

# Inside Dairy

September 2018

Your levy in action

**BIG**  
**results**  
from small changes  
in the dairy

## Hitting the right buttons

Survey reveals how farmers are using technology in 2018

## The missing link

Dairy Connect: helping farmers share experience

DairyNZ 



## over the fence...

Welcome to the September issue of *Inside Dairy*. This month, we focus on some of the exciting innovation currently taking place across the dairy sector.

Long gone are the days when people's views of dairy farming were informed by reading *Footrot Flats* – fabulous though those cartoons were. Today's dairying is truly at the cutting edge of innovation, invention and research – and on a world stage. And I'm proud that DairyNZ has been at the forefront of much of the research.

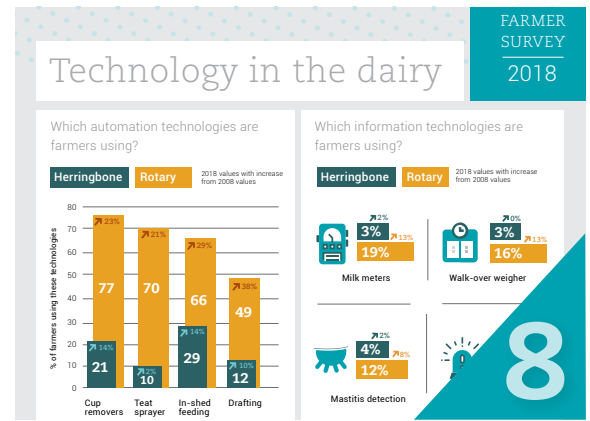
In this issue, you'll read about how we're investing your levy to provide you with the most current data to farm sustainably and productively. We profile research that's lowered dairy's environmental footprint; research into the role of crops and ryegrasses; and studies that resulted in reduced milking times or created more fertile cows, and looked into the profitability of supplements.

We explore with the Poole family, farming in South Waikato, how small changes became big milking gains while using DairyNZ's Milksmart approach. To me, this represents much of the progress in dairy farming over the last 10 years. Small changes, small tweaks, small mental shifts in the way we farm – all leading to significant efficiency, profit and environmental gains.

Of course, it doesn't stop there, and this issue looks closely at the tools available to help you in every part of the farming business. It's natural that after years of doing things a certain way, we can all become comfortable with our approaches. DairyNZ appreciates having great systems that you know inside out but, after talking to many of you, we also understand the huge value of new tools, templates, science, systems, advice, and easy-to-use technology. These can make a significant difference on-farm – making your life easier and your farming practices more efficient and, dare I say, cutting edge.

I'm always keen to hear your feedback, so please email me at [tim.mackle@ceo.dairynz.co.nz](mailto:tim.mackle@ceo.dairynz.co.nz)

**Tim Mackle**  
Chief executive  
DairyNZ



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On the cover: Benefiting from improved milking efficiency on the Poole family's farm in Pirongia are farm assistant Paulino Matamis (front) and farm manager Thomas Orlowski.

# TAKE 5... TIPS FOR FARMERS

**1. Celebrate success**  
Hopefully you and your team have made it through the winter in one piece by keeping a close eye on everyone's wellbeing. Take a moment to plan an end-of-calving celebration for the team, highlighting your successes and sharing your learnings. For tips on keeping morale high, visit [dairynz.co.nz/motivating-staff](http://dairynz.co.nz/motivating-staff)


**2. Zero Carbon Bill**  
DairyNZ submitted to see long-lived gases reduced to net zero, and short-lived gases (like methane) to be stabilised at a certain level. If this target is chosen by the government, we'll work alongside the sector, scientists and the Ministry for the Environment to decide on the level of stabilisation. You can see our submission at [dairynz.co.nz/zero-carbon](http://dairynz.co.nz/zero-carbon)



**3. Science in action**  
Keen to find out the latest research findings on sowing rates, plant breeding, disbudding and seepage wetlands? Check out DairyNZ's latest *Tech Series* magazine, which you'll have received with this issue of *Inside Dairy*. You can also read the magazine online at [dairynz.co.nz/techseries](http://dairynz.co.nz/techseries)

**4. Pre-mating BCS**  
Cows that lose more body condition in early lactation, and cows that are thinner at planned start of mating (PSM), have lower pregnancy rates. Aim for:

- average decrease in body condition score (BCS) for the herd after calving to be no more than 1.0
- BCS of 4.0 at PSM, with cows on a trend of gaining BCS.



Read more at [dairynz.co.nz/bcs](http://dairynz.co.nz/bcs)

**5. TBfree pest control**  
Possum control operations planned for 2019 are open for consultation until September 30. You can make submissions on the timing and boundaries of Ospri's aerial 1080 operations at [ospri.co.nz/have-your-say](http://ospri.co.nz/have-your-say)

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### We appreciate your feedback

Email [insidedairy@dairynz.co.nz](mailto:insidedairy@dairynz.co.nz) or call us on 0800 4 DairyNZ (0800 4 324 7969). Alternatively, post to: Inside Dairy, Private Bag 3221, Hamilton 3240. For information on DairyNZ visit [dairynz.co.nz](http://dairynz.co.nz).



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# Managing change through innovation



At DairyNZ, supporting farmers to build their future means not standing still. We're constantly maintaining a competitive edge by creating and accessing innovation, sharing information and working with researchers, support organisations, farmers and the wider dairy sector, says DairyNZ's Bruce Thorrold.



In a few years, we'll look back and realise that right now, we were living through a transformational period for our sector. And it's not just dairy that's undergoing a transformation. The pressure for change is all around us, impacting on almost everything we do. Digitisation of the world is happening at a

pace we've never seen before, the focus on the impact humans are having on the world is intense and both seem to be rapidly-influencing the global political scene.

Successfully navigating our way through the transformation must be our focus. Dairy has been here before, such as the stormy seas of the 1980s. Our ability to change at pace is our advantage. In the past we have done that through strong farmer leadership with a clear vision, through being strongly-connected and having a hardwired desire to innovate. We must again use these foundations of our sector and what we have learned from the past to tackle the current challenges. I am positive dairy will innovate its way once again to success.

## Creating and supporting innovation

Innovation comes in many shapes and sizes. It's not just the single technology that changes the way we farm (e.g. the development of artificial insemination or rotary dairies). Innovation is also about the small wins, such as the 50-teat calfeteria allowing big gains in productivity of people and the clever rosters and approaches allowing more flexibility in staffing our farms.

**"Innovation should make things easier, cheaper, faster, more efficient, more productive, more accurate or more enjoyable."**

## Adopting and adapting innovation

The other ace in our pocket is the speed with which farmers adopt new approaches (e.g. in the use of fodder beet and now possibly plantain). Farmers often lead innovation and sometimes researchers must work hard to keep up. Innovating alongside farmers will assist the pace of change, allowing greater understanding for those already adopting and giving confidence to other farmers who are watching over the fence.

Farmers can also use DairyNZ groups, field days and workshop events (e.g. FarmTune, CalvingSmart), DairyConnect, other farmer-to-farmer forums and work with rural professionals to find out who's doing what and how that can be shared and adapted.

Innovation should make things easier, cheaper, faster, more efficient, more productive, more accurate or more enjoyable. Most importantly, the collective innovation across our sector should deliver a farming system that meets the needs of our customers and consumers and have the potential to adapt to future needs.

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Explore innovation online at [dairynz.co.nz](http://dairynz.co.nz)

# YOUR LEVY: Innovation in action

Over the last decade, DairyNZ has been developing innovative yet practical solutions to meet the sector's new requirements, address existing problems and improve farmers' businesses. Here's how.



## Lower environmental footprint

Pastoral 21 (P21) and Forages for Reduced Nitrate Leaching (FRNL) have achieved a reduction in nitrogen, phosphorus and sediment loss to waterways across all dairying regions. Managing nitrogen inputs and time off-pasture, better management of winter crops and increasingly diverse pastures are all showing real benefits.



## Less time milking

Research into robotic milking systems, once-a-day (OAD) milking for all or part of the season and MaxT solutions have decreased time in the shed, giving farmers confidence that a wide range of options work for New Zealand cows, people, and systems.

