

CONNECT

Updating shareholders about their co-operative



Performance pays – your co-operative investing in progress

Early rebate

Thanks to the support of our shareholders and efforts of our team, Ravensdown has been performing strongly this year and the autumn finish is keeping everyone busy.

Effective management and confidence in our position meant we were able to announce an early interim rebate again of \$17.50 cash per tonne of eligible fertiliser where delivery takes place before 31 May.

The idea is that this would give shareholders more certainty around their applications into the autumn. And judging by the activity of our spreading and stores teams, this move seems to have helped.

This continues Ravensdown's strong performance over the past four years and supports the Board's strategy of returning surplus cash to farmers at the earliest opportunity. We of course have to balance this with ensuring we maintain enough funds to re-invest in our core assets for a sustainable vibrant and innovative ongoing business. In the past four years, over 1,900 new shareholders have joined our ranks - interested in how we can help them improve their nutrient efficiency and reduce their environmental impacts.

Investing in service and science

While early cash helps, our approach of all-year value continues. Practically this means that funds are directed towards innovation and invested in product and service improvement. Of course, it's the Board which decides how much of any year's surplus is eventually returned or retained, but here's a helpful reminder of where we have invested this year.

1. New effluent treatment systems that help dairy farmers recycle water safely and reduce total effluent volumes (see page 4).

2. New mapping features that help plan and track nutrient decisions (see page 6)
3. New environmental consultants that help customers reduce their environmental impacts (see page 6)
4. New and improved stores (see page 2)
5. Updated assets in our manufacturing plants (see page 2)
6. Improvements in modelling tools such as OVERSEER

All of this work helps farmers stay ahead as they face potential opportunities and threats. And none of this work would be feasible if every dollar of surplus was returned every year as an annual rebate.

Measuring performance

This is why the size of an annual rebate is not the only measure of a business like this. When you have an impact on and are impacted by as many factors as Ravensdown is, we believe the best way to consider performance is to look at a range of inter-connected indicators.

For example, product quality matters and does not continue to occur or improve without investment. And if we do not invest in the knowledge of our people, the quality of advice would decline if we didn't invest in maintaining them.

To try and get a more rounded view, we are moving to more of an Integrated Reporting approach and you can watch or read our summary of performance when we release our audited accounts.

If you'd like a printed copy of that report, just visit MyRavensdown to check or alter your preferences.

I'm really happy to report that we are welcoming Katrina Benedetti as Ravensdown's new General Manager

Culture and People. Katrina has exceptional credentials and joins us from Landcare Research.



Joining the Sustainable Business Council

We're committed to helping farmers reduce their environmental impact and just as determined to tackle our own. We can achieve this by working with and learning from other New Zealand organisations that are leading in this area and this is why the Sustainable Business Council exists.

Our own operations and those of our customers, who are growing quality food for humans and animals, are massively dependent on natural resources such as air, water and soil. Because we can also impact on those resources, we need to assess and improve how we put them to use.



Greg Campbell, Chief Executive

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Ravensdown opens its doors – interest in improvements is high

Ravensdown opens new \$30m Taranaki plant Hundreds of shareholders turned out to tour around Ravensdown’s new state-of-the-art fertiliser blending plant and distribution centre in New Plymouth.

Situated on a 7.5ha site, the \$30m store and blending plant represents one of the co-operative’s largest ever capital projects in New Zealand.

The newly installed Precision Blending Plant will see precise blends and coatings of fertiliser made to order and of better quality.

Environmental performance has been “designed in” to the facility’s operation. The new site has enclosed operation for mixing, handling and bagging fertiliser to reduce dust and prevent trucks tracking product out of the store site. In addition, all stormwater on site is collected using a site water capture and bioremediation system to strip nutrients from the water.

Ravensdown imports over 100,000 tonnes of mineral fertilisers through the local port each year, supplying 150,000 tonnes to approximately 4300 farms.

Last year, Ravensdown invested over \$42 million in property plant and equipment. This is only the second Precision Blending



Regional Manager Mike Davey welcomes shareholders who showed a lot of pride in their new store

Plant in Australasia after the company opened one at its Christchurch site in 2016.

Regional Manager Mike Davey said “Shareholders at each end of the country benefitted when the brand new stores were built in Balclutha and Mata (2011 and 2012 respectively). It’s the turn of Western North Island this time, but the infrastructure renewal is a long-term programme of work and this co-operative will keep investing and improving.”



Napier neighbours take tour

Over 80 neighbours turned up to take a look around the Napier manufacturing operation as the superphosphate plant opened its doors to the public.

