the local people (they are the biggest employer of Saharawi in Western Sahara).

We continue to monitor their performance so that we are satisfied they are acting in accordance of the UN rules about dealing with places like Western Sahara.

There are a few people who think the trade should stop.

Ravensdown is acting legally and in a way consistent with its values. I have met with the activists who believe the trade with OCP should stop. Their compassion for those held in Algerian camps is undeniable. But we also see those who benefit from the trade with a valued ally and trading partner (Morocco). Brazil, China and Japan all import phosphate rock from Western Sahara. Our policy is to encourage the UN to take all efforts towards a political solution of the dispute, do what we can to explore additional sources of phosphate rock and continue to encourage OCP to do what it can for the local people.

As ever, your team is determined to help and you can also get in touch with me any time via email [CEO@ravensdown.co.nz](mailto:CEO@ravensdown.co.nz).

Thanks for your support!

Greg Campbell, Chief Executive

## Inside

If you have any suggestions of items to include in Connect, then please email [Newsletter@ravensdown.co.nz](mailto:Newsletter@ravensdown.co.nz)

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# No single silver bullet in fight against phosphate loss

## Management is the key

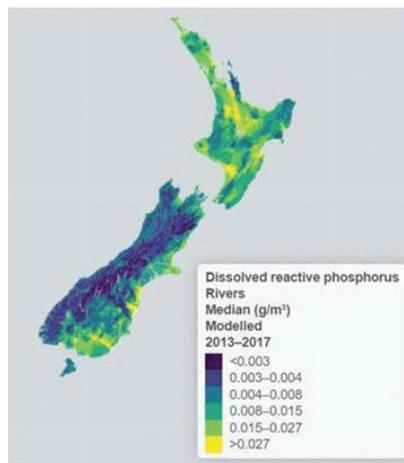
**In New Zealand's soils, phosphorus does a great job at growing plants but unfortunately it does the same thing if it makes it into our water.**

Once this dissolved phosphate is in surface water, it assists in growing the wrong plants such as oxygen-depleting algae that starve other organisms.

There has been plenty of heat and noise about the government's proposed limit for dissolved inorganic nitrogen (DIN) in New Zealand's waterways and its impact on food creation. But the proposed limit for dissolved reactive phosphate (DRP) deserves just as much focus because the implications are just as serious.

The proposed 0.018 parts per million limit for DRP is certainly ambitious. The impacts of such an in-stream phosphate limit could affect more catchments than the proposed nitrogen limit: approximately 30% of monitored river sites are in excess of this threshold.

To paraphrase the old saying, "for every complex problem, there's someone selling a solution that's clear, simple and often wrong." Anyone with a partly soluble product to peddle who says it's a silver bullet to hitting any newly imposed limit is



Approximately 30% of monitored river sites are in excess of proposed limit of 0.018 parts per million for dissolved reactive phosphate (DRP).

ignoring the most important study of its kind from four eminent professors in the Journal of Environmental Quality.

Earlier this year, professors David Nash and Mike McLaughlin from Australia and professors Richard McDowell and Leo Condron from New Zealand contrasted the P-loss effects of poorly and well managed fertiliser applications. They found "under poor management, recently applied P fertiliser can contribute a considerable

proportion (30-80%) of total farm P exports in drainage, but when fertiliser is well-managed, that figure is expected to be less than 10%."

Good fertiliser management constitutes placing the right amount of the right nutrient in the right place at the right time: the trusty 'Four Rs'. Yes, there are innovations in the pipeline such as coatings or amendments that can better control the release of the phosphate and there are slow-release P products on the market today.

But these are no substitute for getting the right advice, testing, modelling and mitigations from a certified nutrient management advisor combined with more precise and traceable application from a Spreadmark accredited company.

Everyone wants to see P stay available to the right plants. It's the best thing for the environment. Farmers certainly don't want to pay to create a whole lot of underwater greenery. But farms, soils and waterways are complex systems and losses will occur. Their complexity also means that, whatever eventual DRP limit finds its way through the consultation process, the answer won't just be as simple as "Buy New Product X."