## Clarity on crops

The role of crops on milking platforms or support land to increase total feed supply or fill seasonal deficits has been widely researched. Managing animal health and reducing nitrogen loss have been a focus for fodder beet. In the North Island, fitting maize and chicory into farm systems has been studied in Taranaki and Northland.

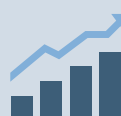


## Future ryegrasses

Breeding better pastures is key to underpinning profit and making farms more self-sufficient for feed. New gene technology approaches, including genomic selection, hybridisation and genetic modification (GM), have produced ryegrass plants with the potential to increase pasture production and reduce environmental impacts. Assessing the performance of these plants and linking them to our Forage Value Index is a priority over the next five years.

## More fertile cows

Getting cows in calf every year easily and reliably is vital for pastoral dairying. Recent work has focused on the key management interventions to achieve this, and genetics research has shown the importance of breeding the right cows. Changes to the data collected for Breeding Worth (BW) will be the key to getting cows with better inherent fertility.



## Profitable supplements

The economics of supplement use is a continuing debate. Research has provided clear decision rules for profitable use throughout the year including for Body Condition Score (BCS) management.



*Left to right: Pirongia contract milker Chris Poole enjoys a break with his farm assistant Paulino Matamis, farm manager Thomas Orlowski and second-in-command Paolo De Larama.*



## Small changes become

# BIG milking gains

Even the smallest adjustments to the milking routine can add up to important savings in time and money over a whole season. South Waikato farmers John, Anne and Chris Poole are seeing great results using the Milksmart approach.



“Good cow flow is essential if you want to be efficient.”

With milking and related tasks taking up more than half the time spent on a dairy farm, DairyNZ scientist Paul Edwards says if you want to make the farm dairy more efficient, it's necessary to look at cow flow, the interaction between cows, people and infrastructure, to get everything working smoothly. This is what DairyNZ's Milksmart programme aims to achieve by providing farmers and farm teams with practical solutions to save time and money.

“Good cow flow is essential if you want to be efficient. When you get the whole process right – from starting in the paddock, walking to the yard, rowing up, cupping up, milking, teat spraying, to the journey back to the paddock – people and animals are happy and everything runs smoothly,” says Paul.

Adopting the Milksmart approach has been worth its weight in gold for Chris Poole, who is a contract milker on his parents John and Anne Poole's dairy farm at Pirongia, South Waikato. Streamlining the milking routine has saved almost two hours a day during peak lactation.

“Our DairyNZ consulting officer Steve Canton could see we were milking a lot of rows all year round and suggested that if we made a few changes we could milk more efficiently. We thought at the time that we were going pretty well, and I didn't think it would change much, but we decided to give it a go anyway. We're glad we did,” says Chris.

Getting team buy-in was crucial he says. “Everyone in the team became involved. They looked at the DairyNZ Milksmart videos ([dairynz.co.nz/herringbone-routine](https://dairynz.co.nz/herringbone-routine)) and everyone could see why we were doing it, so the small changes we made were easy. When you've got a multicultural team like ours, it's important to make sure everyone understands what's needed and the part they have to play.”

## Getting started

Right away Chris changed the milking routine by implementing 'bunny-hopping'. The first milker loads five cows and starts cupping (aiming to cup the first cow within 30 seconds). The second milker, instead of rowing up half to three-quarters of the row, starts rowing up and cupping the next five cows. Typically, by the time the first milker has finished their five, the next lot of cows have rowed themselves up.

“We also changed the cupping threshold on the automatic cup remover,” says Chris. “The cups come off earlier than they normally would, leaving a bit of milk behind. This is not lost, but harvested more efficiently at the next milking. After our first milking using the new routine, we were a couple of hundred litres down, but that was back to normal at the next milking.”

These two changes and the use of an auto teat



Chris: “The cups come off earlier than they normally would, leaving a bit of milk behind.”



Thomas, Chris and dog Pip analyse their pasture cover.



*Installing an automatic teat sprayer in the exit race has helped shave off two minutes per row during milking and reduce the distance staff need to walk.*

sprayer have reduced actual row time from eight minutes 40 seconds to six minutes 40 seconds, a saving per row of two minutes. It has also saved staff time, says Chris.

“At certain times of the year, we’d have three people coming to the shed in the morning. One would be on cows and two would be in the pit. Now we just have two. If there’s a second herd that’s far away, instead of that third person coming in at 5.00am, they’ll now come at 6.00 am. It’s still an early start, but it’s an hour later than it used to be, and everyone’s keen on that.

“We start our afternoon milking a bit later, just to give cows more time in the paddock resting – at least an hour. That results in less lameness and fewer overall tasks to do, so it benefits the animals and the staff. The cows in the paddock seem more content and the staff have a longer lunch break.”

### Continuous innovation

Once the milking routine was sorted, Chris introduced some other changes and is thinking about others. He installed an automatic teat sprayer in the exit race – leaving one less task for the milkers – and he put an automatic off-switch on the backing gate. A pit mirror is on the shopping list to let the milkers see the yard and now that he has gained confidence, Chris is also considering further increasing the automatic cluster remover setting.

“We used to teat spray manually. Having an automatic sprayer has sped us up quite a bit, not only from a time perspective but also physically, because the milkers don’t have to walk so far. We’ve reduced steps by 15 percent.

“The automatic switch for the backing gate reduces labour and at the same time stops the cows from being pushed up too

tightly. Apart from removing a small task, it’s had the additional benefit of reducing lameness, which also saves time by having to make fewer treatments.

“All the things that have made milking quicker have also

reduced cow lameness significantly, because the cows are spending less time on concrete. I think this has been the biggest benefit overall.”

Chris recommends giving Milksmart a go. “The thing is, you get a result straight away.

It’s not like a farm system

change where you only know at the end of the season whether or not you’re better off. You can try it out for a few days and, if it’s not for you, you can change back and there’s no harm done.”

“All the things that have made milking quicker have also reduced cow lameness significantly ”



*Paolo and Chris choose their next paddock for the herd.*



## Efficiency and savings



Efficiency is not necessarily about milking faster or working harder, it's all about optimising the use of equipment and labour resources to get the best from the milk harvesting system. For tips and videos showing how to milk more efficiently, visit [dairynz.co.nz/milking](http://dairynz.co.nz/milking)

### Savings made at the Poole farm

- 50 to 60 minutes each milking.
- Relief milker costs less.
- Cows milked per hour increased from 291 to 384.
- Work routine time down to 18 seconds per cow.
- Team starts later or gets home earlier.
- Staff are happier, which means less turnover.
- Reduced lameness and, therefore, less time spent treating it.

### The Poole's other time-saving devices

#### 1. New outside calf pens

The Pooles operate split calving. They start calves in a shed, and have fenced a small paddock (too small for herd) into four sections with a metal pad in the middle. They park the calf

feeder in the middle, feed one mob and chase them out, then feed the next, and so on, instead of driving around the farm. That's worked well and they're keen to make another similar paddock.

#### 2. Automatic gate opener

This saves the Pooles about an hour each day on labour. The cows walk themselves to the feed/shed. When the gate opens it hits a drum; the cows hear that noise and start moving. It's a big saving because it eliminates the need to have a staff member sitting on a bike. Instead, the cows come in on their own and they're not being pushed.



#### 3. Satellite pasture monitoring

Chris is testing out this technology to automatically record pasture covers by satellite. He is hoping he'll be able to reduce the frequency of manual farm walks in the future.

■ Words: Christine Hartley ■ Photos: Craig Brown

## Farm Facts

**FARM OWNERS:** John and Anne Poole

**CONTRACT MILKER:** Chris Poole

**LOCATION:** Pirongia, South Waikato

**FARM SIZE:** 202ha (effective)

**HERD SIZE:** 750

**FARM DAIRY:** 44-aside herringbone

**PRODUCTION:** 366,000kg MS

*Chris reckons adopting the Milksmart approach has been worth its weight in gold.*



# Value determines technology uptake

When farmers can see the value, practicality and people-benefits of technology, they're more likely to take it on board. DairyNZ's Brian Dela Rue summarises our latest farmer survey results which reveal what technologies farmers are using, how that's changed over time and where to from here.