Works Manager Andrew Torrens said, “We are one of the largest employers in Hawke’s Bay and our site is a pretty visible part of the community. Despite so many drive pasts, plenty of Napier residents still don’t really understand the process of producing superphosphate and how important it is for farmers who are creating food for humans or livestock.

The day was a good morale booster for staff too, because you could see how proud they were of their contribution.”



Why coated urea makes lives easier for farmers and for spreaders

Reducing the rain dependency

Phil Sandford has been involved in spreading for 28 years and is the head of Spreading Sandfords. He's a big advocate for N-Protect coated urea - not just because it cuts down emissions of greenhouse gases like nitrous oxide - but because it's more convenient when planning in a spreading job compared to traditional urea.

"Prepping for winter is one of the busiest times of the year as there's often a rush for urea applications as farmers look to give pastures a boost before winter," explains Phil.



Phil Sandford believes coated urea like N-Protect is a win-win for farmers and spreaders.

"Nearly all farmers know that traditional urea products are best to have at least 10mm of rain or irrigation within eight hours of application to reduce volatilisation effects. And for a ground spreader, the need for rainfall post-spreading can cause backlogs as everybody rings in wanting their urea spread at the same time."

The use of coated fertilisers like N-Protect can help avoid this backlog as they can be spread without the need for immediate rainfall, giving spreaders the ability to get the job done without remaining at the mercy of the weather forecast. N-Protect has a urease inhibitor coating that slows the N-loss process, keeping more N available to the plant instead of shedding it into the air.

"Farmers also benefit from knowing that they can leave the spreaders to get on with the job without having to scan the sky for imminent rain or worry about whether the spreader will get to them before the heavens open," adds Phil.

Phil concludes, "For spreaders like me, every autumn day is a logistical challenge of arranging a perfect match of driver, truck, product and farm. Safety, fuel and weather constraints such as high winds all have to be factored in.

Like farmers, a spreader's life is complicated enough controlling the things



N-Protect is effective in reducing N-loss in autumn, spring and especially summer - now in green.

"I can control. So if there's a choice between traditional, 'rain-dependent' urea and innovations like N-Protect that help ease the weather headache, I know which I would prefer. For farmers and spreaders, it's a win-win situation."

New products for animal health

The animal health product range just added three new products to its portfolio.

Flumethrin will help farmers with deer or cattle at risk of *Theileria* by targeting ticks that transmit this and other diseases. Treatments take place every three to six weeks between spring and autumn to target each tick life cycle stage and help reduce the number of ticks on pastures.

Roundworms are in the sights of Duo and Trio Low Dose which offer farmers new oral drench combinations. While new Closantel Plus oral drench is effective against *barbers pole* and *liver fluke* and is usually applied in late summer.

While farmers rightly focus on the active ingredients in their animal health products as an indicator of quality, an often neglected aspect is the application gun. According to Julie Wagner Product Manager Animal Health, any lack of post-drench cleaning of equipment can have a major impact. "Any foreign matter or older product residue will impact on the gun's performance and any leaks may affect the dosage and efficacy."

Users are encouraged to visit the Wormwise website for tips on maintenance of their applicator guns.



Like all drenches, the new additions to the animal health range depend on well-maintained applicator guns.

Ravensdown pilots new effluent technology in partnership with Lincoln University

Tech to help with dairy effluent
Ravensdown and Lincoln University have just unveiled a breakthrough effluent technology that could significantly lift the dairy sector's effluent and water efficiency.

The emerging technology, known as ClearTech®, looks to cut fresh water use, helps existing effluent storage go further and reduces the environmental and safety risk linked with farm dairy effluent.

The pilot project, which is installed at the Lincoln University Demonstration Farm, is the result of detailed work and represents a \$1.5 million investment to date by Ravensdown.

It is undergoing rigorous testing in the live farm environment, giving interested farmers a preview of the kind of technology that will be available in the future.

Jamie Thompson, Ravensdown's effluent technology manager, said the emerging technology showed exciting potential to reduce the environmental impacts of effluent discharge on farms and to transform "green water" so that it can be confidently reused as yard wash.

"About a quarter of a dairy shed's fresh water use is on yard washing, so the potential benefits to New Zealand are enormous of safely reusing ClearTech-treated water. ClearTech has the potential to save 42 billion litres of fresh water a year – the equivalent of 17,000 Olympic-sized swimming pools through the reuse of safer water for dairy yard washing."



