

EXPECT



MORE



Because New Zealand
expects more.
Because we expect
more of ourselves.

ravensdown 

Stakeholder Review 2018





MEASURE

+



New Zealand's expectations are changing and so are ours. Ravensdown is a co-operative connected in countless ways to food creation in New Zealand.

We set out to be transparent about what we impact and what we're impacted by. We want to be able to show and to see, in concrete terms, how far things have progressed, where and when.

We invite comparison and welcome the challenge. Our business has many moving parts and a footprint that we need to measure and ultimately mitigate. Where we need to do more, we will report the gap so we can tackle the issues up front. We're sourcing more and more quality data about the business so we can track our progress on a whole range of things that really matter – to set high expectations and work towards exceeding them.

An aerial photograph of a vibrant green landscape. The terrain is a mix of rolling hills, open fields, and clusters of trees. A winding road or path is visible, curving through the middle of the scene. The overall impression is one of a healthy, natural environment.

UP

EXPECT MORE +



GAME

+



+

Ravensdown is inspired by and sets out to inspire all those working so hard around us, such as our people and our farmers working across our industry and our country.

The win-win that will carry the economy and the environment forward is best unearthed through collaboration. We continue to explore solutions to the challenges of our time.

A woman with long hair, wearing a dark sleeveless top and shorts, stands on a rocky shore looking out at a large, calm lake. In the background, there are large, rugged mountains under a clear blue sky. The water reflects the sky and the surrounding landscape.

CHANGER

+

EXPECT MORE

Smarter farming is about acknowledging we can all do better. For us, the hunger to improve runs deep. We showcase our innovations to give an idea of what you can expect from Ravensdown into the future.



A 4x3 grid of coffee filters, each containing a portion of coffee grounds. The filters are arranged in four rows and three columns. The top two rows show filters with varying amounts of coffee grounds, some with visible green herbs. The bottom two rows show filters with a consistent amount of coffee grounds. A small plus sign is centered between the second and third rows. The word "GROUND" is overlaid in large, bold, black capital letters across the center of the grid.

GROUND

+



BREAKING

EXPECT MORE +



The big question is - how to feed people and animals in ways that command an appropriate premium and are sensitive to the use of our precious natural resources? We believe smarter farming is the answer. And we believe that Ravensdown has a vital role to play in helping make that happen.

We're breaking new ground to make farming a lot smarter with information, technologies, research, data, people and products.

We're out to prove that the right decisions made for the right reasons create visible differences that benefit all of us.



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+

So here's our story.

This is us.

Putting our stake in the
ground and measuring our
progress from here.

Because New Zealand
expects more.

Because we expect
more of ourselves.

MORE >

At a glance

+
KEY HIGHLIGHTS
+

PROFIT BEFORE TAX
AND REBATE FROM
CONTINUING OPERATIONS

\$63m

REBATE

\$47

PER TONNE

EQUITY RATIO

71%

CAPITAL INVESTMENT IN R&D

\$4.1m

ADDITIONAL OPERATIONAL
EXPENDITURE OF \$4.7M

NEW SOLUTIONS LAUNCHED

ClearTech®
Surflex®

ENGAGEMENT SCORE

68%

OUR ENGAGEMENT SCORE SEES US MEETING THE THRESHOLD FOR THE ANZ TOP QUARTILE OF AON HEWITT'S BEST EMPLOYERS.

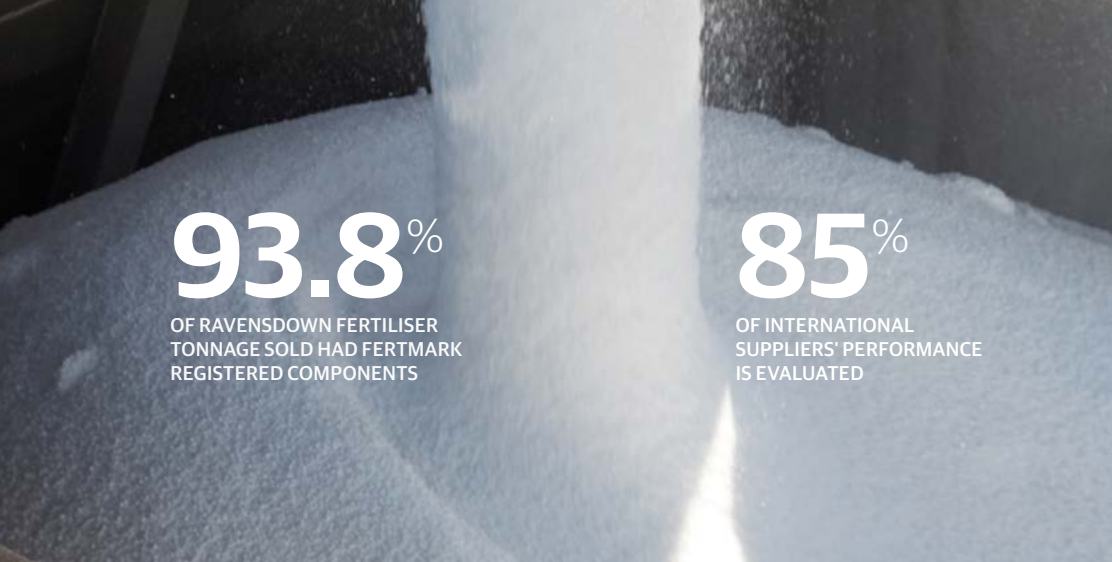


NET PROMOTER SCORE

19



154,407 tCO₂e
2017 Carbon Footprint



93.8%

OF RAVENSDOWN FERTILISER TONNAGE SOLD HAD FERTMARK REGISTERED COMPONENTS

85%

OF INTERNATIONAL SUPPLIERS' PERFORMANCE IS EVALUATED



\$2.1m

ASBESTOS REPLACEMENT EXPENDITURE



8,362

PUBLISHED AGRONOMY PLANS

2017/18
LOST TIME INJURY
FREQUENCY RATE IS
1.23



100%

OF PERMANENT EMPLOYEES ARE PAID AT OR ABOVE THE NZ LIVING WAGE



WE CONTINUE TO BUILD THE
LARGEST FARM ENVIRONMENTAL
CONSULTANCY AND DEVELOP
THE LARGEST TEAM OF CERTIFIED
NUTRIENT MANAGEMENT
ADVISORS IN THE COUNTRY.

JOHN HENDERSON, CHAIR



John's Report

+
CHAIR

+ Your board is happy to report another strong performance in the year ending 31 May 2018. Prudent management and good fundamentals meant we were in a position to make an interim cash rebate of \$17.50 cash per tonne in June followed by a final rebate of \$29.50 to be paid in August. Profit before rebate was a healthy \$63 million from our continuing operations.

It is worth noting that Ravensdown is not here to maximise profit at the expense of our natural environment, safety, or our local communities. As a co-operative whose purpose is to enable smarter farming for a better New Zealand, we seek to *optimise* profit in a sustainable way.

This means returns for shareholders take many forms, including new products, expertise and technology, that help them reduce environmental impact and optimise value from the land. We are pleased to be able to pay a strong rebate to transacting shareholders but we believe neither the profit nor rebate are reliable measures of our co-operative. We are determined to report measures of progress openly and transparently in the spirit of Integrated Reporting.

In August 2017, Ravensdown threw its weight behind the "Water Pledge" which was signed by several prominent agri-sector leaders as a commitment to swimmable waterways. Since then, we have:

- Introduced a new ClearTech® effluent treatment system that has the potential to reduce the dairy sector's fresh water use by 42 billion litres.
- Continued to build the largest farm environmental consultancy and develop the largest team of certified nutrient management advisors in the country.
- Deployed HawkEye® technology that will help farmers see and show how they are complying with environmental requirements.

Looking ahead, we are in lockstep with the agencies and ministries that have come together to develop the action plan for water quality that arose out of the Land and Water Forum. We aim to help our customers maximise nutrient efficiency; so we focus on losses that can occur and recommend a sweetspot of the right rate of the right product in the right place and time. Many of the examples in this Stakeholder Review are directly supporting good farming practice.

My fellow directors deserve credit for setting the bar high in terms of identifying Ravensdown's reason to be here. Enabling smarter farming for a better New Zealand is a call to action as well as a common purpose that has galvanised the team.

I'd also like to thank Tony Reilly for his 14 years of service as a Ravensdown director – a phenomenal achievement as he retires from that role. He generated respect for his well-considered contributions and ran the Remuneration and Appointments Committee during his time as its Chair.

As part of an ongoing commitment to review our board structure, we will be presenting some proposed changes to our constitution at the annual meeting this year. This will see the composition of the board change over the next two years, from eight area-elected and two independently appointed directors to six area-elected and three appointed directors.

I would like to acknowledge the contribution of the Ravensdown team and its supply and research partners. The leadership team ably directed by CEO Greg Campbell has done a fantastic job communicating and implementing the strategy that was determined by the board.

 To view video, please visit ravensdown.co.nz/integratedreporting



OUR AIM IS TO HELP
OTHERS REDUCE THEIR
ENVIRONMENTAL
IMPACT AND WE MUST
LOOK IN THE MIRROR
AND LOWER OUR OWN.

GREG CAMPBELL, CEO



Greg's Report

+
CEO

+ Ravensdown has delivered another strong result and I'm enormously proud of the team's efforts and humbled by the support from shareholders.

While this has been a consequence of a deliberate consistent strategy, I see this fifth year of back-to-back progress as preparing the ground for a fundamental change that is needed within the agri-sector in general and within our co-operative in particular.

The challenge facing so many businesses is how to thrive knowing natural resources are limited and need protecting while energy consumption, emissions and water use need to be tackled.

Ravensdown is not just facing up to that fact but embracing it. We are determined to help farmers manage their nutrients better.

For us, this is what 'smarter farming for a better New Zealand' looks like. Our aim is to help others reduce their environmental impact and we must look in the mirror and lower our own. Being welcomed into the Sustainable Business Council last year, joining the Climate Leaders Coalition and reporting our carbon emissions for the first time is just the beginning.

The signals are strong. The disruptive trends are many. Society's expectations are ever higher.

While we don't pretend to have all the answers, we must and will rise to the challenge. The ambition has got to be that we could all look our grandchildren in the eye and say we tried our best to leave the planet in at least as good a shape as we found it. Our staff are engaged with this higher purpose as shown by our staff engagement survey.

Like last year, this Stakeholder Review describes what's going well and where we need to do better. It focuses on what matters to a variety of stakeholders and outlines how we add value both now

and into the future. It is best read alongside our annual report which summarises our audited accounts for the year up to 31 May 2018. There are also videos on the website giving context to our story.

Our shareholders have told us the best way to consider this co-operative's performance is to look at a range of inter-connected indicators and take a rounded view. 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 fall just as our physical assets would decline if we didn't invest in maintaining them.

It would be easier to "jog along" not trying to address asbestos in our stores and manufacturing facilities. But we wouldn't be doing our job if we just kicked the can down the road for future shareholders to bear. A 'head in the sand and hope for the best' approach would represent a massive risk and would guarantee opportunities would be missed.

Being clear-eyed about our role in the world, the challenges we are facing and transparency of failure to hit targets is what this co-operative commits to. We feel this fronting up is the best way to serve past, current and future shareholders and contribute to the betterment of New Zealand.

Investing in our network

For an organisation moving well over 1 million tonnes of granules, minerals and rock around, dust is always going to be an issue needing to be managed. Apart from being a potential nuisance or hazard to staff and neighbours, dust can also affect product quality through cross contamination. As part of our commitment to creating a safe and healthy work environment, we are focussing on dust management at our sites.



We are now the largest farm environmental consultancy in New Zealand and the year ahead will all be about cementing our position as leaders and developing the team so the advice remains first rate.

We have been busy installing dust suppression cones, covers, extractors, doors, roading and enclosures. Good housekeeping, handling protocols and quality imported or manufactured product also go a long way to cut dust occurring in the first place.

We're also looking at our stormwater, which has the potential to contribute to the nutrient load into local waterways. We need to manage this carefully throughout our network and there is much more we can and must do. We have a number of new initiatives in place. For example, we are proud of the new store in New Plymouth which is showing the way with a filter pond system.