Technology options for farmers have been expanding rapidly and they will only continue to increase. To provide accurate insights into actual technology uptake on-farm, DairyNZ has conducted three five-yearly surveys of 500 farmers: in 2008, 2013 and 2018. Here's a snapshot of this year's survey results.

## Automation technologies are hitting all the right buttons

Most notable over the last decade is investment in technologies that automate current tasks, making milking easier and more labour-efficient. Some are now well-established, particularly in rotary dairies where nearly 90 percent have at least one of these three technologies: automatic cup removers, automatic drafting, or in-shed feeding. As milking-related tasks alone account for more than 30 hours per week on average, increased labour efficiency reducing hours of work will help attract and retain skilled people.

## Rotaries run rings around herringbones for labour efficiency

Compared with herringbone dairies, rotaries were generally newer (17 versus 29 years old), larger (48 versus 28 sets of cups), milked more cows (614 versus 319 cows), had significantly higher throughput (254 versus 157 cows milked per hour) and had more technologies. Labour efficiency was also higher for rotaries, at 161 cows milked/person/hour, compared with 90 for herringbone dairies. Rotary dairies are well suited to milking larger herds and installation of some technologies, but come with a much higher build cost.

Rotaries with a combination of automatic cup removers, teat spraying and drafting, milked 193 cows/person/hour: that's

58 more cows/person/hour than rotaries without this combination.

## Slow uptake of info technologies

Investment in information technologies such as milk meters, stock weighers and detection systems remains low, installed in less than 20 percent of rotary and less than five percent of herringbone dairies. It's a big ask to develop affordable and accurate sensor-based systems that are robust enough for on-farm use. To have value, data must lead to improved decisions, which often requires data from multiple sensors to be integrated.

## What's working well for farmers?

The three technologies that herringbone operators were most satisfied with were cup removers, fully automated plant wash systems and teat spraying. For rotary operators, it was in-shed feeding, drafting and cup removers.

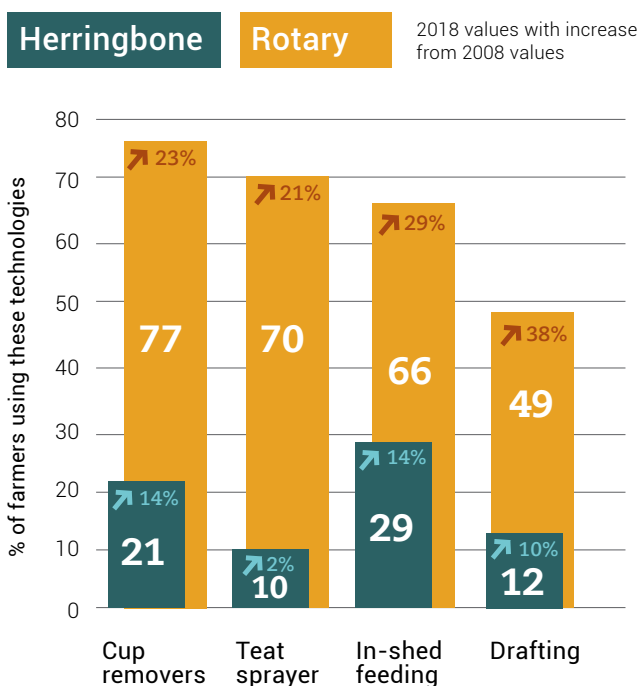
## What will the next five years bring?

Farmers indicated a continued investment in the commonly-used automation technologies is likely as is a gradual increase in information technologies. We expect that recently-launched innovations for automated pasture measurement as well as new farm-wide low-cost battery-powered sensors and networks to also make an impact in our next five-yearly survey. Overall, the value, practicality and benefits of technology will determine farmers' enthusiasm for embracing any new technologies on-farm.

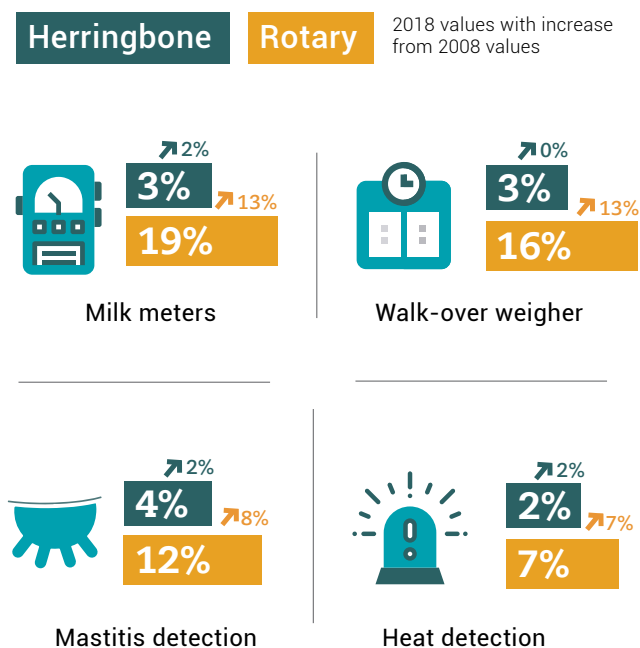
Check out a full summary of the 2018 survey in the new 'dairies and technologies' section of [dairyNZ.co.nz/milking](http://dairyNZ.co.nz/milking)

# Technology in the dairy

Which automation technologies are farmers using?



Which information technologies are farmers using?



Milking efficiency – what did the survey tell us about cows milked and hours spent in the dairy at peak production?

	Herringbone	Rotary
Cows milked	319	614
Cows milked/hour	157	254
Cows milked/person/hour	90	161
Hours milking/week	27	34
People hours milking/week	49	61

Rotaries with technologies milked

**58**

more cows/hr than rotaries without technologies

**11.8**

Hours between first cups on a.m. and last cups off p.m.

*The innovative use of 'green water' (recycled effluent) to wash out dairy sheds reduces on-farm water use and effluent storage requirements.*



## Innovation's environmental wins

**Working with farmers to create innovative solutions aimed at improving the environmental sustainability of our sector is a key focus for DairyNZ – and there's always room for something new, as DairyNZ's Logan Bowler explains.**

Combining environmental sustainability goals with on-farm economic 'wins' has been factored into on-farm innovation for a few decades now and DairyNZ is a big part of this picture. In my own role as an environmental extension specialist for DairyNZ, I've seen many great examples of innovative solutions and technology in action in the farm dairy effluent space. Here are just a few:

- Irrigation monitors – minimise or prevent discharges from stalled irrigators and broken pipes, make managing systems more efficient, prevent environmental mishaps and save farmers stress and time. Most can be operated from a smartphone.
- Travelling rain guns – use 'water wheel' type turbines to irrigate with greater speed control, creating greater wetted diameters, meeting slower soil infiltration needs and targeting only part or half circles if needed.
- Hydrofan washdown nozzles – reduce water use by about half in dairy sheds, with less hosing.
- DairyNZ's effluent spreading calculator app – helps contract effluent spreaders to know how much land they needed to spread over to match desired nutrient loadings.
- DairyNZ's 'Envirowalk' app – is used by farmers as they walk around the farm to keep track of what's happening in each area and any issues.

I get great feedback from farmers I visit about the benefits they're enjoying thanks to these types of initiatives. One from

Levin says, "I love our new effluent monitoring station. I can keep an eye on the farm's effluent irrigation from anywhere in the country and have peace of mind that it's performing well." Another from Northland is keen on the hydrofan nozzle, telling me, "Our new low-water-use washdown nozzle is great. When I'm hosing out, I often think about how many effluent irrigator shifts I'm saving."

A relatively-new 'green water' approach using recycled effluent to 'green wash' dairy shed yards is also now making effluent management easier for a small but growing number of dairy farmers. Water use in and around the farm is reduced by up to 65 per cent and effluent storage requirements by around 50 per cent.