Mike Manning  
General Manager Innovation and Strategy



When fertiliser is well-managed, less than 10% of farm P exports to drainage

# Coatings and co-operation just two examples of smarter farming

## Apply less - lose less - pay less Sharemilkers Ben and Heather Peake farm 800 dairy cows in Canterbury and have a clear goal to reduce N loss to a more sustainable level.

After their first season of switching to N-Protect from uncoated urea, they had the confidence to reduce their annual use of nitrogen fertiliser from 300 to 250kg N per hectare, keeping more N in the soil and less heading off into the atmosphere.

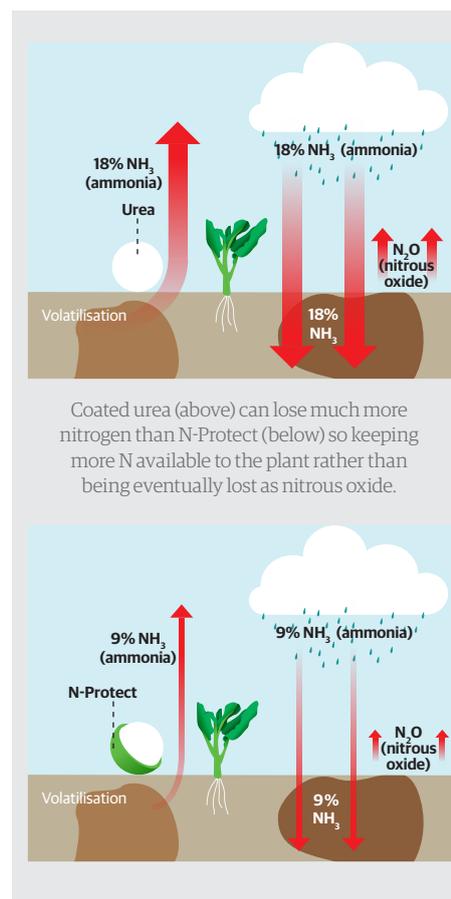
"We are able to put less units of N on per hectare because N-Protect is better utilised by the soil. We've been able to drop 50 units of nitrogen per hectare."



Ben Peake and Senior Agri Manager Jane Garrett weigh up the benefits of N-Protect

After an application on 20 April 2019 Ben was still seeing a good pasture response in early August and was able to hold off longer before the first application in spring. "Long term that means we will be able to reduce nitrogen inputs, which will be better for the bottom line and our sustainability. It's less spreading less carting and all the other factors that come into it."

Based on the N-unit reduction, this results in less being paid in total at current prices.



Coated urea (above) can lose much more nitrogen than N-Protect (below) so keeping more N available to the plant rather than being eventually lost as nitrous oxide.

## Co-operation to bring choice Farmers who want to see and use their satellite-enabled pasture measurement data on HawkEye® moved a step closer after Ravensdown and LIC agreed to collaborate in order to share data between each party.

LIC's satellite technology measures pasture (cloud cover allowing) enabling nutrient decisions to be made. LIC has made a strategic decision to focus on satellite technology and will transfer data into third parties such as HawkEye which will add greater functionality to the satellite data. Rather than invest in detailed mapping software to display the satellite information, LIC will use HawkEye's interface. Similarly, Ravensdown offers tow-behind pasture meters through its subsidiary C-Dax, but saw no need to commit shareholder funds to



Tim Roulston, National Services Manager

satellite-based assessments.

"This is a common-sense approach by two co-operatives who know that farmers want the companies they own to be efficient with their funds and co-operate to make their lives easier," said Tim Roulston, Ravensdown National Services Manager.

"Farmers have different ways to assess pasture yields in order to calculate feed wedges or make nutrient decisions. HawkEye is all about offering a choice, putting the farmer in control and giving them more time to farm," added Tim.



# Investing in research and infrastructure to boost science and service

## Grub guzzles millions

**AgResearch and Ravensdown have estimated the cost of grass grub damage on pasture yields in Canterbury at around \$1.8 million annually.**

The research, presented at the Grasslands Conference in Napier, looked at high-producing irrigated dairy pastures in the region over a three-year period, modelling the data and pasture measurements to estimate the scale of the impact of the yield gap.

Yield mapping was used to identify variance in pasture height within individual paddocks with higher grass grub numbers found in low pasture height areas. The technique involved using a C-Dax PastureMeter that carries a laser height sensor, recording a single measurement of pasture height every second along with a GPS position.