Safety has yet again been a main area of focus and investment. Ravensdown was proud to receive commendation from Worksafe for the way we worked with their team to resolve some issues we had with serpentine superphosphate.

We are making strong progress through a long-term \$17 million asbestos replacement programme and are already seeing the benefits to product quality as the replacement roofing makes the stores lighter and drier. The health benefits of asbestos removal for neighbours and staff, plus the more earthquake resilient buildings, are harder to see but no less important.

We know quality matters to our customers and spreaders. For the past three years, a consistent 82% have stated that fertiliser quality is excellent or very good and this means there is still room to improve from a high base.

Environmental growth

Since starting in 2013, our environmental consulting business has delivered more than 33,000 contracted hours of effort helping farmers with their mitigations and compliance needs. The specialists also assist local and regional government deliver on their objectives while we support customers with practical responses to regulatory developments.

We are now the largest farm environmental consultancy in New Zealand and the year ahead will all be about cementing our position as leaders and developing the team so the advice remains first rate. We will also look for integration opportunities with our field-based team of agri managers.

This is important as we know our customers trust the advice provided – our customer survey revealed that over 90% trusted the advice they received and agreed it was based on sound science.

We will be structuring the Environmental team around three service streams:

1. Regulatory compliance including our "worry-free" service where farmers ask us to take on all the steps involved in progressing or protecting a consent.
2. Farm Systems Analysis where experienced highly trained specialists provide tailored advice for planning the future of the farm business.
3. Integrated Catchment Management where we help farmers and local community members working together to protect their waterways.

Demand for products and services

It was a record year for agrichemicals which are so important in protecting food grown for animals and humans. Our seed product lines are also in demand as they too had a record year. This all shows the agronomy offer is strong and our technical expertise is sought after. The spreading ventures were busy but somewhat disrupted by the weather.

Facing difficult trading conditions, volumes of our animal health products were slightly down. Wholly owned subsidiaries C-Dax and Aerowork had a profitable year. The laboratory ARL continued to contribute positively.

Lime tonnages were up as farmers looked to condition their soils and fertiliser tonnages were up, with a significant contribution from new customers buying our products and industrial users buying more urea.

Our joint venture Ravensdown Shipping Services provides added control in our supply chain. Disruption to New Zealand's supply of quality phosphate rock is a real risk to the agri-sector and was highlighted last year when a non-Ravensdown shipment of phosphate rock was seized in South Africa.

We hosted a delegation from the company that supplies phosphate rock from the non self-governing territory of Western Sahara. They outlined how many of the local Saharawi people are benefitting from that supplier's social development programmes and how many families' livelihoods depend on the continuing legal trade in rock from that part of the world. It seems clear that no group of activists speaks for all Saharawi. We support the United Nations in its efforts for a solution to this long-running complex political dispute and will continue to monitor the activities of our supplier.

Innovation progress

Our Primary Growth Partnership programme investigating improved aerial spreading precision is at the three-quarter mark on its seven-year journey. We partnered with Massey to develop the AirScan® technology which uses a hyperspectral camera to scan 1,000ha an hour and provide several layers of information for analysis. Vegetation, soil fertility and economically optimal fertiliser application layers can then be provided for an evidence-based plan that can be sent to the IntelliSpread®-enabled aircraft.

Sixty six farms have now utilised IntelliSpread® where computer-controlled hopper doors apply fertiliser where it is needed instead of where it is not. So far, 14% of land on those farms was excluded from application because it was ineffective, culturally sensitive or environmentally vulnerable. Avoiding this land in a way that is safer for pilots is a win-win for productivity and the environment

Work ahead involves continuing validation work, testing that actual results match the modelled and scanned results. We are also testing algorithms and systems that can verify placement rather than only indicating where the door opened or closed. Our fifth Aerowork plane to be equipped with the IntelliSpread® system will take flight in Whanganui.

In other developments, C-Dax's robot version of the PastureMeter will be launching in 2019 and we continue our investment through the Fertiliser Association of New Zealand into the OVERSEER nutrient modelling tool. We also launched the ClearTech® effluent treatment system that has the potential to drastically reduce water use in the dairy sector.

Efficiency is the key

We repeated throughout the year what we started to say in last year's Stakeholder Review. Sales tonnage is not the key performance metric for this co-operative. Indeed, in those situations where the science showed that the farmer and environment would gain from applying less fertiliser, then that was a win for Ravensdown.

Our coated urea product N-Protect® saw significant growth on last year. Compared to uncoated urea, this Fertmark-accredited product reduces nitrogen emission to the air and keeps more nitrogen available to the plant. In a "nitrogen-constrained" world which is also sensitive to phosphate loss, we would expect to see strong growth in this "smart fertiliser" category of products.

This is an important way we can help with smarter farming and customers and staff are engaged with this approach. In the past four years we have welcomed 1,900 new customers to the Ravensdown ranks.

I thank our former General Managers of Operations and Organisational Development Kevin Gettins and Tracey Paterson for their contribution to the leadership team and welcome their replacements Stephen Esposito and Katrina Benedetti Forastieri.

Ravensdown's contribution to premium food creation in New Zealand was celebrated at two all-staff events early in our financial year. Morale remains high with staff engagement levels now in the top quartile of NZ companies that survey with Aon Hewitt.

We continue to engage with a variety of stakeholders and have achieved a lot on their behalf. I thank the whole team for their contribution and I know they are up to the challenge ahead. Volatility and uncertainty are increasing around the world. But the company is better positioned than ever to deliver value now and into the future.



Subsidiary Aerowork took delivery of new bi-directional loaders while commissioning new maintenance software. The staff of Aerowork's helicopter spraying operation bought that part of the business and continue to service Ravensdown and non-Ravensdown customers.



New technologies that will boost automation and efficiency include the JD Edwards/Oracle project that reduces manual processing. HawkEye® maps and records help farmers with making decisions and tracking actions. C-Dax are rolling out their PastureMeter robot.



The Nelson store was one of several buildings to benefit from the long-term asbestos removal programme. New loaders were delivered to several locations.

Financial commentary

+ Good financial performance and a healthy profit before rebate and tax of \$63 million from our continuing operations allowed us to invest in areas aligned with our strategic priorities and continue delivering enduring value for stakeholders. Our discontinued operations made a loss of \$ 0.8 million after tax.

The strong result enabled us to pay a full rebate of \$47 per tonne, which includes the interim cash rebate announced in March 2018. Your co-operative is retaining the \$7 million profit to reinvest in the business in order to support our smarter farming purpose.

Revenue was up as underlying volumes increased and margins were maintained at sustainable levels.

Total expenses were up by \$3 million, mostly comprising an increase in sales and marketing expenses and the R&D component of operating expenditure. This rise was consistent with our focus on enabling smarter farming which meant recruitment of environmental consultants, maintaining the development programme that fast-tracks the training of new recruits and investing in research into new products and capabilities.

The profit was actively impacted as we continued our asbestos removal programme, spending \$2 million in 2017/18. This is the fourth year of our programme. Ravensdown's broader capital reinvestment programme has led to an increase in non-cash depreciation.

Equity has increased by \$23 million to \$429 million. Our equity ratio before rebates increased from 73% to 78%. After rebates, our equity ratio continues to remain strong. Total assets rose to \$605 million. We held more inventory than last year as a deliberate decision was made to import certain raw materials to mitigate possible short-term supply chain disruption.

Property, plant and equipment rose by \$20 million on the back of continued reinvestment and new infrastructure projects, including finishing the New Plymouth store. We committed \$2 million to further improvements that benefit health and safety.

Intangible assets rose by \$5 million with drivers being developments in our Enterprise Resource Planning software, ClearTech® and digital technologies such as HawkEye® and aviation maintenance software RAMCO.

Investments like these were made possible by a very positive operating cashflow of \$98 million. This consistently strong performance assists us to fund our capital investments.

Bank debt reduced and trade payables increased due to the fact we held slightly more inventory and achieved more favourable payment terms with overseas suppliers.

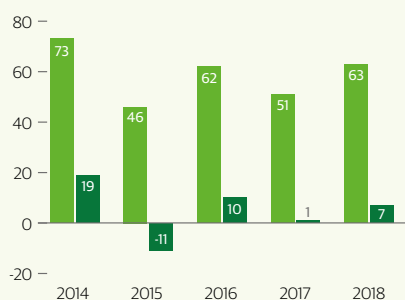
The board remains mindful of the need to provide financial returns and to maintain financial strength so the co-operative can reinvest in value-driving initiatives.

+ As the business model on page 18-19 shows, financial capital is one of six resources that we have an impact on and are impacted by. The six are interconnected and need to be considered and reported on in an integrated way.

The value created from financial capital is economic returns in the form of rebates to our shareholders and profits retained for future investment. Economic returns are impacted by our investment in R&D, technology, infrastructure improvements, our environmental initiatives and training our people. This increases intellectual, manufactured, natural and human capitals in such a way as to ensure longer-term value is created.

NET PROFIT (\$M)

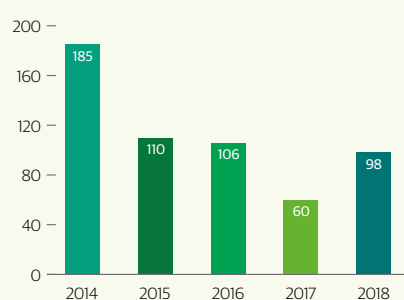
FROM CONTINUING OPERATIONS



■ Net profit before rebate and tax from continuing operations
 ■ Net profit after rebate, tax and discontinued operations (\$m)

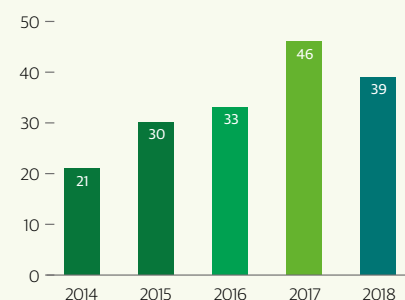
■ Increase in profit reflects an increase in volumes sold.

OPERATING CASHFLOW (\$M)



■ During 2014 our focus was on operating cashflows as we restructured our business.

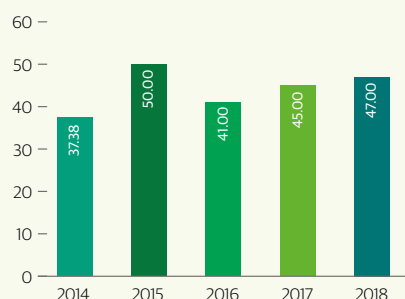
NET CAPITAL EXPENDITURE CASHFLOW (\$M)



■ Capital investment returns to our normal reinvestment programme. Includes investments in intangibles.

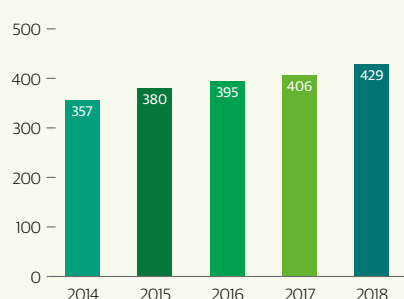
SHAREHOLDER RETURN (\$/T)

(INCLUDING TAX CREDITS)



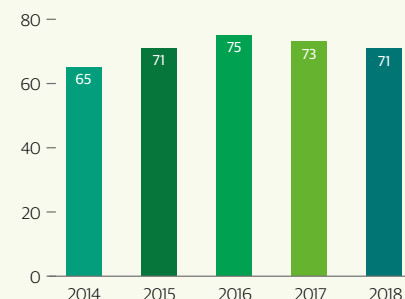
■ For the third year in a row, we have returned cash back earlier with an interim rebate.

TOTAL EQUITY (\$M)



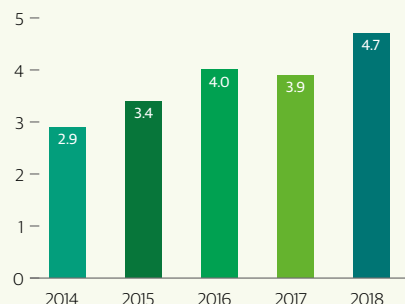
■ We have continued to add shareholder value with increasing total equity.