'Green water' practices save time and money too – less electricity is needed to pump water from its source; less runs are required from irrigation equipment; pumping times are halved for effluent irrigation and they enable labour-free washing of the dairy shed yard.

However, continued environmental pressure on farmers means they, we and the dairy sector can't sit back and relax – we'll always look to find new innovative ideas on improving the sector's footprint, while also making farmers' lives easier.

Find out more about on-farm environmental sustainability and DairyNZ's online tools and apps at [dairynz.co.nz/environment](http://dairynz.co.nz/environment) and [dairynz.co.nz/effluent](http://dairynz.co.nz/effluent)

# Taking a byte out of technology

To say that Reporoa farmer Tesha Gibson is a ‘wired woman’ is probably something of an understatement. She and husband Bryan believe “tech is your friend”; they and their staff are embracing its use on-farm, enjoying a wide range of practical benefits which make life easier.

Tesha and Bryan are equity partners operating their leased farm near Rotorua. They’re enthusiastic supporters of online and hand-held technology, from engaging with social media to recruit new staff, to using a variety of apps to help them farm more efficiently. Finding staff was once a time-consuming process, but Tesha says listing jobs on their farm’s Facebook page has widened the pool of likely candidates.

“When we list jobs on Facebook, I share it on other farming sites as well, so we generally get applicants from all over the country and a lot from overseas.”

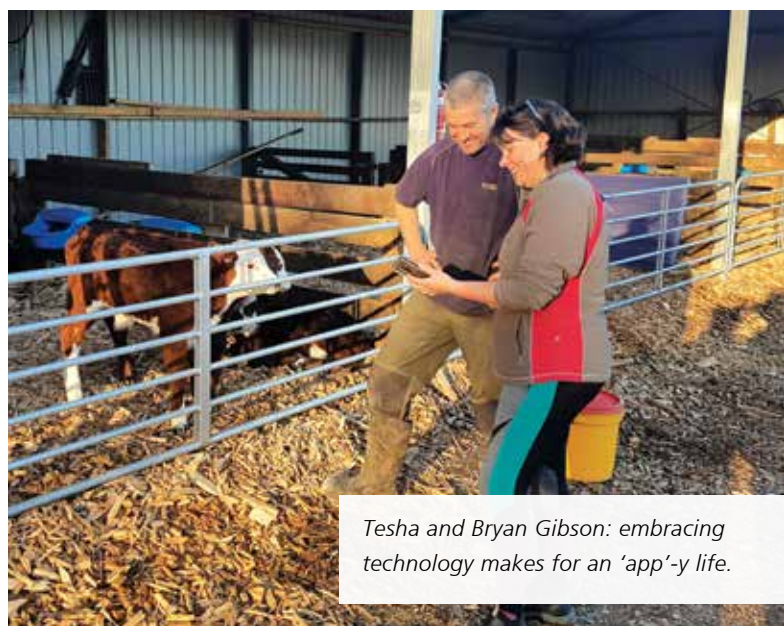
The Gibsons manage a host of farm tasks using apps, some free and some they pay for. They also have a restricted-access farm website, where the farm team can check operating procedures, update contact information and read the policy manual. Health and safety information is also kept online.

**“Tech is your friend. We’re constantly looking at improvements and finding ways to work smarter. We don’t adopt apps for the fun of it: they have to make logical sense and add value.”**

## Apps in action

Here are just three examples of technology the Gibsons are currently using on-farm:

- Online software is used for recording milk temperature in the vat and monitoring milk volumes. The same programme also records fuel and water use. When a pre-set fuel volume is exceeded, a message is sent to Bryan’s phone. This recently helped to catch a thief and the yard’s security camera recorded the culprit in action.
- Herd management tasks are captured on a Livestock Improvement Corporation (LIC) web-based herd management system and Minda, which is used to record calving, heifer-tagging and pasture-walk information.
- A drone comes in handy for checking the springer mob, shifting stock at the runoff and checking for water leaks.



*Tesha and Bryan Gibson: embracing technology makes for an ‘app’-y life.*

## Benefits in record time

Using apps allows the Gibsons and their staff to add to information and access it easily online. As well as the examples above, they’re using apps to:

- record hazards
- make farm supply shopping lists
- list maintenance tasks
- measure paddock and break sizes accurately
- provide an online farm calendar.

The Gibsons also use DairyNZ’s most popular farming resource app, ‘Facts & Figures’.

“The Facts & Figures app is handy when you need to look up things like growth information for young stock, feed intake requirements and other things,” says Tesha.

“Tech is your friend. We’re constantly looking at improvements and finding ways to work smarter. We don’t adopt apps for the fun of it: they have to make logical sense and add value.”

DairyNZ’s Facts & Figures app is jam-packed with useful content. Check it out at [dairyNZ.co.nz/factsandfigures](https://dairyNZ.co.nz/factsandfigures)

# Will farmers go hands-free on pasture assessment?

The value of a regular farm walk for pasture assessment is well known. Now technology is opening up hands-free pasture assessment to more farmers, by saving them time and making data assessment easier, as DairyNZ's Brian Dela Rue explains.



## How are farmers measuring up?

DairyNZ's 2018 technology survey (see pages 8 and 9) showed 45 percent of farmers are using pasture measurement technologies, while 52 percent use visual assessment ('eye-o-meter') for the farm walk. The measurement method isn't as important as the accuracy and frequency, and how the data is used.

Farmers have told us the difference between good and great pasture management is about one week, indicating timeliness of decision-making is critical. Yet only 41 percent of farmers measure farm pasture covers weekly in spring and 42 percent of farmers record the measurements in software where the data can easily be used tactically and strategically.

New technology is changing the landscape. There are improvements on the old favourites: plate meters, sward sticks,

and tow-behinds with Bluetooth connectivity and apps to automatically upload paddock data to software. Some of these tools come with global positioning systems (GPS) so you can link paddock pasture data to your farm map.

Also, emerging this year is farm-wide pasture measurement by satellite, or using a robotic tow-behind to populate your feed wedge or farm map with the data, without you slipping on your gumboots. Of course, that doesn't mean getting into the paddocks to check pre-grazing covers and post-grazing residuals is any less important.

## Data-driven decisions

Pasture management software is getting simpler to use. With a growing number of options, from simple to advanced, it's easier than ever to find something that fits with your decision making. Using tactical tools like a Feed Wedge and DairyNZ's

Spring Rotation Planner will help keep you on track when pasture growth rates and covers fluctuate. Comparing whole-season paddock dry matter (DM) performance will lead to paddock improvements, including pasture renewal rates, drainage and soil fertility. Some of DairyNZ's Tiller Talk farmers have found the gap between their best- and lowest-performing paddocks is as much as six tonnes of DM/hectare.

## Pocketing the profit

The value of closing the gap between current annual pasture harvest and the farm's potential – around \$300 extra profit for every extra tonne of DM harvested/year – can be quite an eye-opener. We recommend you take a fresh look at how improved pasture management, possibly using modern technologies, can help you pocket a good share of this profit.

Find out more about pasture management at [dairynz.co.nz/pasture-management](http://dairynz.co.nz/pasture-management)



Image from LIC's SPACE (Satellite Pasture and Cover Evaluation) service.

# Breaking the traditional mould

A Southland couple took an innovative approach to their milking, using variable interval milking (VIM). It created greater flexibility for them and their staff – without compromising their cows’ wellbeing and production. DairyNZ’s Dan Schmidt explains how.



Milking accounts for half of the labour hours spent on dairy farms. So it’s no surprise that milking schedules have been changing rapidly across the sector ever since scientists started researching once-a-day (OAD) milking more than 30 years ago.

DairyNZ’s initial research into milking schedules has shown it’s possible to extend the milking interval up to 18 hours before milk production is limited. If cows are fed the same amount, there should be little to no loss in milk production, so adapting milking schedules for greater flexibility becomes a more realistic option for many farmers.

Shane and Eileen Walker are one dairy farming couple thinking outside the box. They milk 800 cows in Southland and were twice-a-day (TAD) milkers until staff changes in Christmas 2012 encouraged them to try to what they coined ‘VIM’ (variable interval milking). They operated the VIM system until transitioning to full OAD in the subsequent season.