Jamie Thompson, Effluent Technology Manager



Fresh water for yard wash could be cut by up to two thirds

The new technology, which binds effluent particles together in order to settle them out from the water, is installed between the dairy shed and the effluent pond. ClearTech automatically monitors and treats effluent circulating in the system. The separation process kills up to 99% of microorganisms such as *E. coli* and reduces smell.

Collaboration is the key

Thompson said 70 per cent of dairy farmers' environmental spending goes on effluent management. ClearTech would help dairy farmers to save money by making their effluent storage go further and help to meet their compliance obligations.

Keith Cameron, Professor of Soil Science, at Lincoln University, and joint lead on the ClearTech system with Professor Hong Di said, "We are really encouraged to see the willingness and desire to collaborate from dairy industry stakeholders as we engage with them in the development of ClearTech."

Ravensdown's Chair John Henderson said dairy farmers he had talked with were determined to work together to tackle issues related to water use.

"This new technology is one important step that follows the sector's commitment



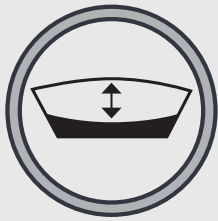
Less effluent volume heads to the pond

to continuous improvement in the sector and is a real example of why Ravensdown exists – to enable smarter farming for a better New Zealand."

Shareholder Colin Glass who is also Chief Executive of Dairy Holdings Limited said, "This technology has the potential to transform the use of water in dairy operations and provides another tool for reducing nitrogen losses. As a shareholder, it makes sense Ravensdown is the driving force behind it because they are increasingly seen as nutrient efficiency specialists instead of being purely a fertiliser maker."