EQUITY RATIO (%)



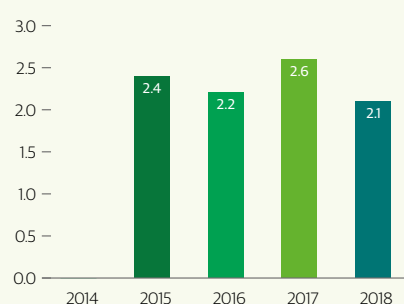
■ We have maintained the financial strength we have rebuilt over recent years.

RESEARCH AND DEVELOPMENT (\$M)



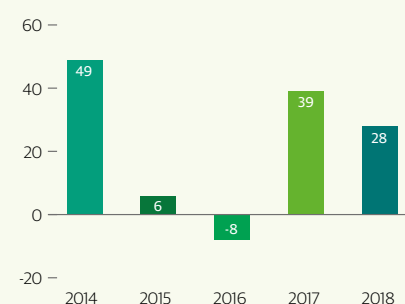
■ Comprises the operating costs of research and the costs of supporting development of new initiatives.

ASBESTOS REPLACEMENT (\$M)



■ We are committed to proactively replacing asbestos throughout our network.







NET BANK DEBT (\$M)

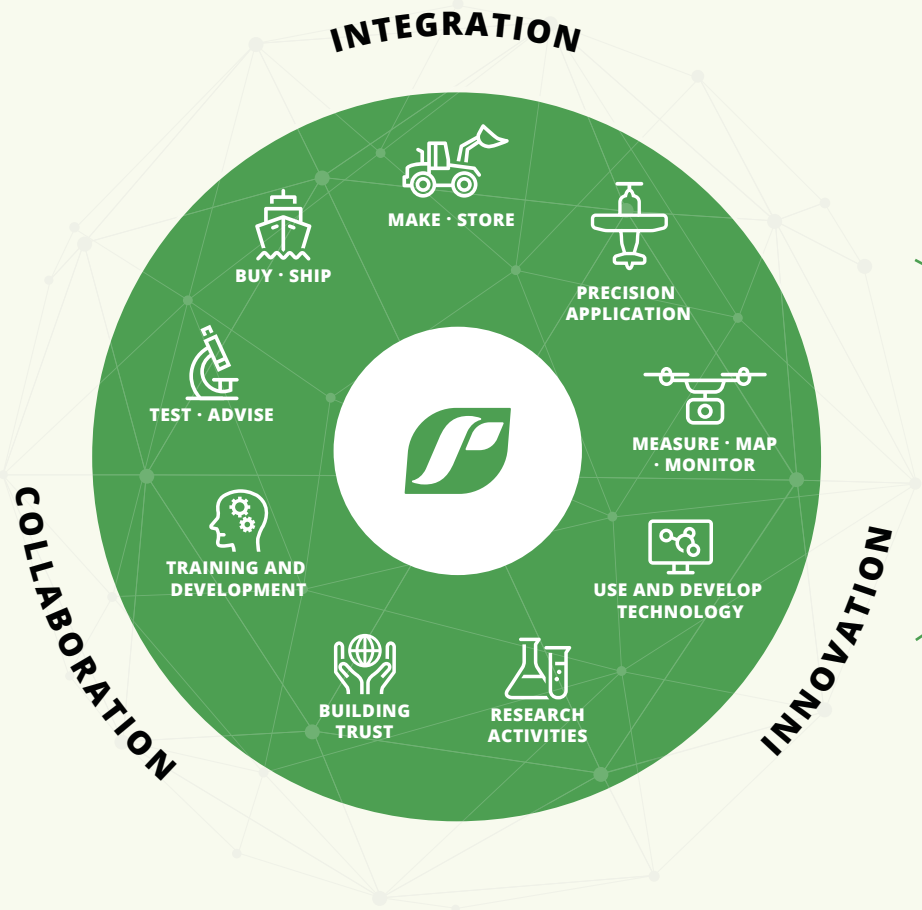


■ Year-end debt remains within a low sustainable band.

How we define and create value

RESOURCES

-  **HUMAN CAPITAL**
-  **FINANCIAL CAPITAL**
-  **MANUFACTURED CAPITAL**
-  **INTELLECTUAL CAPITAL**
-  **SOCIAL AND RELATIONSHIP CAPITAL**
-  **NATURAL CAPITAL**



EXTERNAL FACTORS
ACTIVE GOVERNANCE AND RISK MANAGEMENT

VALUE CREATED



REDUCED ENVIRONMENTAL IMPACTS (see pages 23-25)



ENGAGED STAFF IN A SAFER ENVIRONMENT (see pages 30-33)



ECONOMIC RETURNS (see pages 16-17)



OPTIMISED VALUE FROM THE LAND (see pages 26-29)



RELIABLE SUPPLY OF QUALITY AGRI-PRODUCTS (see pages 26-29)



LEADING TECHNOLOGY, SCIENCE AND INFORMATION (see pages 34-41)



STRONGER COMMUNITIES (see page 25)



Why we're here



Our stakeholders want to create a better New Zealand and we see our role as helping them achieve that by enabling smarter farming.

Smarter farming can deliver stronger rural communities, reduced environmental impacts and growing prosperity for the country as a whole.

Smarter farming is about challenging all aspects of farming; knowing improvements are always possible and definitely needed.

We can't help with smarter farming without working smarter ourselves. We need to keep innovating and changing so that we can continue to walk the talk.

HOW WE DELIVER ON THAT PURPOSE

+ We provide the products, expertise and technology to help farmers reduce environmental impacts and optimise value from the land.

New Zealand exports 95% of the food that it grows. This can be seen as a net export of the nutrients embedded in the food because plants have extracted what they need from the soil. Ravensdown helps return those key nutrients by supplying the essential elements that all plants, whether eaten by humans or livestock, need to grow.

As a farmer-owned co-operative, our commitment as nutrient efficiency specialists is to enable our customers to supply the necessary amount of nutrients - no more, no less - and help minimise losses for the benefit of the farm and the environment. This takes the form of services like those listed on the opposite page.

WHERE ARE WE PRIORITISING?

+ Quality agri-products such as Kiwi-made superphosphate, imported fertilisers, aglime, animal health, seeds and agrichemicals are the backbone of our product offering.

Certified nutrient management advisors and environmental consultants are backed up with cutting-edge technologies. Special aerial cameras that can assess soil nutrients remotely or software that shows where best to tackle potential phosphate run-off are just two examples.

Science is the foundation for all our advice and innovation. We invest in research and collaboration with universities and Crown Research Institutes supporting knowledge-sharing conferences, and publish papers in peer reviewed journals.

Enabled people are the most effective people. In a fast-changing sector, we focus on the ability of our teams to adjust and respond so they can help get the job done.

Trusted and leading is how we set out to be seen. We know that nothing less than doing the right thing day in day out is the best way to achieve this.

How our services reduce environmental impacts

DIAGNOSTIC AND PREDICTIVE TOOLS

■ Analytical Research Laboratories

Physical test results for soils and plants measure levels and validate predictive models

■ Robust models

Predictive tools improve decision making about phosphate-loss mitigation or nitrogen use efficiency

■ Aerial sensing

Scanning soil nutrient levels and vegetation from aircraft

ADVISORY SERVICES

■ Nutrient Budgets and good farming practice

On-farm certified advisors who maximise nutrient use efficiency

■ Environmental Impact Advice

Largest team in NZ specialising in farm environment planning and mitigating farm impacts

APPLICATION AND PLANNING

■ IntelliSpread®

Computer-controlled topdressing aircraft doors adjust spreading rate and avoid sensitive areas/waterways

■ Precision spreading

GPS guided certified groundspreader reduce risk of under- or over-application of nutrients

■ Precision blending

Smart fertilisers including N-Protect with coating that reduces gaseous emissions

■ HawkEye®

Visual mapping and decision-making tool that brings all information and records together

WATER MITIGATION

■ ClearTech®

Dairy effluent treatment system that could reduce fresh water use by 17,000 Olympic-sized swimming pools a year

■ Integrated Catchment Management

A collaborative multi-discipline approach to environmental management at a catchment level

Existing Service ■ In development ■

+

KEY

Earning the right to lead



Ravensdown has many stakeholders. Customers, employees, suppliers, neighbours - all expect us to continue to do what we said we will do. Building a resilient, relevant business is a strategic priority and of course, this means change. Throughout this change, we will track our carbon footprint, staff morale and customer goodwill.

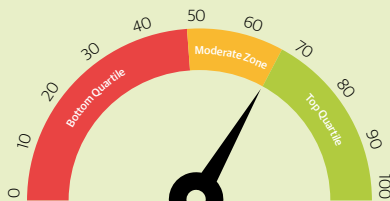
ENGAGEMENT SURVEY

+ We survey our staff on a variety of topics as a way to understand where we are doing well and areas to work on.

Conducting our survey through Aon Hewitt's 'Best Employer's Programme allows us to be measured against the best rated employers in Australia and New Zealand.

Our goal is to be one of the top five employers of choice and the trends behind these surveys are one important indication of whether we are on track.

Our overall engagement lifted 2% across the company to see us meeting the threshold for the ANZ Top Quartile of Aon Hewitt's Best Employers.



68%

2018
ENGAGEMENT SCORE
(2017: 66%)

LONG TERM PARTNERS WITH SUPPLY CONTRACTS

88% SPENT ON DIRECT PURCHASES FROM LONG-TERM PARTNERS WITH SUPPLY CONTRACTS

+ Ravensdown, our key suppliers and ultimately our customers benefit from our strategy to have long-term relationships.

When partner and preferred supplier performance is high, we reward that with our loyalty and ongoing business. Expectations are clear and measures are in place so we can provide detailed feedback where we would like improvements to be made. With a select few partners, we are able to have a deeper multi-levelled relationship and collaborate in areas other than the day-to-day business.

Trust is at the heart of long-term relationships. We work hard on that with our key suppliers. We will be seeking more direct feedback on our performance and to see what we can do to cement our aspiration to be "customer of choice" for these suppliers. We will continue to collaborate internally and with our supply partners to bring new technologies and innovations to life in our pursuit of smarter farming.

Carbon footprint

+ For the 2017 calendar year, Ravensdown has compiled its first carbon footprint report focusing initially on its own operations rather than upstream or downstream activities of its suppliers or users of its products.

Over time, measures will be expressed as total tonnes of carbon dioxide (CO₂) and CO₂ per unit of output, such as fertiliser tonnage.

Mine to Port is the energy used in the transfer of materials from the source mine or plant to the Ravensdown ship.

More than three quarters of our emission profile is represented by shipping. As a ship charterer, we look forward to the carbon reduction commitments being made by the international shipping industry becoming a reality.

Manufacturing and distribution includes ship-to-store emissions in New Zealand and domestic operations. Because the process of manufacturing superphosphate generates electricity, our three acid plants can contribute electricity to the national grid.

This electricity counts as a credit to our emissions profile.

The category also includes coal used in lime drying, and fuels for New Zealand distribution to the stores network. Aerial spreading entails the aerial operations that are controlled by Ravensdown.

As a signatory to the Sustainable Business Council's Climate Leaders Coalition, Ravensdown will actively seek to monitor, reduce and report on its carbon footprint.

The greenhouse gas inventory currently excludes all Joint ventures and C-Dax Limited.

Limited assurance has been provided for our greenhouse gas emissions inventory by Ernst & Young New Zealand Limited. The Limited assurance statement is available in our integrated reporting website: <https://integratedreporting.ravensdown.co.nz/content/downloads/AssuranceReport.pdf>

TOTAL CARBON FOOTPRINT 2017

154,407 tCO₂e

INTERNATIONAL SHIPPING

117,579 tCO₂e

MANUFACTURING AND DISTRIBUTION

31,112 tCO₂e

AERIAL SPREADING

5,215 tCO₂e

MINE TO PORT

501 tCO₂e

ATTENTION
MAIN AIR TANKS DAILY



24 Trusted and Leading

+ Ravensdown Stakeholder Review 2018

NET PROMOTER SCORE®



+ Customers continue to show trust in Ravensdown through their likelihood to recommend us to a friend or colleague.