VIM consists of milking three ‘normal’ TAD milkings, alternating with two OAD milkings in the weekdays, followed by OAD both days of the weekend. This improved work hours and provided a stable routine on-farm, as the Walkers’ pattern for each day of the week was the same (unlike the cycle in a ‘three in two’ milking system).



Shane and Eileen Walker (with Bonnie): achieving labour savings and more sociable hours without production loss.

The couple says VIM worked really well. It allowed them to hold production and keep running the farm through to the end of the season with lower staff numbers, while keeping milking times to more sociable hours.

The Walkers are not alone in trying something different. DairyNZ data shows nine percent of farmers are full-season OAD and almost 50 percent are milking using a combination of different alternate milking intervals. This contrasts with 10 years ago when 70 percent of dairy farmers milked full-season TAD.

Shane and Eileen say other farmers looking to try this system should be proactive – plan the change at least six months ahead (herd testing, culling cows, considering mating management); switch before a feed deficit and plan your feed allocations; and ensure somatic cell counts are manageable as cows settle into the new routine.

Here’s how VIM’s milking time looked for Shane and Eileen:

Mon	Tues	Wed	Thurs
5.30am 3.00pm	8.00am	5.30am 3.00pm	8.00am
Fri	Sat	Sun	Mon
5.30am 3.00pm	8.00am	7.00am	5.30am 3.00pm

Want an improved outcome for you and your staff while maintaining cow health and productivity? Now is the time to be innovative and challenge your current milking schedule. Find out more about milking schedules, technology and Milksmart in action at [dairynz.co.nz/milking](http://dairynz.co.nz/milking)

# Stepping through tech with Dairy Connect



DairyNZ's Dairy Connect service is helping farmers make informed decisions about new technology. We talked to two of the many farmers who have been paired through the project.

Culverden contract milker Kerry Higgins is using technology to stay ahead of the game and he's keen to help other farmers do the same.

Kerry is a Dairy Connect support farmer and he's recently helped fellow Culverden dairy farmer Abbi Ayre find solutions to meet health and safety obligations.

As a support farmer, Kerry offers advice based on his own experience – in this case the use of OnSide, a visitor management system.

He joined Dairy Connect to reciprocate the support and advice he and his wife Anita received when they first entered the dairy sector eight years ago.

"Since we joined the dairy industry, we've found people have gone out of their way to help others – we saw Dairy Connect as a way for us to pay it forward. If we can help someone by talking through our experiences then that's awesome," says Kerry.

The former Parliament security guard takes an active interest in technology to help save time.

"We're always looking for new technology that can improve our processes on-farm. With all the new regulations that are coming, more of our time will be taken up by a lot of compliance requirements."

The conversation with Abbi over the phone was short but informative.

"We talked through how to make best use of the app – from ways of trying to get visitor and contractor buy-in, to how it can be a handy tool for recording near misses or accidents. We also talked about why making sure people sign in before entering a farm is becoming more important – not just for health and safety, but also for biosecurity on-farm."

Abbi, who's also a contract milker, heard about Dairy Connect through the Dairy Women's Network. She says the service suits her because she'd prefer to hear from someone with experience



Kerry and Anita Higgins, and children MacKenzie and Emerson.

than go through screeds of information.

"I think Dairy Connect is great. I've used it a few times. It's super easy. If you have a question, you can just ring or send a form and you get an answer quickly, without having to leave the farm," says Abbi.

"On this occasion, we were trialling a few different apps to help manage our health and safety. The one Kerry suggested was one we were trialling, so the conversation with him helped confirm that we were on the right track and that it was a good one to stay with."

To contact Dairy Connect visit [dairynz.co.nz/dairyconnect](http://dairynz.co.nz/dairyconnect) or phone **0800 4 324 7969**.



# CalvingSmart: eventful learning

DairyNZ's CalvingSmart workshops allow farmers to share knowledge and discuss the future of dairy farming. Three farmers who attended our June/July events really valued the focus on practical, region-focused, on-farm solutions to improving animal care.

Peter Arnold (18) from South Taranaki attended CalvingSmart Waverley. Growing up on his parents' dairy farm and now working on a 380-cow farm, Peter took part in CalvingSmart as part of his Primary Industry Training Organisation (PITO) course.

"At CalvingSmart, everyone's in the same boat as you are," he says. "It's really valuable to get off-farm and talk to with experts and other farmers. It's also a great place to ask questions – you definitely don't feel judged. Talking about animal welfare and the environment was good too, because it got you thinking."

Kelsey Espin is a sixth generation farmer who's 50:50 sharemilking 170 cows for her parents on their Midhurst farm. Collecting extra 'tid bits' of knowledge at CalvingSmart Stratford, was the cream on top.

"It confirmed a lot of the practices I'd already learned from my family – a massive takeaway. We also talked about calf pens and the pros and cons of different kinds of bedding – from shavings to woodchips to straw to riverstones," says Kelsey.

"We discussed how we use break-fencing leading up to calving, wintering on paddocks, minimising damage to the grass and minimising runoff from the rain and muddy paddocks. We also talked about making sure the calves have shelter, adequate bedding, calf covers if they're outside – just looking after them every step of the way.

"We had a choice of six different seminars we could attend over four slots. Holding the event locally also meant that what we talked about could be used in our conditions, with farmers who were putting into practice something that was actually working."

Craig Jackson attended CalvingSmart Dunsandel. Dairying in New Zealand for nine years, he's a second-season manager for



*Craig Jackson:  
"CalvingSmart gives you confidence in your own systems."*



*Peter Arnold: "It's pretty good to see how calving's changed over the years."*



*Kelsey Espin:  
"I came home from CalvingSmart wanting to create new ideas."*

Mark and Julie Cressey, who are 50:50 sharemilking 850 cows on 220 hectares in Dorie, near Ashburton.

"All of the DairyNZ events I've attended have been well run and well thought through – and I've learned a lot at every one. CalvingSmart gives you confidence in your own systems. You hear heaps of different ideas and it's really valuable to bring along some staff too, like I did.

"It confirmed that while we're doing a good job on-farm with animal welfare, there's always room for improvement. We shouldn't fear that – just keep getting better and aim to be world-class. Biosecurity-wise, we learned that simple things can make a big difference, like adding an extra metre of buffer along boundary fencelines to keep your cows' noses on your property."

Find out more about CalvingSmart at [dairynz.co.nz/calvingsmart](http://dairynz.co.nz/calvingsmart)

# Supporting farmers through *M. bovis*



*DairyNZ's Chris Morley speaking to farmers about biosecurity and *M. bovis* at a Lincoln University Dairy Farm (LUDF) open day.*

It has now been more than a year since *Mycoplasma bovis* (*M. bovis*) was first detected in New Zealand. DairyNZ continues to be actively involved across many areas of the response. Here's a brief overview of what we're doing.

DairyNZ staff have been deployed across the country, with 40 people working alongside Ministry for Primary Industries (MPI) and other agencies. Our staff range from farm systems experts to communication specialists, and they are working both on the ground and at governance level to ensure farmers are given practical solutions.

## DairyNZ in the National Control Centre

We have three staff working out of MPI's *M. bovis* National Control Centre in Wellington, supporting communications, planning and governance. Our team is helping to ensure MPI works in the best interests of dairy farmers and that the information you receive is practical and easy to digest. At the governance level, we are helping develop policies and recommendations that will work for farmers.

## DairyNZ on the ground

We also have a team of people on the ground, working directly with farmers affected by *M. bovis*. Operating out of MPI's regional field headquarters – in Oamaru, Ashburton, Invercargill and Hamilton – this team is helping farmers to develop feed budgets, coordinate feed, and put systems in place that allow them to continue farming under movement restrictions. The team is also dedicated to supporting farmers through the recovery phase as they restock their farms.

## DairyNZ response team

Our *M. bovis* response team, formed in July 2017, is working hard to help farmers by coordinating DairyNZ's staff, and information and advice for farmers. We have recently appointed a new response manager whose role is to ensure DairyNZ's staff, time and resources are used in the best way possible for farmers.