ClearTech

THE BENEFITS ARE CLEAR



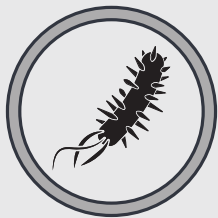
FINANCIAL

Increases effluent pond storage capability



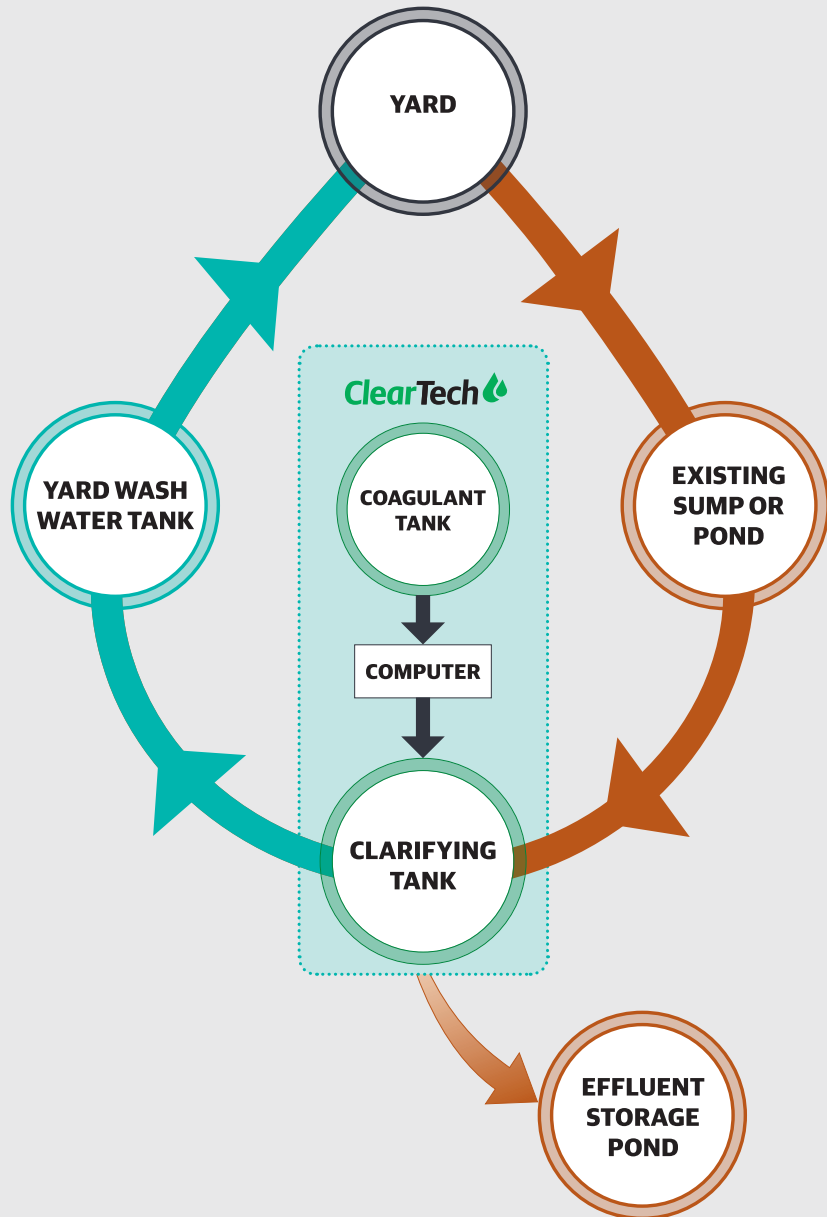
ENVIRONMENTAL

Reduces dairy yard fresh water use by up to two-thirds



SAFETY

Kills up to 99.9% of micro-organisms like *E.coli*



Damien O'Connor Minister of Agriculture, Biosecurity, Food Safety, and Rural Communities attended the announcement of ClearTech at the Lincoln University Demonstration Farm. He joined Bruce McKenzie Acting Vice Chancellor of Lincoln University and John Henderson Chair of Ravensdown in unveiling the ClearTech concept.

The Minister told attendees that a clear change of direction regarding water quality

was called for and there were signs that it is being delivered. "What Ravensdown and Lincoln are doing is taking technology available elsewhere in the world and adapting it for NZ farms. The outcome for farmers is saving water and better use of nutrients so the co-operative is to be congratulated."

The next step for the technology is to establish a demonstration unit in the North Island.



Damien O'Connor enjoys the presentation from Professor Keith Cameron from Lincoln.

New templates and software are key to better planning and safety

New Environment Plan template Environment Canterbury has just approved a new Farm Environment Plan (FEP) template from Ravensdown and other regional councils are poised to follow suit.

Ravensdown employs the largest team in NZ specialising in farm environment planning and mitigating farm impacts.

Rather than only focus on nutrient management, the new template includes areas to complete on greenhouse gases and biodiversity.

"A robust Farm Environment Plan is crucial for farmers needing to meet regional and national standards," says Mark Fitzpatrick, Ravensdown's Business Manager Environmental.

"And you can't unpick one aspect of the environment from another; it's all interconnected and we need to manage it as such. Regulation in both of these areas is coming and we want to help our farmers be more prepared," added Mark.

"We've populated the tool within Excel, based on data gathered from the farmer about their farm and farming practices. The FEP includes identifying critical source areas on farm and the Good Management Practices that are needed. The result for farmers is a plan which helps reach the regulatory, sustainability or environmental requirements needed on farm."

Ravensdown Environmental's Nuffield Scholar Turi McFarlane, with support by Principal Consultants, was the driving force behind the template.



Mark Fitzpatrick believes greenhouse gases and biodiversity need to be covered in a Farm Environment Plan.

Moving from Smart Maps to HawkEye Shareholders who use a C-Dax controller for pasture measuring, spreading or spraying should have recently received an invite to transition from Smart Maps to HawkEye as part of the rollout plan for the decision support tool.

Creating a new user login will allow users to access all farms easily. When information is uploaded from the C-Dax controller, users who have access to multiple farms can select the farm they wish to send the information to. This is a much faster method than previously available to Smart

Maps users and having the data directly associated with the correct farm is a great benefit in time saving.

All HawkEye users with agronomy (fertiliser) plans will soon find it easier to place orders. The system will auto-fill the requirements listed in the plan with the user keeping the ability to edit any choices.

Users can select the paddocks from a block they wish to spread, confirm who will pick up the product (and from where), who the spreader is and create the order. This will then send the appropriate paperwork to the right place.



HawkEye Product Manager Phil Barlow sees a bright future for the decision support tool.

New terminals for site safety The Dunedin works was the first Ravensdown site to setup and start using contractor terminals that check the training and competency of contractors and subcontractors.

"Anyone coming to work on the site has already been checked to look at their ability to manage risk in a systematic way," said Tony Gray Works Manager. "The

new DAMSTRA system helps ensure that qualifications, skills, and competencies match our minimum requirements for example induction, insurance and training." The contractor terminals are also being installed at the Christchurch and Napier manufacturing sites.

Glen Russell from Russet Conveyors was one of our very first contractors to receive a Damstra card to sign in to our Damstra Contractor terminal.