The Net Promoter Score® taken from our annual Customer Satisfaction Survey showed 42% promoters against 23% detractors. The 2018 score was comparable to our long-term average, but fell from 2017, which was a year of growing customer service expectations and some known service issues.

MORE PRECISION BLENDING

+ The co-operative's two precision blending plants allow high quality blends to be made for specific farm requirements.

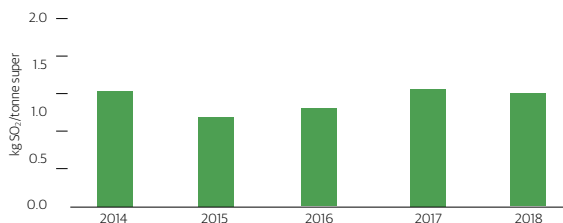
At the Christchurch precision blending plant, proof of the benefits on the new Surfex technology can be seen in the statistics on blend accuracy. Blends were dispatched with an average variation from that ordered weight of only -0.06%, with a tight standard deviation of the variation, at 1.04%.

EMISSIONS OVER THREE SITES

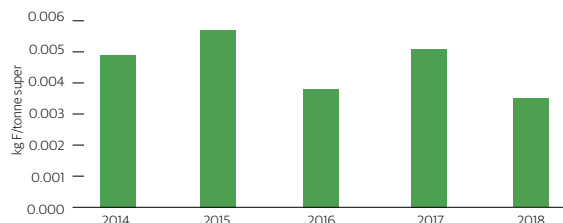
+ Across our manufacturing sites, we have reported on our atmospheric emissions for over 18 years. We monitor, state any breaches and record any interventions.

Full details by site can be seen in the Operations Environmental Report 2018 on the company website.

SULPHUR DIOXIDE DISCHARGED TO AIR (KG SO₂ PER TONNE OF FERTILISER MANUFACTURED)



STACK FLUORIDE DISCHARGED TO AIR (KG F PER TONNE OF FERTILISER MANUFACTURED)



+ Engagement with our stakeholders is a vital part of our efforts to learn what matters to them and deliver on that.

Images on opposite page.

- 1 Environmental consultant John Holmes gets his hands dirty at one of the Lend a Hand days. Each employee was given a volunteer day to help out in a local community.
- 2 Chief Scientific Officer Dr Ants Roberts leads the children of Pukekohe into the local soils.
- 3 Agri Manager Rei Marumaru is on hand as a shareholder takes a virtual reality tour around the company.
- 4 Technical Development Manager Mike White presents to a delegation from Precision Agriculture Association of New Zealand.
- 5 Open days throughout our manufacturing sites attracted plenty of neighbourly interest.
- 6 A supplier's cargo is scrutinised as part of Ravensdown's robust biosecurity system.
- 7 General Manager Innovation and Strategy Mike Manning talks nutrient management and good farming practices with Minister for Primary Industries Damien O'Connor.
- 8 Our staff at Analytical Research Laboratories took delivery of two robots this year.
- 9 New Zealand Dairy Industry Awards (winners shown), FMG Young Farmer Contest and Agri Women Development Trust were the largest sponsorships in a portfolio that included hundreds of organisations.

There were four breaches of resource consents or general environmental rules in 2017/18.

1. Hinds store had a non-compliance letter after Environment Canterbury reviews of consent compliance in February 2018. It related to aspects of a 2008 consent that had not been fully implemented. By April, the site was compliant with its resource consent.
2. Christchurch Works is in the Hayton Stream catchment. The City Council holds a stormwater consent with Environment Canterbury. An infringement notice and fines totalling \$1,500 were incurred for a stormwater escape incident that the company reported.
3. Napier Works - on 30 May 2018 a hole developed in a fibreglass pipe carrying acidic scrubber liquor from the manufacturing process. The pipe was close to the main road. Clean up of the four-minute emission entailed shutting the road for 3.5 hours. Drains were protected and clean-up liquid was returned to the plant.
4. Napier Works - in the April 2018 acid plant start up, the company notified the Hawke's Bay Regional Council that it had breached National Environment Standards for sulphur dioxide emissions to air. The short-lived breach has been addressed by venting to a higher point. In relation to the incident, an infringement notice and an abatement notice were issued in July 2018.

In addressing a noncompliance letter from last year, the Timaru store and Environment Canterbury have been working closely on understanding stormwater and seepage-related issues, including isotopic testing currently underway.



Products that fuel food creation



Whether it's fertiliser, lime, seed, agchem or animal health products, farmers and growers need products that are fit for purpose, suitable for New Zealand conditions and available when needed. With so many moving parts and interactions across a global supply chain, we're determined to keep getting it right.

FERTMARK STANDARDS

+ The Fertmark programme was set up in 1992 to give New Zealand farmers confidence in the chemical quality of fertiliser and associated claims. The scheme is managed by the farmer controlled Fertiliser Quality Council.

Ravensdown has the highest number of Fertmark product registrations of any company. These products are independently audited every six months.

2017/2018

93.8%

OF RAVENSDOWN FERTILISER TONNAGE SOLD HAD FERTMARK REGISTERED COMPONENTS

2016-17

93.2%

2017/2018

97.1%

OF RAVENSDOWN LIME TONNAGE SOLD WAS FERTMARK REGISTERED

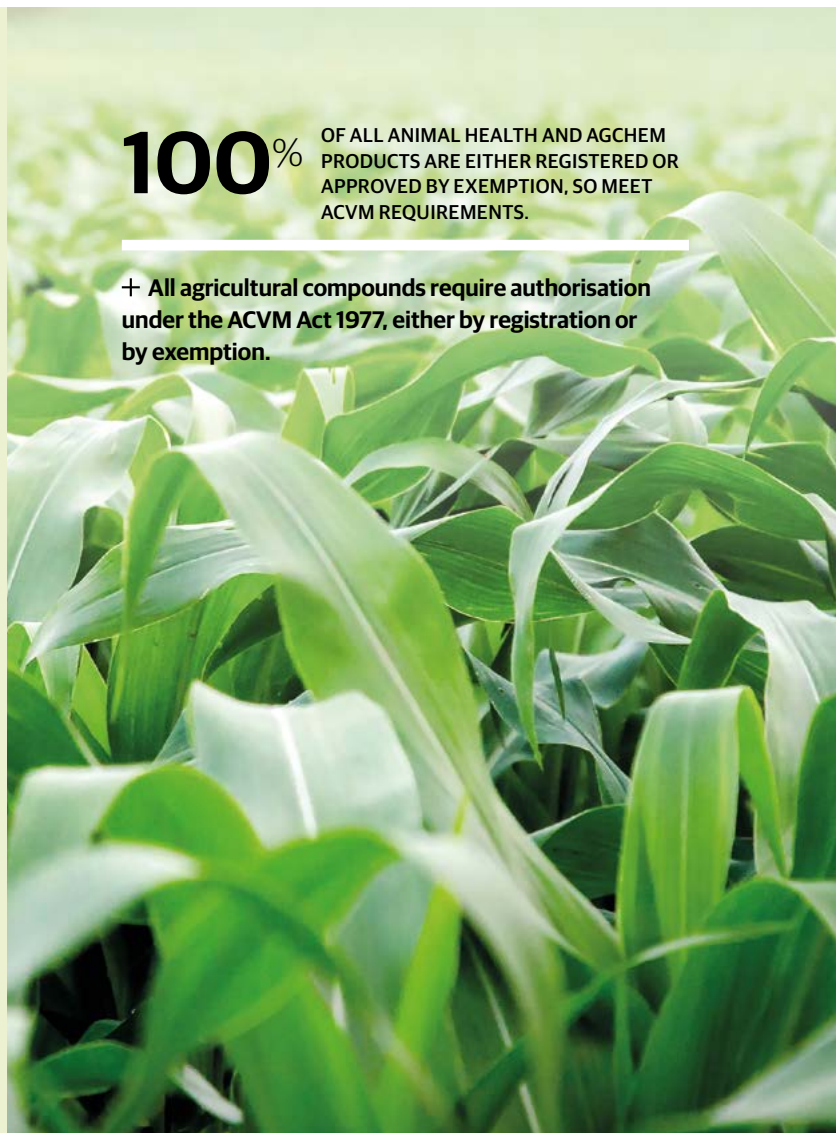
2016-17

93.9%

100%

OF ALL ANIMAL HEALTH AND AGCHEM PRODUCTS ARE EITHER REGISTERED OR APPROVED BY EXEMPTION, SO MEET ACVM REQUIREMENTS.

+ All agricultural compounds require authorisation under the ACVM Act 1977, either by registration or by exemption.



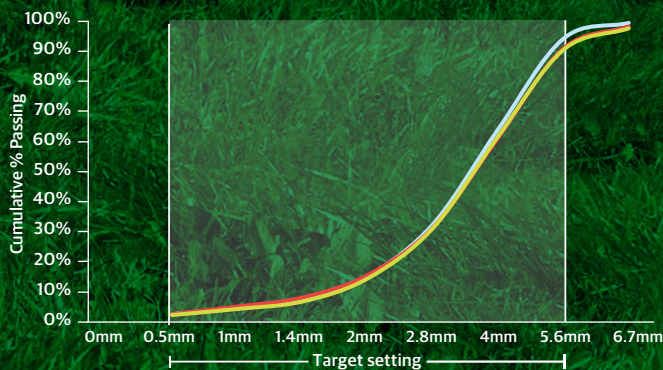


Particle sizing distribution

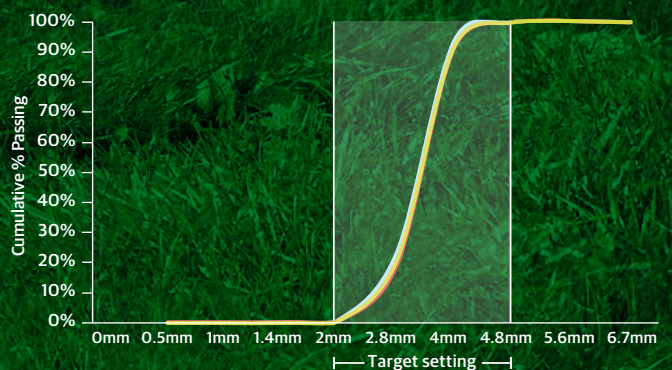
+ Particle size is a crucial quality metric. The ideal sized granule will improve coverage and spreading efficiency and reduce dust. Some variation is needed, but either extreme will have implications for the environment and for precision spreading.

As indicated from the graphs, Ravensdown have set a target particle-sizing band for each product (superphosphate: 0.5 mm to 5.6 mm and urea: 2 mm to 4.8 mm). The target is to ensure that we provide high quality products and Ravensdown continues to improve our focus on achieving ideal particle sizing.

SUPERPHOSPHATE PRODUCT SIZING
2015 - 2018



UREA PRODUCT SIZING
2015 - 2018



— Band — 2015 - 2016 — 2016 - 2017 — 2017 - 2018

KEY +



LOW-RISK IMPORTS AND BULK VESSEL QUALITY

97% OF BULK IMPORTS ARE LOW RISK (2016/17: 100%)

+ Ravensdown has invested in independent annual audits of bulk fertiliser suppliers for over five years. Our system meets the highest standards, approved by MPI, and ensures consistent quality and low risk biosecurity.

- Fertiliser annual audit
- Quality and biosecurity check
- External independent verification authority

Our entire supply chain from source is independently audited annually and assessed as a low-risk biosecurity threat and each shipment follows strict criteria. This includes stringent inspection of ships' holds prior to loading. This means that when the vessel reaches New Zealand it can commence discharging straight away. While there is additional cost at the load port, this is in the main offset by not having to wait in New Zealand prior to discharging.

Ravensdown will continue to invest in our annual supply chain audits to ensure we have low risk sourcing and consistent high-quality product. We understand the importance so take all measures to mitigate biosecurity risk to New Zealand. As we identify new suppliers, we will ensure we qualify them to the same high standards.

From time to time we import product from an alternate supplier, either as a trial or to meet unexpected seasonal demand. In these circumstances we liaise closely with MPI, and product is subjected to normal MPI clearance procedures at the New Zealand border. This year we imported urea and RPR in this way, accounting for 3% of our total imported volume.