*Keeping their boots clean are DairyNZ consulting officers Trevor Gee and Teaghan Lourie at a LUDF open day.*

## Information to help you

Another key focus for us throughout the *M. bovis* response has been ensuring you have access to information that will help you make informed decisions to protect your farms and animals. For example, we have developed many resources, including the *Biosecurity WOF* ([dairynz.co.nz/biosecurity](http://dairynz.co.nz/biosecurity)) and provided advice through regular email updates, social media, and via our website. Check out [dairynz.co.nz/mbovis](http://dairynz.co.nz/mbovis) for everything you need to know about *M. bovis* and biosecurity.

If you are affected by *M. bovis*, we are here to help. Whether you need support with form-filling, getting access to feed, forming management plans, or you just need someone to talk to or get advice from, please contact us on 0800 4 324 7969 or email [info@dairynz.co.nz](mailto:info@dairynz.co.nz) to arrange a visit from a member of our team.



# Meet DairyNZ's lab team

Most of the time, our laboratory team flies under the radar. Yet their work provides the foundation for DairyNZ's innovations, resources and farmer support, as science support team member Mark Bryant explains.

## What does your team do and why?

Our technicians and scientists operate a group of laboratories at two sites in Hamilton – Newstead's main office and its nearby Lye Farm. The data we collect and the analysis we do is the foundation for DairyNZ's research and its research with partner organisations like AgResearch and Fonterra.

## Tell us something interesting about your team.

In much of our work, we use unique procedures developed right here by DairyNZ, and our team has created quite a few novel approaches that are now available commercially. One unusual one-off task (fully-funded by Hamilton Zoo) saw us analysing rhino milk! Interestingly enough, it was very high in lactose but low in fat – not what we expected.

## What research do you do and how is it used?

At Newstead we have a lab for DairyNZ research farms to analyse and prepare milk samples for sending out to sub-contracted labs. Our milk composition calibrations have been developed by DairyNZ, and allow us to factor in a much greater range of things affecting the milk's composition, e.g. variables like breed of cows, days in milk, stage of lactation, feed type/volume eaten and region. These calibrations are important in providing accurate milk composition, data for research.

We also have a biochemistry and immunology lab focusing on feed intake, fertility, nutrition, mastitis and animal welfare. Lye Farm's labs research pasture, plants and soil and carry out work on bacteriology and mastitis research.

## What do people think of your work?

DairyNZ's research work is well-respected within the science world and our sector. However, when our work comes up in conversation elsewhere, reactions range from interest to disgust, as we're often elbow-deep in faeces and urine samples. Apparently, rumen-sampling is particularly hard to 'stomach': it produces extremely strong-smelling stuff which soaks into the skin. I don't advise a supermarket visit on the way home after



DairyNZ lab team member Jenny Brown working with blood samples at Lye Farm in Hamilton.

that – although it does tend to clear a path, making queue-jumping much easier.

## What's something your team is proud of achieving in the past 12 months?

Lately we've been researching the percentage of plantain in cows' diets and its relation to the amount of nitrogen (N) produced in cows' urine. The aim is to reduce urine N so less enters the soil. This work included analysing 7500 litres of urine and 9500 kilograms of faeces, all of which had to be sub-sampled twice (with some being freeze-dried), plus looking at the urea content in the milk.

Overall, we're just proud to be producing high-integrity, reliable, evidence-based work. We're always asking ourselves, 'What's the benefit of this to New Zealand farmers?', and we're always looking for environmental benefits too – that's very satisfying.

## How can farmers get in touch with your team?

Talk to your consulting officer, or see [dairynz.co.nz/contacts](http://dairynz.co.nz/contacts)



# Improving cow fertility and lifetime productivity



'Pillars of a New Dairy System' is a seven-year DairyNZ-led research programme, with funding from the Ministry of Business, Innovation and Employment (MBIE), New Zealand dairy farmers (through DairyNZ) and AgResearch. The programme aims to provide management and genetic solutions to improve cow fertility and lifetime productivity.

## What have we found so far?



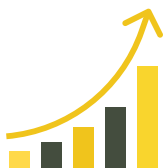
Inefficiencies currently cost the sector more than \$1.5 billion per annum (p.a.). Through delivery of innovative solutions, we estimate **\$550 million p.a.** can be recovered.



### Fertility BV confidence

High-Fertility breeding value (Fert BV) heifers reach puberty **25kg lighter and 21 days earlier** than Low-Fertility BV heifers.

During first lactation, High-Fert BV heifers have a **40% greater 3-week submission rate**, resulting in a **34% higher 6-week in-calf rate**.



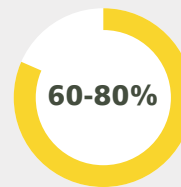
Pre-mating cycling rates are important. The chance of conception increases by:

- 18%** with each cycle before mating
- 13%** with each extra week before mating.

On average, **25% of cows have an unhealthy uterus** one month before mating, which reduces cow fertility. This can range from 5-65% in individual herds.

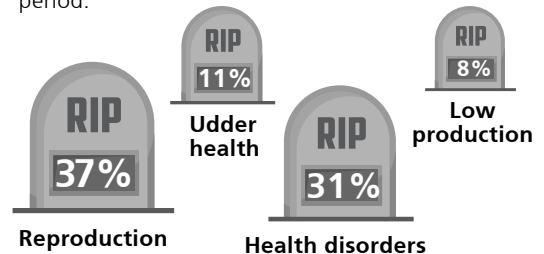


**21%** of cows are removed from the herd each year.



of removals are involuntary or avoidable.

The main reasons cows are removed from the herd often arise from issues during the transition period.



**Blood BHBA\* levels alone are not a good indicator of sub-clinical ketosis or underperformance in a pasture-based system.**

\*β-hydroxybutyrate

### Feeding starch vs fibre

to early lactation cows (if fed the same amount of energy) does not affect reproductive performance.



For more information on research from the 'Pillars of a new dairy system' visit [dairynz.co.nz/pillars](http://dairynz.co.nz/pillars)

## Sharing farmers' love for the land

DairyNZ's education cowbassador Rosie and her co-star Nate find out first hand what dairy farmers are doing to look after the environment, in the latest stage of the *Dairy Doing Good* campaign.

Rosie's *Dairy Doing Good* campaign has been running for the past year, taking children on a journey between paddock and plate, to find out where their milk comes from. The campaign provides children with bite-sized and easy-to-digest facts about dairy and dairying, explaining what can often be complex scientific processes.

The campaign's launch competition found a real-life co-star for Rosie, Nate Cunis. He's joined Rosie on her adventure, finding out about the goodness of dairy and nutritional dairy recipes. He's also discovered the many connections it takes to get milk from the farm to the factories and now he's taken a look at the environmental initiatives farmers are using to look after their land.

A new video for children follows Rosie and Nate as they visit Andrew and Jenny Hayes' Waikato farm to see their environmental efforts in action, including waterway fencing and riparian planting. Key facts and photos on the Rosie's World website also help to share farmers' stories on how they're looking after the environment.

The six-week campaign, which ran from 29 June to 10 August, received 8371 entries into the weekly educational quiz competition on the Rosie's World website. The winners were Emily Jackson from Auckland and Dante Anderton from Cambridge.

DairyNZ external engagement manager Phillipa Adam says partnering with children's TV programme *What Now* has helped connect kids with Rosie and the dairy story.

"*What Now* has a renewed focus on featuring great local content. They now have a 'roaming studio', filming live at different locations around New Zealand every Sunday.

"During the campaign, *What Now* featured a riparian planting demonstration with children from the audience and made ice cream using DairyNZ's ice cream kit (which was delivered to 10,500 children as part of an in-school science lesson). The programme also visited a Ngāi Tahu farm in Canterbury, interviewing Piripi Perry and his daughters Te Kura and Fay to find out about the planting they've done on the farm and other environmental initiatives," says Phillipa.

Check out the *What Now* videos at [rosiesworld.co.nz/moovies](http://rosiesworld.co.nz/moovies)

### Farmers feature in Rosie video



Rosie's sidekick Nate and the Rosie's World crew capture riparian planting in action.