In brief: Items from around the traps



1 Applying supply lessons

Jason Hurst, Supply Chain Improvement Manager, graduated from a course organised by the most widely recognised body for supply chain professionals. The course gave pointers on the theory behind improving the supply chain and Jason is looking forward to putting it into practice.



2 Kids help with plantings

Over 1,000 plants and trees were planted in an event organised by the Pukekohe Store team. Dozens of children from the local school got involved and one of them helps Regional Manager Steve Belton as he digs deep.



3 Sky scans tested

AgResearch's Anna Taylor configures the GPS for soil samples that validate the findings from the aircraft-mounted hyperspectral camera. If the actual results closely match the modelled results, then soil and plant diagnostics in the hill country could be transformed.



4 Spreading marked for success

The whole fleet in Manawatu/Rangitikei recently passed its Spreadmark two-yearly certification for urea, DAP and superphosphate. All Ravensdown joint ventures' trucks are Spreadmark certified which gives peace of mind when it comes to knowing where the fertiliser is being applied.



5 Blade cuts through

Central Otago Beef Farmer Chris Pemberton of Tima Downs, has used Ravensdown Blade Italian ryegrass with great results. Despite planting Blade in one of the higher altitude (800m) and colder parts of the farm, it has still outperformed many other Italians.



6 Raising a sweat to raise funds

Congratulations to the Ravensdown team of Nicole Oliver, Chris Lowe, John Hodgkin and Paul Eastwood for completing the Summer Crew Challenge to raise money for the Canterbury West Coast Air Rescue Trust.



7 Hospitality helps communities

Here's a thank you to all the fantastic fundraisers who cook up a storm at all the Ravensdown-organised events and fielddays where shareholders enjoy the nosh and help a worthy cause. Here's a shot of the Wanaka Rotary team having a well-earned break.



8 Youngest of young farmers

The FMG Young Farmer of the Year is becoming middle aged as it hits its 50th anniversary. Ravensdown is a proud sponsor and also does a lot of work with the affiliated Agri Kids competition. At the Taranaki / Manawatu event, the son of Ravensdown's agronomist Shane Brownlie won the competition with his team.



9 Lending a hand

George Kerse was one of 40 staff who volunteered a day of their time to help Te Ara Kakariki (The Greenway Canterbury Trust), with a project on a property near Hororata. Planting natives improved the wetland next to a stream that ultimately flows into Te Waihora (Lake Ellesmere).



Young joiners set to become next generation of leaders

Development for candidates
One-time dairy farmer Tim Sneddon is among the 12 candidates who are taking part in Ravensdown's popular Development Programme.

Now in its fourth year, the six-month programme teaches graduates all aspects of the Ravensdown business; from supply chain to getting out in the field.

Tim's agricultural journey started on his parents' sheep and beef farm in Southland. He then studied at Lincoln University, where he graduated with a Bachelor in Agriculture and Soil Science.

After his studies, Tim returned home to the now converted family dairy farms,

where he spent several seasons building up his farm knowledge and progressing into a farm management role.

Now, the Southland dairy farm manager is looking to shift his career direction from farming to agriculture consultancy. "I've always been keen to move into consultancy. I think my background experience as a farmer and knowledge of soil science will give me a well-rounded approach to helping farmers as a consultant," Tim says.

Tim was encouraged to apply to the Ravensdown programme because of its environmental consultancy and innovations.



Tim Sneddon wants to develop into consultancy.



See you there:

- National Fieldays 13-16 June 2018
Mystery Creek, Hamilton
- Federated Farmers National Conference 20-22 June, Wellington
- South Island Dairy Event 25-26 June, Dunedin
- FMG Young Farmer of the Year 50th Anniversary 5-7 July, Invercargill

Ravensdown rocks
Ravensdown's quarry worker cadetship addresses the industry's shortage of qualified, competent and suitable quarry managers.
The company began its cadetship 15 months ago, to provide a more structured succession plan for its managers.

"It's to ensure the knowledge transfers from existing seasoned quarry managers and workers to the new recruits," Craig Hendry, lime operations manager says.

Almost seven months ago, 23-year-old Daniel Stronach signed on as the company's newest cadet at the Dipton operation.

He says that it is good knowing he is working towards a goal. "I want to be able to do what my boss does, I want to be the quarry manager one day. That's my long-term goal, hopefully with Ravensdown."

The cadets will become qualified with relevant machinery and mobile plant licences, first aid certificates and be confident with other health and safety processes.

The programme also exposes the cadets to other areas of the business to provide different options, whatever their path may be.



Daniel Stronach is aiming to do his boss's job one day.