Co-author Ravensdown Chief Scientific Officer Dr Ants Roberts says the more intensive farms seem more likely to be impacted, as well as areas with lighter soils.

"The econometric modelling and analysis have shown there is huge potential for economic benefits by better controlling the grass grub population. Farmers can use yield mapping to identify at-risk areas and then treat with an Integrated Pest Management approach, such as reducing cultivation frequency," Ants says.

One tool in the toolbox to help the fight against grass grub is the Grubout U2 endophyte, developed by Cropmark Seeds. It has shown a strong deterrence to grass grub feeding, as unlike most other grass endophytes, it has presence throughout the plant, above and below ground. It has a wide range of potential uses including pastoral, horticultural, break and cover cropping situations.



Porina (circled) and grass grub



The new AgriDome in Te Kuiti has a 60m distribution conveyor, a 34m open auger feeding the shed and a new 24m Mettler Toledo weighbridge.



## Commitment to aglime

**Aglime quarries like Supreme in Te Kuiti are benefitting from new investment as the operations improve their safety and sustainability.**

A new \$2m project at Supreme Lime produced an "AgriDome" which can house 9,000 - 10,000 tonnes of aglime and 200 tonnes of superphosphate.

The lime business is strategically important according to Craig Hendry, Lime Business Manager. "A consistently available source of quality aglime is an essential input and soil conditioner for farmers and growers managing their pH.

"One issue is of lime drying especially in the cooler southern quarries. Using coal to dry the lime is a prime target to reduce our carbon emissions," continued Craig.

# Safety is all about the little things and taking responsibility

## Aerowork Safety Manager opens up Ravensdown Aerowork's Safety Manager Dave Lett knows a thing or two about safety and the need to manage hazards and risk after he was involved in a major motorcycle racing accident 10 years ago that nearly took his life.

At the time, he was working as a painter for Aerowork and while he was rehabilitating and couldn't paint, he undertook a heap of training and took on more and more tasks related to safety. Fast forward 10 years and Dave is now the Civil Aviation Authority certified Safety Manager for Aerowork.

"It's been a real journey for me as I've moved from being an aircraft painter who raced sidecars to being responsible for ensuring Aerowork's aviation safety system is operating effectively," said Dave.

"The CAA audit we went through to achieve our aviation safety certification was really satisfying. We had up to four auditors at one stage who did over 68 hours of staff interviews and pored over our systems and processes. To get through that with the auditors making positive comments about our safety culture and our people was very pleasing."

In the short time Dave has been focused on safety systems, he's seeing a change in how safety is viewed. "The days of it being an add-on and a pain to complete are thankfully disappearing as people realise that ensuring safety is just a part of how we work.

Dave believes being proactive every day is the key to preventing those unwanted events. "It really doesn't matter whether you're dealing with your staff, visitors, contractors or even getting your kids off to school. It's about stopping, taking 5 and asking yourself 'what can bite us on the bum today?' then work out what you can do to prevent it, talk about it, and get on with it."

When it comes to working with farmers, managing and understanding our overlapping duties is also really important. I was recently on a farm in Canterbury to do an operations audit on our team there and was pleased to have been met by the farmer and refused entry on farm until I'd been inducted. It was a refreshing experience in that he explained the hazards to me and gave me the right equipment and guidance to get up to the airstrip. Knowing that our customers are providing as safe a workplace as possible means our pilots and ground crew can focus on doing their jobs safely and on providing a great service."

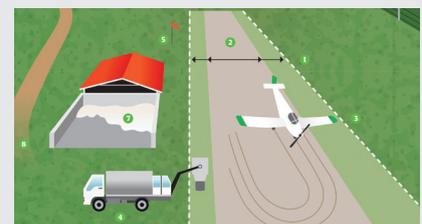


Pedestrian walkways play a vital role in ensuring safety around Ravensdown

## Traffic management standard arrives Ravensdown's sites are busy places with so many truck movements and interactions with heavy equipment such as loaders and forklifts.