The Hayes' Waikato family farm, which borders Lake Kaituna in Horsham Downs, was used as the location for Rosie and Nate's new video.

The Hayes have been instrumental in the protection and survival of the peat lake. In 2001, Andrew Hayes was concerned that the lake was being overtaken by invasive willow, and realised it was time to take action. Andrew retired land around the lake edge to create riparian planting zones and make way for native plants to grow once again. Seventeen years on, a care group including the family, local council and the Department of Conservation (DOC) actively care for the lake.



# Refreshed Mark and Measure courses a hit



Whether you're a farm owner, contract milker, herd-owning or variable sharemilker, you'll find our Mark and Measure course valuable and relevant for any stage of your farming business journey. Here are just some of the reasons why.

Mark and Measure is a DairyNZ levy-funded multi-day business course run by dairy sector experts for couples, individuals and those in farming partnerships wanting clarity and direction for personal and business success. Featuring six key principles (see box on right), its content has recently been refreshed.

Recent courses took place in Queenstown and Taupo, with a third held in Northland as part of Extension 350 (E350 – a farmer-led mentoring and extension programme designed to lift profitability, environmental sustainability, and wellbeing on Northland farms). The workshops went down well with everyone attending, including these farmers below.



**Katie and Campbell Wheeler**

Katie and Campbell Wheeler, Rotorua sharemilkers, attended Mark and Measure Taupo.

"The main reason we attended Mark and Measure was to get us both on the same page with our business."

The Wheelers soon realised the need for better planning and the importance of principle three: *knowledge is your best investment*. It became clear to them that they have a wealth of expertise to tap into.

"There are so many people around us we can use to help our business move forward. We can talk to people we've identified as mentors and speak with DairyNZ staff."

**Clive McDermott and Andrew Gillespie**

Northlanders Clive McDermott and son-in-law Andrew Gillespie, 50:50 directors of their farm business, attended Mark and Measure Northland. The course helped Clive and



## Mark and Measure: six principles

- 1 Success is unique to you
- 2 Your vision for tomorrow determines your actions today
- 3 Knowledge is your best investment
- 4 'Free cash' creates choice and reduces risk
- 5 Investing = criteria + analysis + action + time
- 6 Little changes lead to extraordinary results

Andrew understand each other's approach to the business.

"As ex-army, Andrew is very structured and procedures-orientated," says Clive. "And he's come to farming with a certain amount of discipline in areas I was short on."

"Clive is easy-going," says Andrew. "He plans everything in his mind and is very thorough and knowledgeable."

Clive and Andrew agree that knowledge is your best investment.

"Because Andrew is relatively new to dairy farming, this principle is very important to us," says Clive. "I try to get involved in as much knowledge as possible e.g. E350, discussion groups and Mark and Measure."

Both partnerships left their respective courses with clarity on their future directions, feeling empowered to take their next steps.

### Mark and Measure 2019

Follow Mark and Measure's second principle and take action now! Register your interest in Mark and Measure 2019 at [dairynz.co.nz/markandmeasure](http://dairynz.co.nz/markandmeasure)

# Choosing sowing rates for perennial ryegrass pastures



From time to time, there is some debate in the sector on the ‘correct’ perennial ryegrass seed sowing rate for New Zealand farms. However, as DairyNZ feed developer Sally Peel explains, there’s no one right answer.

Research shows a wide range of sowing rates can result in satisfactory pasture establishment. Seed is also sown under a wide range of soil conditions, so there isn’t one sowing rate to fit all circumstances. A standard recommendation can’t cover all of these but, based on the research, DairyNZ recommends 18 to 20 kilograms of seed per hectare (kg seed/ha) for diploid cultivars, and 25 to 28kg seed/ha for tetraploid cultivars. In some of the circumstances outlined below, a lower sowing rate will be enough.

To read about recent research supporting these standard sowing rates, check out the back page article of this month’s *Technical Series* magazine. The research also identified that a wide range of sowing rates had little impact on ryegrass productivity, except in the early stages after sowing.

## Standard vs lower sowing rates

The table below compares the advantages of standard versus low perennial ryegrass sowing rates.

Standard sowing rate (diploid 18-20kg/ha; tetraploid 25-28kg/ha)*	Lower sowing rate (diploid 12-16kg/ha; tetraploid 20-24 kg/ha)*
<ul style="list-style-type: none"> <li>• Extra seed can help in adverse conditions (e.g. poor seed bed, poor drilling depth).</li> <li>• Usually higher dry matter (DM) yield over first 1-3 grazings.</li> <li>• Lower weed content.</li> </ul>	<ul style="list-style-type: none"> <li>• More space for clover establishment.</li> <li>• Lower seed cost.</li> </ul>

\* Regardless of ryegrass ploidy and sowing rate choice, clover seed is typically added at three to four kilograms per hectare.

## Good conditions a must for low sowing rate

An advantage of lower ryegrass sowing rates is higher clover content in the pasture, which in turn improves feed quality and animal performance. However, if low ryegrass sowing rates are to be successful, you must have excellent conditions for the new pasture to establish. This includes producing a good seedbed (fine, firm, consolidated). As well as conserving moisture, this

allows seed to be sown at the right depth.

Lower ryegrass sowing rates also generally mean more weeds in pasture. If weeds are a problem (particularly grass weeds such as brown top, poa etc.), DairyNZ recommends using standard sowing rates and taking into account the sowing method.

## Standard sowing rate increases yield

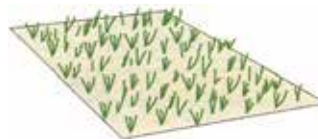
Using a standard or higher ryegrass sowing rate usually gives a temporary (not long-term) increase in dry matter (DM) yield over the first one to three grazings. This varies, but might be an extra 500kg DM/ha, with a value of \$150 to \$200/ha (using 30 to 40 cents/kg DM for this high-quality late autumn/winter feed). The cost of an extra six kg/ha of seed may be \$60 to \$90/ha.

## Sowing method

Sowing method affects the speed that ground cover is established, as the diagram below shows. Where weeds are a problem, DairyNZ recommends Method 1.

- Method 1 e.g. roller-drill, broadcast, cross-drill, drills with narrow row spacing.
- Method 2 e.g. single pass with drill with 15cm rows, undersowing.

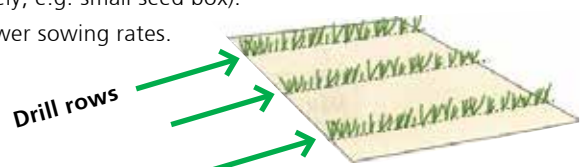
### Method 1: Spreading seed more evenly



- Better ground cover (better weed control).
- More space between plants so better clover establishment.
- These methods suit higher sowing rates.

### Method 2: Packing seed in wide rows

- Seed packed more tightly in rows.
- Space between rows for weeds (or clover if it’s sown separately, e.g. small seed box).
- Suits lower sowing rates.





## National consistency for farm plans

June's *Good Farming Practice Action Plan for Water Quality* aims to build on efforts made so far and improve water quality nationwide.

"Many farmers have already undertaken a huge amount of work to improve their farm environmental practices over the last decade, including stock exclusion from waterways, effluent management and nutrient management," says Dr David Burger, DairyNZ strategy and investment leader – responsible dairy.

The result of a partnership approach among central/local government and the primary sector, the plan's 21 principles include actions targeting key things that will make the biggest difference in each catchment and across all land users.

Find out more at [fedfarm.org.nz](http://fedfarm.org.nz)

## Farmer nominations open now for DairyNZ board

Dairy farmers with governance and leadership experience have until September 14 to put their nomination in for DairyNZ's Board of Directors.

This year the DairyNZ board is looking for a farmer-elected director to join the team. Final nominations will be accepted until 12 noon Friday, September 14. Ideal candidates would have governance experience, broad dairy sector knowledge and strong commercial skills, financial and strategic expertise.

Nominations are also being taken this year for one farmer to join the DairyNZ Directors Remuneration Committee, which considers and recommends remuneration for directors each year. All farmers paying a levy on milksolids to DairyNZ are eligible to stand for either election.