85% OF INTERNATIONAL SUPPLIERS' PERFORMANCE IS EVALUATED

94% BULK VESSEL FERTILISER IMPORTED MET OUR SPECIFICATION FOR PHYSICAL AND CHEMICAL QUALITY (2016/17: 95%)

+ In addition to our low-risk import scheme, we periodically assess preferred suppliers against criteria including

- Ethics and alignment to our Supplier Code of Conduct
- Delivery performance
- Collaboration
- Meeting quality specifications; quality improvements
- Innovation

Ravensdown continues to develop enduring relationships that deliver long-term sustained value to both parties. We will increase our focus on performance and relationship management. A few key supplier partnerships will be further nurtured and collaboration will be at the heart of this. We will review and modify our evaluation criteria to place more emphasis on sustainability.

We continue to work with our suppliers to address opportunities to improve product quality, one of which is improving the management of product through our own supply chain in a consistent manner.



INVESTMENT IN INFRASTRUCTURE

Quality of products are assured through a continuous improvement culture, a long-term programme of investment and systematic development by a team of technical, operations and process engineers at each of the three plants.

\$21.6m

INVESTED IN OPERATIONS AND STORES (2016/17 - \$30.2M)

Major projects are organised centrally to mitigate risk. Improvements to the store network, such as roofs and doors, as well as conveying, blending and loading systems, all improve the quality of the product used by spreaders and farmers.

WE'RE ALL
ABOUT
PRECISION
AGRICULTURE
AND THAT
DEMANDS
CONSISTENT
QUALITY.

The many challenges of delivering a quality product.

Producing quality food for humans or livestock demands quality inputs. And that's the driving passion of Ravensdown Procurement Manager Chad Gillespie.



To view video, please visit
ravensdown.co.nz/integratedreporting



CASE STUDY

+ Chad's been with us for more than six years, on a mission to deliver consistent – and ever-improving – product quality. "It really starts with understanding the customer needs and then selecting the best product suppliers," advises Chad. "So we've worked hard on developing a clear evaluation criteria. Then, it's important to keep monitoring and providing feedback, including at least two face-to-face meetings a year."

With suppliers located around the globe, Chad and his team travel frequently. But proper oversight is essential when products have long journeys to market. "A typical example is urea," says Chad. "It comes from Saudi Arabia, where it goes to a port store facility. We'll send a vessel to get loaded then it takes around 30 days to transit to New Zealand, but the journey is far from over. When it arrives it typically discharges into three to five port stores. It's put into hoppers using the ship's cranes, then onto trucks and sent to stores. From there, it may be bagged up, blended, coated or loaded as a straight product onto another truck and taken to farm. Or it could go to another market store before being sent out onto farm."

Maintaining product quality during all this is a constant challenge. "Until now, monitoring at sea has mostly been confined to checking

sailing progress via GPS," says Chad. "But soon we'll be installing data loggers in ships' holds, recording things like temperature and humidity during transit.

"When product is handled, it's all about retaining the physical characteristics and not introducing any contaminants," he adds. "Our logistics and stores people are focussed on providing the best storage and handling to minimise crushing of granules and to ensure no external moisture is introduced. Stock rotation is also important. Urea is a very challenging product that can take in and expel moisture easily."

Product characteristics aren't the only challenges facing Chad's team. More is expected across the board. "Farmers always expect that the product will actually do its job. But I think more recently there's an expectation that we'll develop solutions to help with their environmental challenges," he says. "One of our values is putting the customer at the centre of everything we do. We also have some pretty clear priorities, including our focus on product quality. In itself, it will help farmers with environmental challenges. We're all about precision agriculture and that demands consistent quality." That precision helps farmers get optimal yield with lower inputs, helping meet consumer expectations of quality food

produced with lower environmental impact. Our N-Protect® coated urea can help to lower environmental impact.

Another challenge, one frequently in the public eye, is biosecurity. "Minimising biosecurity risk has been a priority in Ravensdown for over six years now," says Chad. "With time and effort we've developed a very robust system in terms of fertiliser importation, involving supplier audits every year."

More collaboration and engagement also figure in Chad's quality quest: "To improve product quality we need suppliers on-side, as well as neighbours, the wider community, local authorities and most importantly, our people."

Elsewhere, it's about more direct control. One example being Ravensdown Shipping Services. "Our shipping joint venture helps source efficient vessels that are fit for purpose. So we can be sure they're reliable, they turn up on time and, most importantly, they're clean."

Collaborative relationships empower our people and suppliers to be open and pay greater attention to detail. At Ravensdown, ensuring the highest product quality means more is expected of our people than ever before. It's a challenge they're more than up to.

People with ambition for better



Over 642 employees and many more contractors make up a powerful extended team. Collective wisdom is put to a common purpose. New insights are built every day. But enabling people takes constant focus and a positive, safety oriented culture.

HAZARD AND INCIDENTS 4 STEP APPROACH

- 1 REPORT
- 2 ASSESS THEIR RISK
- 3 IMPLEMENT CORRECTIVE / PREVENTATIVE ACTIONS
- 4 CHECK ACTIONS ARE EFFECTIVE

HEALTH, SAFETY AND WELLBEING

+ A broad strategy is in place intended to manage risks to health and safety of our people and others.

For this report, we include metrics on proactive hazard management, incident reporting and corrective action.

Reporting	2016/17	2017/18
LTI	3	8
Medical Treatment	33	33
Restricted Duty	1	2
First Aid	18	36
Property damage	85	88
Close Calls	80	88
Hazards	90	104

HAZARD AND INCIDENT MANAGEMENT

+ We have set two key performance measures to ensure that we manage our hazards and incidents in a timely manner. These measures have been chosen because they build trust in the system. Timely assessment and management encourages people to report issues, as they know they will be promptly addressed.

REPORTED HAZARDS AND INCIDENTS ASSESSED/ INVESTIGATED WITHIN 48 HOURS:

43% 2017/18 >90% TARGET 2019

The jump towards our 2019 target is expected because of changes made to the ways in which incidents are reported and escalated up through management levels. Data on overdue hazard assessments will also be available.

CORRECTIVE ACTIONS TO MANAGE HAZARDS AND INCIDENTS COMPLETED ON TIME (ON OR BEFORE THEIR DUE DATE):

53% 2017/18 >90%* TARGET 2019

Corrective actions are determined to manage hazards and incidents to protect people from harm. Corrective actions were taken in the majority of cases - often this was done immediately without the need to raise a formal corrective action.

* All actions relating to serious hazards or incidents will be completed on time.

LTIFR

16.2%

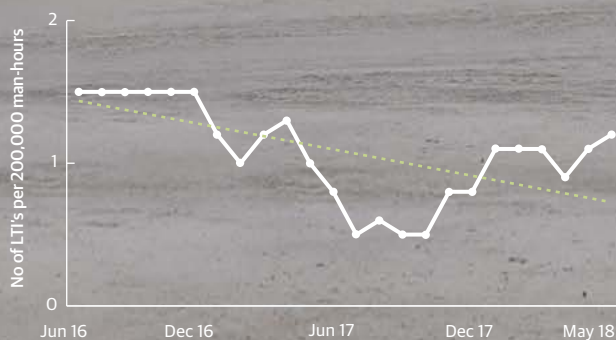
DECREASE FROM 2016 TO 2018

TRIFR

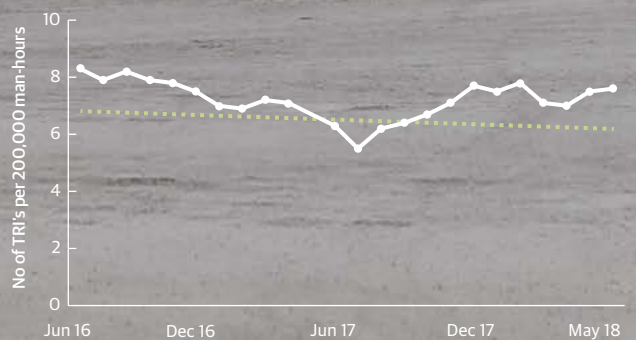
8.5%

DECREASE FROM 2016 TO 2018

ROLLING 12 MONTH LTIFR
(LOST TIME INJURY FREQUENCY RATE)



ROLLING 12 MONTH TRIFR
(TOTAL RECORDABLE INJURY FREQUENCY RATE)



Lost time & recorded injury frequency rates

+ At Ravensdown, we genuinely care about the safety and wellbeing of our people and our extended family throughout the community.

Rolling 12 monthly, LTIFR is a calculation used to measure the average number of lost-time injuries (those injuries that are serious enough to require time off work) over the past 12 months. The average has decreased from 1.48 to 1.23 representing a 16.2% decrease.

This is because of a more proactive approach to identifying and managing hazards and encouraging reporting of incidents and close calls so that they can be investigated to prevent a recurrence and subsequent injury.

Rolling 12 monthly, TRIFR is a calculation used to measure the average number of recordable injuries (those injuries that are serious enough to require medical attention or more) over the past 12 months. The average has been increasing from June 17 as a result of an increase in the number of recordable injuries being reported. The majority of these injuries have been minor injuries that may not previously have been recorded.

Reporting all incidents (injury and close calls, non-injury) is an important part of our strategy as it allows us to work together to investigate and implement measures to prevent a recurrence.



LIVING WAGE

100% PERMANENT EMPLOYEES ARE PAID AT OR ABOVE THE NZ LIVING WAGE

+ Ravensdown will continue to monitor the living wage as it develops and ensure all permanent staff are paid at or above the NZ living wage.

STAFF TURNOVER

11% 2017/18 (2016/17: 8%)

+ Average turnover for 5 years is 8.8%.

Our stakeholders can be confident that the knowledge, advice and service they receive is from stable, engaged staff, ensuring consistency of service and knowledge.

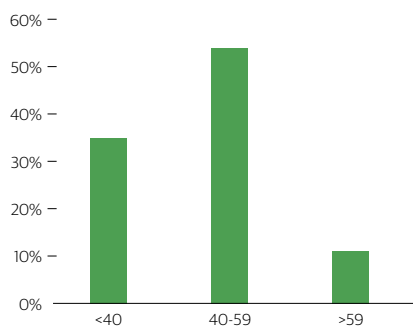
DIVERSITY

+ When it comes to gender mix, the focus is on active monitoring, training to tackle conscious and unconscious bias and recruiting the best person for the role.

GENDER

31% FEMALE **69%** MALE

AGE



TRAINING SPEND

\$800k

SPENT ON TARGETED TRAINING AND DEVELOPMENT 2017/18 (2016/17: \$1M SPENT ON TRAINING AND DEVELOPMENT)

+ A drive to deliver personalised, structured and focussed training programmes is now supported by a new Learning Management System. We can ensure staff are fully able to do their jobs for the benefit of our stakeholders and can develop our people for future opportunities.



Smart farming is hitting the ground running.

While Ravensdown's advanced technology often takes the limelight, it's Ravensdown people who are driving smarter farming every day.



To view video, please visit ravensdown.co.nz/integratedreporting



CASE STUDY

WE'RE NO LONGER JUST A FERT REP THESE DAYS.

+ Few realise Ravensdown has the largest number of Certified Nutrient Management Advisors in New Zealand.

This is no accident – rather a carefully designed plan to attract the very best graduates and enable them through training, clear career pathways and stewardship in the field.

At the Ravensdown store in Tirau, 24-year-old Taylor Bailey is an impressive example of how the Ravensdown Development Programme is enabling success for a new generation of agri managers. Coming from a well-known dairy farming family in Mahoe, Taranaki, farming is very much in Taylor's blood. Like many of our graduates, Taylor came from Massey University where she completed a Bachelor of Agri Commerce – majoring in farm management.

Soon after, Taylor was invited to join the Ravensdown Development Programme and spent eight months in Christchurch where she studied Fert 101, Animal Health and Agronomy. Recently, she's completed the intensive Advanced Certified Nutrient Management Course through the New Zealand Fertiliser Association

and Massey University. The final part was completing her farmer reports to become a Certified Nutrient Advisor.