"We're passionate about providing a safe place of work for everyone on our sites," said Stephen Esposito, General Manager Operations. "A key part of this is our new Traffic Risk Management Standard, which is being rolled out." It sets out the risk controls and requirements for safe interaction between people and vehicles. "For visitors, as it is for staff, the key is to understand and follow any local instructions such as new signage, road markings and pedestrian walkways."

A top dressing guide to airstrip maintenance is available from Ravensdown



## Identifying risks before Aerowork arrive on site:

- Ideally meet the pilot on the day to talk hazards.
- Neighbours are told.
- Farm tracks are ready for a heavy vehicle.
- Check strip for potholes.
- Product is in good condition.
- Identify wires! They kill pilots.
- Keep back - goes for staff, family, dogs and livestock.



A motorbike accident changed Aerowork's Dave Lett's perspective about safety.

# Board gets ready for governance into the 2020s

## New directors arrive

**Three new directors were announced at Ravensdown's annual meeting in Lincoln.**

They are agri-environment expert Dr Jacqueline Rowarth, farmer and professional director, Nicola Hyslop and governance and animal health leader David Biland.

Shareholders of the co-operative hailing from Southern Waikato to Northland elected Jacqueline, who is from Tirau. Nicola, a Timaru sheep, beef and arable farmer, was elected director for the Canterbury area.

Auckland-based David Biland, who is currently director of management consultancy Hughland Limited, joins as an appointed director. He replaces Glen Inger, who has retired after 12 years on the Board.

Ravensdown chairman John Henderson said the new directors were exceptional additions to the Board and would help drive further success for the co-operative and its shareholders.

"All three are committed to Ravensdown's values and purpose. Jacqueline, Nicola and David bring knowledge and skills that will play a huge role in sustaining Ravensdown's consistent performance as well as advancing new ways to fulfil our ultimate goal of enabling smarter farming for a better New Zealand.

"Elections are an important part of the co-operative. Any and all shareholders are encouraged to take an interest in the candidates and if they are really passionate throw their hat in the ring themselves."

## The new directors



*Jacqueline has a PhD in soil science and her research has focused on nutrient efficiency across four decades of research and analysis.*

*She was chief scientist of the Environmental Protection Authority from 2016-18 and is a current director of DairyNZ.*



*Nicola and her husband, Jonty, farm on a sheep, beef and arable irrigated property on the outskirts of Timaru. Nicola has 15 years'*

*experience in governance roles, including directorships with Opuha Water, Irrigation New Zealand and Beef+Lamb New Zealand.*



*David has held international management and governance roles, including with New Zealand animal health contract manufacturing, research and technology company Argenta and animal health multinational Meriel.*

## Going digital

Ravensdown is giving shareholders paper or digital options.

### • Annual (integrated) Report

If you want to start receiving a print or digital annual report, head to MyRavensdown to change your preferences.

### • Newsletter

From May 2020, only those who have ticked-for-print will receive hard copies.

### • Diaries

Shareholders can let us know if they want to continue receiving a printed diary after 2020's is delivered.

### • ARL test results

Those shareholders who have opted in for digital communications will no longer receive a hard copy in the mail. They will receive an email notification to say their results are available through My Ravensdown.

## Sustainability framework agreed

Ravensdown is a member of the Aotearoa Circle and Climate Leaders Coalition. It is structuring its efforts around four priority areas (see below). Visit [integratedreporting.ravensdown.co.nz](https://integratedreporting.ravensdown.co.nz) for more information.



### Thriving Communities

Stakeholder knowledge and awareness of sustainable practices and positive change in, and links between, communities.



### Climate Change

Integrate climate change measures into policies, planning and decisions to increase resource efficiency and adoption of clean technologies.



### Clean Air and Water

Healthy ecosystems and improved freshwater and air quality by minimising the release of contaminants.



### Less Waste

Environmentally sound management of waste and substantial reduction through prevention, reduction, recycling and reuse.

# In brief: Items from around the traps



### CEO of the year

Greg Campbell thanks staff, board and shareholders as he is given the inaugural award for Primary Sector Chief Executive of the Year.



### Project success

Ravensdown's Syed Khurram Iqbal presented to the Project Management Institute the process behind successful completion of the Napier's upgrades to despatch and electricity management.



### N-Protect takes off

Craig Butler from the Mata store is seeing more and more shareholders opt for coated urea because less needs to be applied for the same nitrogen effect.



### Local colour

The fun-loving ARL team take a break from soil test analysis to raise money for charity: daffodil day in August and Blue September for prostate cancer.



### Scholarship awarded

Ravensdown's Dr Rob Murray (right) presents Massey University's Nic Portegys with the Ravensdown Agricultural Research Scholarship.



### Practical on-farm insights

Clare Buchanan splits her time as Ravensdown Environmental Consultant and Demonstration Manager at the Lincoln University Demonstration Farm.



### Three decades and counting

Paul Egan (right) from the New Plymouth store congratulates Garry Rowe on his 30th anniversary with Ravensdown. Though Garry has been with the co-operative for 46 years and still counting.



### ClearTech and LIC collaboration

Professor Keith Cameron from Lincoln University presents at the LIC demonstration farm in the Waikato. Plenty of interest was shown in the fully operational ClearTech® dairy effluent technology.



### Raising the roof

The Dunedin Works, together with Mike McKay Roofing, were pleased to recently help out Ravensbourne School whose community swimming pool roof was in dire need of replacing.

# Future of New Zealand agriculture in good hands

**More candidates for wider scheme**  
**Ravensdown has launched a second intake to its development programme after seeing an increasing number of talented applicants want to join the co-operative.**

Six years ago, customers gave feedback about greater training being needed before field-based staff are sent out to help.

Since then, the six-month structured development programme has graduated 44 staff with excellent results.

"What has impressed me is that all participants have a strong sense of responsibility to help the sector adapt and thrive in the face of significant disruption," said Ravensdown training manager and mentor Gordon McCormick. "The calibre is high, which is encouraging, and it's great to see the talent that's coming down the pipeline."

**Aaron Wakeling, 22 (King Country)**

Aaron has spent the past three years working at Ravensdown's store in Taumarunui. However, he decided to apply for the programme to upskill and progress his career as an agri manager.

"I enjoy dealing with farmers and I think rural people are awesome to work alongside. I think there's a lot of interesting change coming to the farming sector, so I'm excited to be a part of it and to see where the programme takes me within Ravensdown."

**Ryan West, 22 (Northland)**

Ryan completed a Bachelor of Commerce (Agriculture) at Lincoln University in 2017 and has since been working on a farm in Western Australia. "There is the opportunity to embrace emerging technology and resources that are becoming available. I want to be a part of this change by helping farmers make the best decisions to be both environmentally and economically sustainable."

**James Martin, 23 (Southland)**

After completing a Bachelor of Science at Lincoln University in 2018, James relocated to Southland to work on farms throughout the district. "University was great at providing me the theory behind the agricultural industry, but it's the practical side of getting out onto farms and having conversations with farmers that's going to make proper change."

L-R Ryan West, James Martin and Aaron Wakeling



**Upcoming events**

**Ravensdown is proud to partner with the New Zealand Dairy Industry Awards and the FMG Young Farmer of the Year and encourages shareholders to enter.**

- 11 - 13 FEB Fertiliser Lime and Research Centre annual conference at Massey University
- 12 - 14 FEB Southland Field Days
- 20 FEB Northern - Pukekohe
- 27 FEB Waikato / Bay of Plenty - Huntly
- 3 MAR Central Plateau - Rotorua
- 4 MAR Bay of Plenty - Awakeri
- 5 MAR Taranaki / Manawatu - Feilding
- 5 - 7 MAR Northland Field Days
- 7 MAR Northland - Whangarei
- 11 MAR Waikato - Karapiro
- 12 MAR Auckland / Hauraki - Karaka East Coast - Danniverke
- 14 MAR Taranaki
- 17 MAR West Coast / Top of the South - Shantytown
- 19 MAR Canterbury / North Otago - Christchurch
- 19 - 21 MAR Central Districts Field Days
- 21 MAR Southland / Otago - Invercargill
- 26 MAR Hawke's Bay / Wairarapa - Masterton
- 1 APR Manawatu - Awapuni
- 2 APR Tasman - Oxford
- 9 APR Otago / Southland - Wyndham
- 16 APR Aorangi - Ashburton

**KEY:**

- NZDIA Regional Finals
- FMG Young Farmer of the Year regional Finals