At this young age, the achievement is impressive, but Taylor is by no means alone. The entire focus of the Ravensdown Development Programme scheme is to produce a well-prepared and enabled future generation of on-farm advisors who can deliver first-rate knowledge on fertiliser, animal health and agronomy from the get go.

Taylor knows today's farmers are expecting far more and Ravensdown is responding. "Customers are definitely expecting more of advisors. We've got a wide range of products and services that we provide, so we need to be definitely well-skilled in those areas," says Taylor.

But as any farmer will testify, you can't learn everything from a book, so Taylor meets farmers, attends local discussion groups and keeps up to date on the latest environmental issues.

"We're no longer just a fert rep these days. We're also giving advice and recommendations around agri-chemicals,

seed products and animal health. There's a lot more environmental scrutiny on farmers, so we need to be up with regulations, specifically with the fertiliser side of things..."

Always driven, Taylor also enjoys the support she gets from her North Island team and the expert agronomists and animal health technical managers who give her the extra confidence and motivation to always do more for her clients.

Of course, this notion of a well-educated and empowered new generation is not without economic value. "It definitely benefits shareholders. People are coming into jobs up to speed and with a greater understanding of the whole farm system," says Taylor.

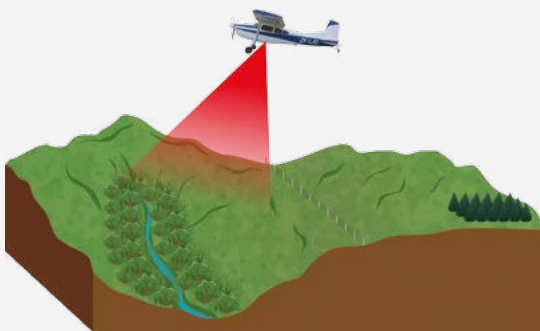
Being part of the new generation that will drive change and smarter farming is something Taylor relishes. She also has a few changes she'd like to see.

"It would be great to see farm owners involving employees in the decision-making processes they face such as meetings to discuss their seasonal fertiliser plans. Sharing knowledge is a really powerful thing and in turn will result in a more skilled industry."

Game changing science



Science and research are the reasons why Ravensdown is seen as a nutrient efficiency specialist. Our investment in R&D and partnerships with universities mean ideas with game-changing potential can be explored. But it is our field-based team and the customers who trust their advice that take the ideas and turn them into a better reality.



AIR SCAN®

Description

Remote sensing of the nutrient status of soils

Value

Fast and efficient method to produce layers of data from a single flight, including soil fertility, vegetation type and a digital surface map at a square-meter level.

Collaboration

- Massey University
- AgResearch

Status

We are at the end of year 5 of the seven-year programme. Project extension to cover North Canterbury and Southland means 90 percent coverage for New Zealand hill country.

Future expectation

Commercial delivery of current and emerging scanning technologies.

ClearTech®

Treats dairy effluent - enabling water recycling and increased effluent storage capability

The technology produces lower volumes of effluent, enabling enhanced utility of storage and use. Significant volumes of water are available for recycling.

- Lincoln University

Public announcement of pilot project was made on 3 May 2018

Canterbury is the first region for ClearTech® release followed by the major dairy regions.

IntelliSpread

Description Enables trust through evidence – fertiliser released at the right place at the right rate

Value Technology-enabled aircraft allow fertiliser plans to be accurately delivered by electronic instruction. Farmers can trust their fertiliser investment is applied as intended with proof of release records available.

Status 4 Planes in operation

Future expectation 6 capable aircraft by May 2019



Overseer®

Description **Models nutrient balances, including nitrogen loss estimates, at a farm scale**

Value Models farm system nutrient cycling and the consequential nutrient losses. Focus on outputs maintains farming flexibility and innovation. This world-class model allows farm system scenarios to be compared to a baseline.

Collaboration

- AgResearch
- Landcare Research
- Plant & Food
- Overseer Limited

Status Widespread adoption with ongoing upgrades.

Future expectation Expect to see an increased uptake nationally as farm systems changes are required to comply with emerging regulations on nutrient losses.

*Ravensdown has an ownership interest

LUCIAG

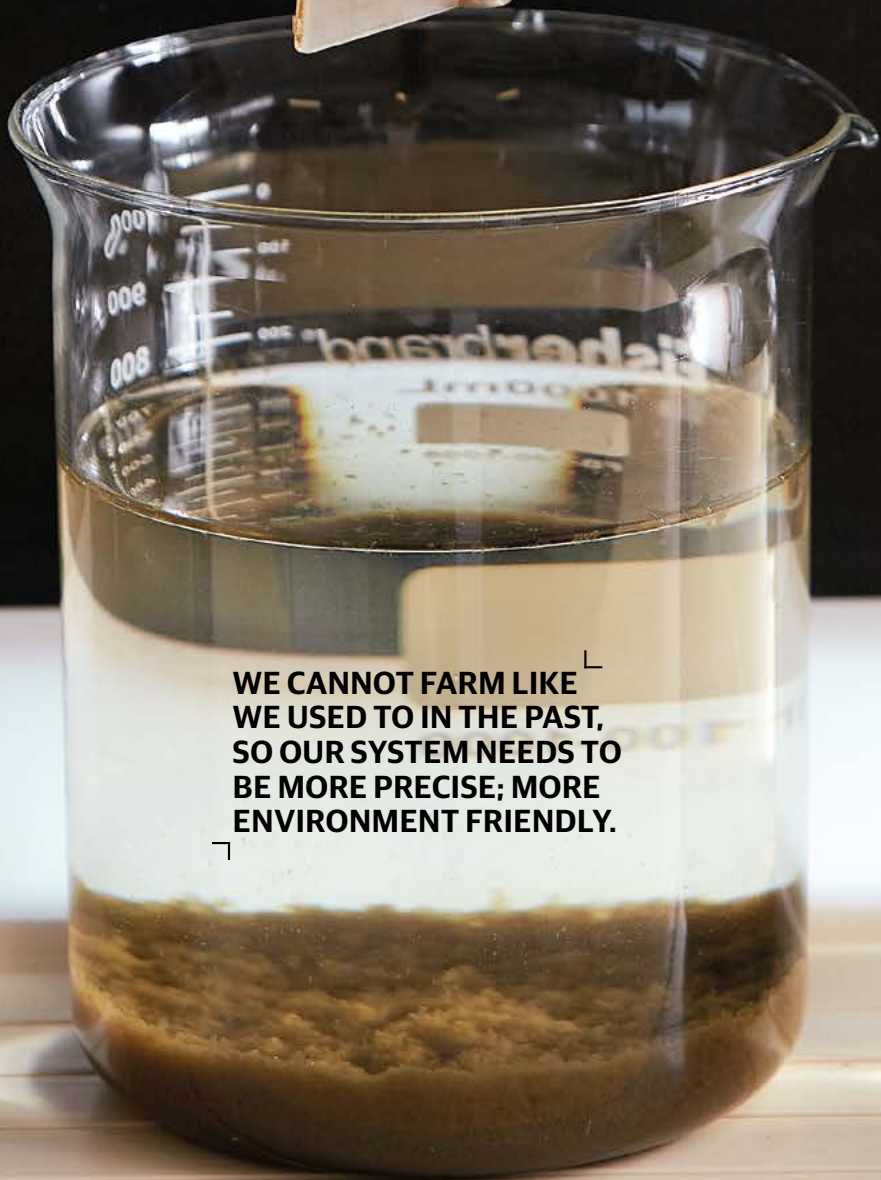
Models phosphorus and sediment losses at farm and catchment scale

The model allows the identification and materiality of farm nutrient and sediment critical source areas and the efficacy of mitigations.

■ Victoria University of Wellington

Undergoing field verification. In development end of this year.

Expect to be used mainly by Ravensdown Environmental consultants, in catchment studies in collaboration with Beef and Lamb and regional councils.



**WE CANNOT FARM LIKE
WE USED TO IN THE PAST,
SO OUR SYSTEM NEEDS TO
BE MORE PRECISE; MORE
ENVIRONMENT FRIENDLY.**



Scientific breakthrough set to transform dairy effluent.

The new technologies Ravensdown provides to shareholders often have their roots in the laboratory. And sometimes it's not about a new product or digital advance so much as a smarter way of doing things.

To view video, please visit ravensdown.co.nz/integratedreporting



CASE STUDY

+ ClearTech® is just such a breakthrough. Developed in partnership with Professors Keith Cameron and Hong Di of Lincoln University, ClearTech® is an effluent treatment process that slashes the use of fresh water in dairy farming.

"ClearTech® allows us to clarify effluent at the dairy shed to produce water clean enough for recycling," explains Professor Cameron. "It's then used for washing the yard where the cows come in for milking. The technology uses a coagulant often used in treating drinking water and it's a very similar process. The coagulant allows the little particles of soil and dung in the effluent to coalesce into larger particles, which then have enough weight to sink to the bottom of a tank. This means the top becomes clear enough to recycle and wash down the yard."

The potential savings in water use, and reduction in environmental impact, are huge, says Professor Cameron. "Using the backing gate where the cows are waiting to go in for milking, on Lincoln University's dairy farm where we milk 555 cows, we can cycle enough water every day to wash the yard completely. That's around 20,000 litres recycled a day. Scale that up nationwide

and we could save around 42 billion litres of water annually. That's a big number."

Making better use of water resources is not the only advantage of ClearTech®. Professor Hong Di emphasises the benefits across the board, representing the sort of leap agriculture has to take to meet society's growing expectations. "We cannot farm like we used to in the past, so our systems need to be more precise; more environmentally friendly. Consumers are demanding quality food, and to know that it has been produced in environmentally friendly, sustainable ways. The sort of technology that we're talking about with ClearTech®, that's a step change. As well as potentially saving so much water each year, you also reduce *E. coli* leaching and phosphorus. ClearTech® shows how science can help Ravensdown and its shareholders respond and succeed."

Partnerships with scientists like Keith Cameron and Hong Di are only going to be more important in the future, and the bonds closer. "As well as the research and development of new technologies there's also capability building," says Professor Cameron. "In that we train a lot of the farmers of the future at Lincoln University. We also train students who go on to be

employees of Ravensdown. A very good example is the creation of the environmental group at Ravensdown who support farmers to develop environmental plans and nutrient budgets. A number of those new staff have come through training at Lincoln University."

The search for game-changing innovations like ClearTech® has become more determined than ever, as expectations of Ravensdown and scientists themselves increase. Something Professor Cameron is well aware of. "I think society is expecting more from scientists. There are growing concerns about the environment and finding solutions to those environmental problems requires good, robust science. It's also why we're seeing greater links between research and industry, to ensure that the science that gets done in the lab doesn't just produce a paper that's published in an international journal; it actually produces a technology that flows from the laboratory to the farm. The linkage between ourselves, Ravensdown and Ravensdown shareholders shows this perfectly, where the investment in science creates new technologies, new systems and new methods that take everyone forward."

Technology: Enabling smarter farming



Technology is a key driving force behind sector-wide improvement. It opens up new opportunities; new ways to track progress, make decisions, demonstrate performance and make connections with end consumers. Our team uses some amazing tools to enhance the service they provide and the tool - and the person using it - cannot stand still.



MAPPING TECHNOLOGY

+ Use of mapping technology to manage efficient use of nutrients and keep records of paddock activity

2,682 CUSTOMERS ACTIVELY USING SMART MAPS/ HAWKEYE DURING THE YEAR

We are committed to being at the forefront of where the physical world of farming meets the digital world. Use of farm mapping software enables customers to farm smarter and accurately. Nutrient management, crop and livestock production all benefit from improved record keeping and performance analytics. We are focussed heavily on increasing the number of customers using mapping technology and are investing in R&D to increase the range of services this software can accurately provide.

Maps provide farmers oversight of their whole farm at a glance. Embedded throughout the map are the records of what has been applied in detail and what the options are to improve productivity. The increasing demand on farmers for managing the environment requires better record keeping and transparency. Developments in automation can reduce the amount of time the farmer spends behind a desk, enabling more time on the farm. We believe our customers own their information and have designed HawkEye® to enable greater collaboration with other industry partners.



HawkEye is map-based software that helps farmers make smarter decisions for better farm and environmental outcomes.

BENEFITS FOR FARMERS

- Improved nutrient & feed decisions → Increased productivity
- Reduced office time → More time to farm
- Managing environmental impacts → Licence to operate

BENEFITS FOR RAVENSDOWN

- Customer collaboration → Valuable discussions
- Data automation → More time to add value
- Useful tools for all farmers → Stronger relationships

THE IMMEDIATE PROCESS

- Support Ravensdown's core business
 - Nutrient, pasture and crop management, environmental footprint
- Easier collaboration between customer and Ravensdown
 - Enabling our staff to deliver
- Providing excellent service with efficiency
 - Automation of ordering, spreading and online data gathering

BY PROVIDING

- Farm mapping
- Nutrient planning and forecasting
- Pasture performance management
- Product ordering and spreading*
- In-field tools*
- Test results and agronomy plan visualisation
- Digital record keeping and reporting
- Nutrient compliance management & reporting*
- Spreading proof of placement
- Farm feature & hazards*
- Sharing and collaboration
- Personalised support

* Coming soon



PROOF OF PLACEMENT

245,739

RAVENSDOWN FERTILISER TONNES CAPTURED BY GPS-ENABLED PROOF OF PLACEMENT TECHNOLOGY

+ The use of GPS-enabled spreading technology enables us to measure how effectively we are recording and tracking nutrient application. We aim to increase the total traceability of nutrients applied over time. By recording spreading in both aircraft and groundspreading trucks, we are able to capture data not only of Ravensdown fertiliser that has been applied but to provide better transparency for all users of our spreading technology. This benefits all New Zealand farmers.

Recently we signed an agreement with TracMap, New Zealand's largest provider of spreading technologies, enabling us to capture a large proportion of total fertiliser tonnes spread accurately as well as agrochemical spray history. Variable rate application is now possible through our investment in our Primary Growth Partnership "Pioneering to Precision", in hill country as well as ground spreading, meaning the right product can be applied at the right rate in the right place. What percentage of total tonnes applied has been applied at a variable rate will be a key benchmark indicator for us moving forward.

TESTING TO IMPROVE FARM PERFORMANCE

6,448 CUSTOMERS PERFORMED SOIL TESTS ON THEIR FARMS

+ Ravensdown takes soil test measurements and makes recommendations to farmers about where and what amount of nutrient should be applied.

This forms the basis for an agronomy plan, which can be produced by Ravensdown. We expect this number to increase as farmers become more aware of the need for tighter control over their nutrient application.

USE OF AGRONOMY PLANS FOR EFFICIENT USE OF NUTRIENTS, AGROCHEMICALS AND SEED

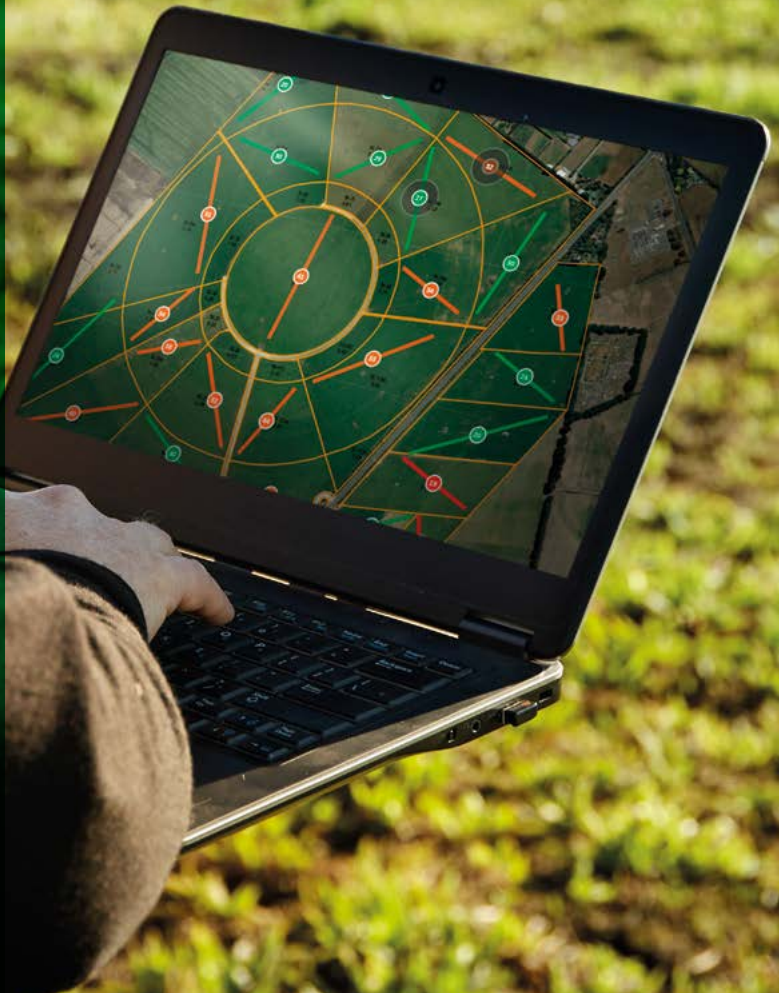
8,362 PUBLISHED AGRONOMY PLANS

46% OF CUSTOMERS HAVE BEEN PROVIDED AGRONOMY PLANS

+ This enables our customers to apply the right amount of fertiliser (nutrient). Published agronomy plans are a measure of how many of our customers are using our recommendations.

In addition, the agronomy plans include the right agrochemical recommendation, ensuring the best product and application is chosen for the health of the crop or pasture, livestock and environment.

All of this detail is recorded and traceable, enabling a stronger story to be developed about the farm and the produce grown on it.



THERE'S A BIG NEED FOR FARMING TO KEEP IMPROVING BECAUSE THAT'S WHAT THE PUBLIC WANTS TO SEE.

The Canterbury wheat that beat the world.

As expectations grow, Ravensdown has responded by developing new technologies that let us do more for our farmer shareholders.



To view video, please visit ravensdown.co.nz/integratedreporting

+

CASE STUDY

+ A perfect example is the work we do with arable farmer Eric Watson of Wakanui in mid Canterbury.

Eric is the Guinness World Record holder for wheat production per hectare, a title he has won more than once. Part of the credit comes down to the way he works with Ravensdown, including his local Senior Agri Manager, Dan Copland. Dan's worked with Eric and his wife Maxine for over four years. "It's really something I'm passionate about, getting crop nutrition right," says Dan. "Especially with the precision nutrient management side."

The precision Eric and Dan apply to crop nutrition and soil management certainly is impressive, aided by the Ravensdown technology deployed on Eric's mid Canterbury land. Comprehensive soil testing and smart mapping gauge the precise nutrition needs of every paddock. It shows not just which paddocks require fertilising, but exactly what is required and where, avoiding over-application. It's smart, but the pace of change, with accompanying expectations, is fast. "It's very rapid development," says Eric. "I think the shareholders do expect more from their fertiliser company, including spreading technology."

Helping meet those growing expectations is our newest precision agriculture tool: HawkEye®. This integrated mapping and compliance tool offers even more accuracy in measuring what's needed for optimum soil health and yield, further reducing environmental impacts. "HawkEye® is a decision support tool: it can help with farm recording, it can help with precision placement," advises Dan. "I've been with Ravensdown eight years and, technology-wise, it's definitely come on leaps and bounds." HawkEye's power comes from using three perspectives of pasture production; imagery from the air, nutrient input and pasture quantity on the ground, and diagnostic status of the soil. And it's being made available for any farmer to use, not just Ravensdown shareholders.

Inevitably, as technology improves so does the amount of data generated. 'Big data', as it's known, offers a world of possibilities but only when it can be applied in practical ways. Bryan Inch, our General Manager for Customer Relationships, understands the risks of drowning in a sea of data. "There's already plenty of information being captured and that will only increase in the future," says Bryan. "Sensors on irrigators, farm gates, spreading trucks and

silos complement wearable technology on animals, soil tests and aerial pasture scanning. It's making sense of what those sensors say that matters; turning data into insightful decisions." That's why all Ravensdown technology comes with dedicated support from technical experts and field-based Agri Managers.

Back on Eric's farm, technology has helped do more with less, to the benefit of the environment and the balance sheet. "I think Ravensdown technology has a big role to play in helping New Zealand reduce the impact of nutrients," says Eric. "It can show you shouldn't be putting so much fertiliser on here and, in some cases, that more needs to go on there. Crops will grow better and, if you're wasting nutrients, you're wasting money."

It's not just shareholders who are expecting more either; something Eric is aware of. "I think that society's expecting more from farmers with cleaner waterways and swimmable rivers, so technology will certainly have a part to play in that. There's a big need for farming to keep improving and that's what the public wants to see."

Governance

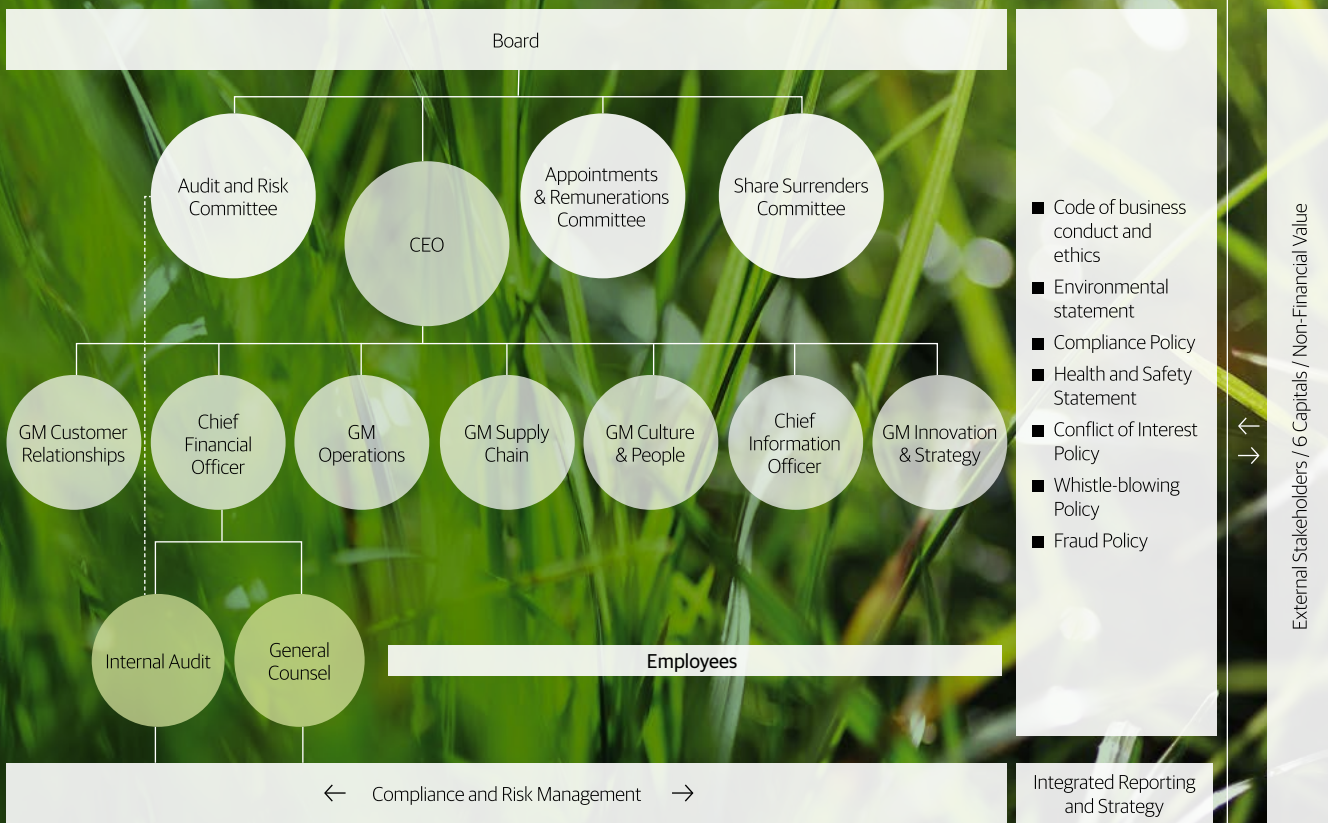


Ravensdown's governance structure is set up to promote accountability and to support its ability to create value in the short, medium and long term. It provides insight on strategy implementation and direction, while supporting ethical, compliant behaviour throughout the business.

ENABLING SMARTER FARMING FOR A BETTER NEW ZEALAND

+ Board members are elected by the shareholders, with up to three additional directors appointed by the Board to enable a balance of skills and diversity.

For further information on Ravensdown's Board and Leadership's composition, skills, competence and experience, see pages 44-47.



Ethics

The Board of Directors has developed a Code of Business Conduct and Ethics to give effect to Ravensdown’s core values and to guide all employees and directors in our relationships with our stakeholders. Key parts of this code include

Company Values

Our decisions and personal behaviour will at all times be consistent with our core values of:

- **Successful co-operative** – We put the customer at the centre of everything we do
- **Empowered people** – We choose the best people, keep them safe, and enable them to do their best
- **Enduring relationships** – We develop long-term relationships based on integrity and trust
- **Environmental leadership** – We strive to lead in the field of sustainability
- **Driving Innovation** – We drive the business forward by finding better solutions

These values mean that we will:

- Act honestly and fairly with due skill, care and diligence in the interests of all of our stakeholders
- Demonstrate respect for key moral principles including diversity, individual rights, equality and dignity
- Value personal and professional integrity, trustworthiness and competence

Fraud Policy

Ravensdown has a philosophy of “zero tolerance” towards fraud, both inside and outside of the company. We value the integrity of our staff and recognise that they have a key role to play in the prevention, detection and reporting of fraud. We therefore ask them to be vigilant at all times and to report any concerns they may have at the earliest opportunity. We are committed to creating and maintaining an honest, open and well-intentioned working environment where people are confident to raise their concerns without fear of reprisal on a confidential basis. All reported cases of fraud will be investigated.

Conflict of interest/Related party transactions

Like most co-operative companies, Ravensdown Limited has frequent transactions with its farming directors in the ordinary course of business. All transactions are conducted on commercial terms.

A Conflict of Interest Policy, ensures that any real or perceived conflicts related to staff members are managed at arm’s length.

Whistle-Blowing Policy

Ravensdown is committed to providing a transparent accountable organisation and staff are encouraged to have the responsibility to report any known or suspected wrongdoing within the company. Employees are encouraged to report this to their managers, or directly to the CEO. A 24/7 independent anonymous Ethics Hotline is also available where confidential information can be reported. Ravensdown is committed to the protection of genuine whistle-blowers against action taken in reprisal for the making of protected disclosures.

Risk Identification and Management

The company has a comprehensive risk management framework to identify, assess and monitor new and existing risks. Annual risk updates are performed and risk improvement plans created and acted on. The Chief Executive Officer and the leadership team are required to report to the Board and Audit & Risk Committee on high risks affecting the business and to develop strategies to mitigate these risks. Additionally, management is responsible for ensuring an appropriate insurance programme is in place and reviewed annually.

TOP RISKS

Risk	Response
Failure to embed a culture, systems and processes to prevent or appropriately respond to health, safety or wellbeing dangers or incidents.	We have systems and processes in place to continuously track, protect and take proactive actions to manage our people’s health, safety and wellbeing and to ensure we embed a culture, which puts safety first and gives meaning and purpose for our people.
Supply of key fertiliser inputs interrupted.	We have enduring relationships with long-term suppliers of our key fertiliser inputs, which we continue to assess and manage to ensure we can meet supply commitments to our customers.
Inability to deter or recover from cyber security risks.	We have robust systems and software in place to detect, protect and recover from cyber security threats.
Evolving government priorities affecting our industry.	We have regular and meaningful engagement with various levels of government to ensure we can have proactive involvement in the legislative and regulatory changes relevant to our business.
Significant Biosecurity incident affecting us or our industry	We have an MPI-approved system, which ranks the majority of our imported products as a low risk, through annual inspection of suppliers, cleanliness of vessels, sampling of products and container inspections.
Losing social licence to operate	We work to ensure positive and genuine engagement with all our key stakeholders and transparently report on our operational compliance, good community relationships and commitment to sustainability and improvement.

Leading us forward

+
THE BOARD

① **John Henderson *LLB***
Chair

John runs a 22,000 stock unit sheep and beef breeding and finishing operation, has been on the Board since 2004 and has been Chair since February 2014. As well as running a legal practice in Marton, John spent many years as a director of RACE Incorporated and of a number of farming and agricultural companies in NZ and overseas.

② **Scott Gower**

Scott owns and runs a large hill country sheep and beef station at Ohura in the Central North Island and has been on the Board since 2006. Scott is a member of the NZ Institute of Directors and holds a certificate in company direction. He has completed a number of governance courses and continues to prioritise professional development.



3 Tony Reilly
B. Ag. Com

Tony runs the family dairy farming business and has been on the Board since 2004. Tony has been involved in governance at a local and national level, particularly in the dairy sector for 20-plus years. He was a director of the NZ Dairy Board and Kiwi Dairy Co-op before the formation of Fonterra.

Tony is a Nuffield Scholar and a Chartered Fellow of the IoD.

4 Bruce Wills
B. Ag. Com

Bruce farms an 8,000 stock unit cattle and sheep farm north of Napier and has been on the Board since 2015. Bruce holds a wide range of governance positions, particularly in the science and environmental areas. He previously spent six years on the Federated Farmers Board and was National President from 2011 to 2014.

5 Tony Howey
B. Ag. Com

Through the companies Alpine Fresh Ltd and ViBERi NZ Ltd, Tony grows for the arable, vegetable and berryfruit sectors over 700 ha. He has been on the Board since 2006.

Currently Tony is a director of several local companies, is the Chair of NZGAP and Vice-President of Horticulture NZ.

6 Kate Alexander
Dip. Ag. bus. Mgmt

Kate owns a 245ha dairy farm in Dargaville and has been on the Board since 2014. Kate is also Chair of Delta Produce Co-operative Ltd and is a ministerial-appointed Council member of the Open Polytechnic of New Zealand.

Kate is a Member of the IoD and has done the Company Directors Certificate as well as the Fonterra Governance Development Programme.

7 Glen Inger

Glen is an Auckland-based entrepreneur who has been on the Board since 2007. Glen was a founding director of the Warehouse Group and was a board member there for 11 years. He currently has directorships of 20 private companies across agriculture, property, retail and tourism sectors. Glen's agricultural investments include dairy, beef, avocado, kiwifruit, mushroom, forestry and aquaculture.

8 Peter Moynihan
B. Ag. Sc

Peter owns a 190ha dairy farm located at Northhope and has farming interests in Lochiel and Lorneville and has been on the Board since 2013. Peter is an Agribusiness Regional Manager for a prominent bank and has been through the Fonterra Governance Development Programme.

9 Stuart Wright *B. Ag. Com*
Deputy Chair

Stuart farms 330ha west of Christchurch growing arable crops, seed potatoes and finishing lambs and has been on the Board since 2006 and Deputy Chair since 2014. Stuart is a Nuffield Scholar and has had a number of governance roles in the industry good sector as well as not-for-profit organisations.

10 Jason Dale
B. Com FCA

Jason is CFO of NZ Steel and a Fellow of Chartered Accountants Australia and New Zealand and has been on the Board since 2014. He is currently Chairman of TNX Limited and former Chair of the Audit Committees for Taranaki Investments Management Limited and LIC. He was the former CFO of large listed and unlisted companies such as EROAD, Auckland Airport, PGG Wrightsons and Fonterra Ingredients.



Actions louder than words



LEADERSHIP TEAM +

As a leadership team, we see our role as maintaining a positive culture at Ravensdown while ensuring the organisation remains agile as it faces multiple opportunities and challenges.

Knowing that continual consensus rarely leads to good decision-making, we hold each other to account and exchange ideas freely and honestly.

Because we're often challenging the traditional way of doing things, we will debate and offer alternative points of view.

Greg Campbell
Chief Executive Officer

Bryan Inch
General Manager
Customer Relationships

Sean Connolly
Chief Financial Officer

Mark McAtamney
Chief Information Officer



We seek alternative perspectives from outside the team and listen to all employees within the company throughout the year.

We are here to deliver on strategic goals agreed with the Board. This involves looking ahead and keeping an eye on the detail of the day-to-day.

The safety and wellbeing of our team is paramount and we continue to ensure each and every employee shares this belief so they can act on it.

Stephen Esposito
General Manager Operations

Mike Whitty
General Manager Supply Chain

Mike Manning
General Manager
Innovation and Strategy

Katrina Benedetti Forastieri
General Manager Culture
and People

Enabling smarter farming throughout New Zealand



DOING MORE

Our team members are proud to be part of the community and are doing their bit for many worthy causes throughout the country.

- Ravensdown-owned stores
- Ravensdown aglime quarries
- Ravensdown consignment stores
- Lime processing plant
- ◆ Ravensdown manufacturing
- Aerowork

KEY



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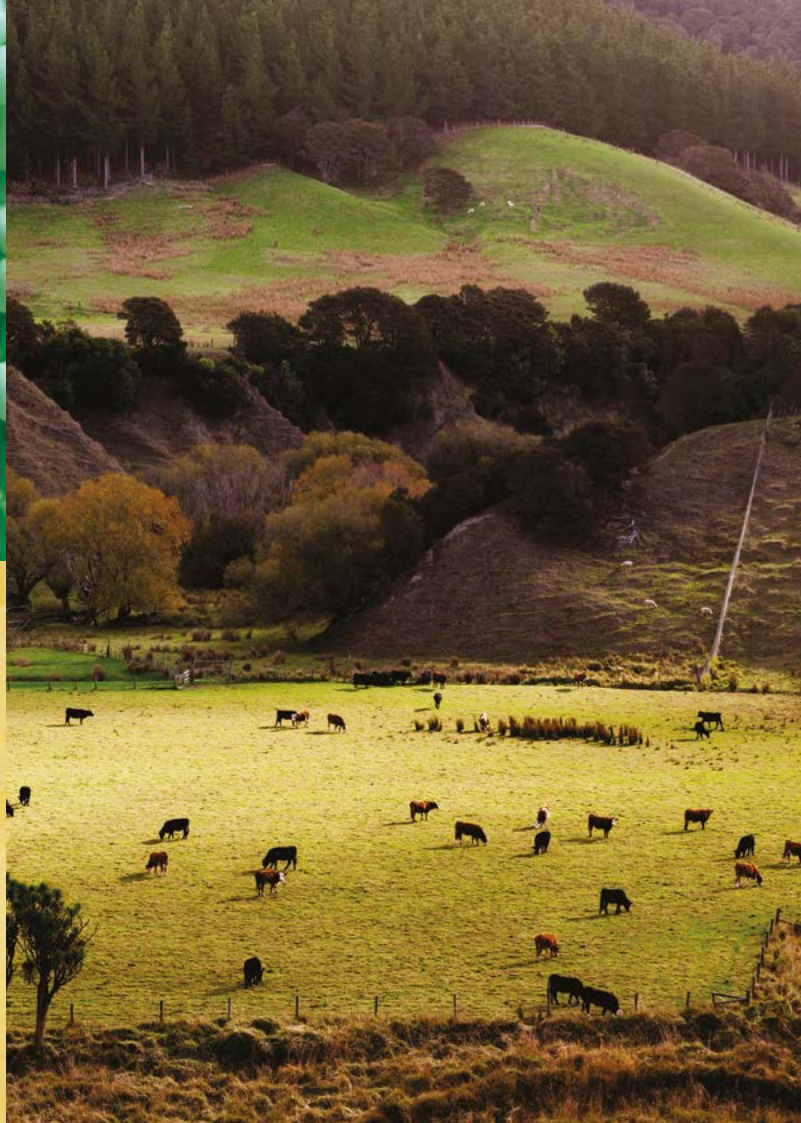
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Let's expect more together.
Give us your feedback on this
website so we can improve.

EXPECT MORE TO COME >



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