Levy-payer voting opens October 1 and election results will be announced at DairyNZ's Annual General Meeting (AGM) in Invercargill on October 31. For more information on the process and key dates, visit [dairynz.co.nz/agm](http://dairynz.co.nz/agm)

## Strong public interest in dairy farming exhibition at Waikato Museum

Waikato Museum's exhibition 'Milk Matters: Towards Sustainable Dairying' attracted a whopping 38,969 visitors in the 19 months (December 2016 to June 2018) it was in residence.

Of these visitors, 3044 were students who participated in the museum's education programme, linking with DairyNZ's Rosie's Education.

The exhibition helped families and children learn about dairy farming and the science, technology and practices allowing people to work towards a more sustainable sector.

The ticketed exhibition outperformed the previous exhibition in visitor numbers by 44 percent. DairyNZ was a sponsor and content contributor.



A thumbs-up for the exhibition from August (left) and Indie Smith.

## Healthy hooves, happy cows

DairyNZ has teamed up with vets to develop the 'Healthy Hoof' app, which helps you easily record lameness incidence. It collects the data so you can get to the root of the problem and switch from treatment to prevention – making your cows happier, while saving you time and money.

The app steps you through how to score your herd, and allows you to select the point of discomfort when treating a hoof. About 500 people have already downloaded the app since it was launched last month. Check it out at [dairynz.co.nz/healthyhoofapp](http://dairynz.co.nz/healthyhoofapp)





# Southern Dairy Hub, one year on

A year after its official opening, the Southern Dairy Hub (SDH) is providing Southland dairy farmers with world-class research that farmers have had input into shaping.



Southern Dairy Hub scientists ensure farmers have direct input into its research.

Southland and South Otago farmers and businesses invested \$1.25 million in the Hub through the Southern Dairy Development Trust, while principal shareholders DairyNZ and AgResearch invested \$5 million each.

The Hub, near Invercargill, has been set up into farmlets to run four 200-cow herds. It will address regional issues at scale, by integrating proven and emerging technologies into farm systems, testing farming practices against each other in a scientifically-robust way, while maintaining a benchmark system for comparison.

DairyNZ senior scientist Dawn Dalley says farmers have helped shape the research that's underway on the farm.

"We canvassed the industry down here, which included a workshop with farmers and a session at the first SDH field day, where we identified the issues and then sorted them into themes.

"So, it wasn't a group of scientists who have gone away and come up with the questions. The direction has been driven by regional industry issues," says Dawn.

The three priority areas identified at the sessions were fodder beet, nutrient loss reduction and wintering.

### Research steps

Current research, which will run for the next three years, is testing different types of crop and management decisions to reduce nitrogen (N) loss and improve profit. Farm systems modelling has been used to determine the types of systems that

will be implemented.

"We consulted farmers to define the standard kale and fodder beet systems in Southland and then looked at the management changes we needed to reduce the environmental footprint – mainly focusing on nitrate leaching," says Dawn.

Two of the four farmlets will winter on kale and two on fodder beet, each with differing levels of nitrogen fertiliser and supplementary feed inputs.

Last season, Hub scientists monitored the performance of the cows on four different winter diets. They also regularly recorded reproductive performance, lactation performance, body condition score, mineral levels in the blood and liver enzymes. Results have been used to develop the animal monitoring regime for the systems comparisons.

Meanwhile, AgResearch scientists led by Ross Monaghan have been investigating options for variable width critical source area buffers along the farm's waterways. This winter they've been measuring the nitrate leaching losses from autumn and winter grazed fodder beet and winter grazed kale.

"Ultimately, we want to provide southern dairy farmers with the confidence to adapt their own farming systems, so they can achieve improved environmental outcomes based on evidence from the Southern Dairy Hub," says Dawn.

For more information, including weekly data and updates on research, visit [southerndairyhub.co.nz](http://southerndairyhub.co.nz)

## September events

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
					1	2
3	<b>4 LOWER NORTH ISLAND</b> Tokomaru/Linton Discussion Group: calving catch-up on spring issues, mating and FEI/PKE index.		6	7	8	9
10	<b>11 TARANAKI</b> Mangorei Discussion Group: farm system discussion on current issues and seasonal topics.		13	14	15	16
17	18	<b>19 NORTHLAND</b> Mid Western Discussion Group: Sharemilker Andrew Ahrens hosts discussions on farm systems and mating.			22	23
24	25	26	<b>27 NORTH WAIKATO</b> Taupiri/Orini Ladies Discussion Group: talk about biosecurity on-farm and seasonal challenges affecting farmers in the area.			30

FOR A FULL LIST OF WHAT'S HAPPENING THIS MONTH, VISIT [DAIRYNZ.CO.NZ/EVENTS](http://DAIRYNZ.CO.NZ/EVENTS)

### NORTHLAND

Consulting officer Graeme Peter has returned to DairyNZ's Northland team after spending time travelling and working overseas. Previously the consulting officer for the Far North, Graeme will be working with farmers in DairyNZ's Whangarei West area.

"I am excited to see what I can do in my time out west," he says. "It's an exciting chance to work with some new farmers, and some old faces again, to improve your farm profitability and maximise the start of the new season."

Graeme would love to hear from farmers in this area – find his contact details on the opposite page or at [dairynz.co.nz/co](http://dairynz.co.nz/co)

### BAY OF PLENTY

Are you signed up to DairyNZ's Bay of Plenty Monitor Farms emails?

Farm data is provided by four monitor farms – in Opotiki, Matata, Galatea and Te Puke – and comes to you in a weekly email with local and relevant information. Each farm provides a range of data, comparing it to their previous week, as well as giving an overview of what is happening on-farm. To subscribe go to [dairynz.co.nz/subscriptions](http://dairynz.co.nz/subscriptions)

### WAIKATO

Discussion groups are once again in full swing after slowing down during calving. The focus this month will be on reviewing the calving season and discussing seasonal issues and challenges as we head towards summer.

Discussion groups are available to all dairy farmers and their staff. They're a great way for farmers to share ideas together and discuss solutions.

For more information visit [dairynz.co.nz/events](http://dairynz.co.nz/events)

### TARANAKI

After the busy calving season, now's the time to enjoy some time off-farm, share your knowledge and learn from others by attending one of DairyNZ's discussion groups.

This month, groups will focus on the host farmers' system and management practices. The aim is to identify opportunities and solutions that meet the hosts' future goals and objectives. We'll also discuss any seasonal issues and challenges affecting farmers in the region.

For more information visit [dairynz.co.nz/events](http://dairynz.co.nz/events)

# DairyNZ Consulting Officers

## LOWER NORTH ISLAND

Nicola Bryant has recently joined the Dairy Connect team, DairyNZ's farmer-to-farmer support service, as the Taranaki and Lower North Island coordinator.



If you're seeking information about a specific dairying topic or facing challenges and would like to speak to someone with experience, contact Nicola. She'll put you in touch with a support farmer who best suits your situation.

Email Nicola at [nicola.bryant@dairynz.co.nz](mailto:nicola.bryant@dairynz.co.nz) or learn more about Dairy Connect at [dairynz.co.nz/dairyconnect](http://dairynz.co.nz/dairyconnect)

## TOP OF SOUTH ISLAND/WEST COAST

Do you have any questions about feeding cows in spring? We've collated common questions and answered them in the *Feeding cows in spring* booklet.

Here are some example questions from the booklet:

- If I offer multiple breaks each day, will this increase pasture intake?
- Why is production increased when cows eat more clover?
- Does once-a-day milking in spring reduce feed demand?

Find all the answers by downloading your free booklet at [dairynz.co.nz/publications/feed](http://dairynz.co.nz/publications/feed)

## CANTERBURY/NORTH OTAGO

A new regulation comes into effect from October 1, 2018 that restricts any shortening or removal of tails.

Tail shortening or docking causes pain and makes a cow less effective at swatting flies away. Trimming tails allows you to achieve a safe and comfortable working environment for people without compromising the welfare of cows.

Find out how at [dairynz.co.nz/tails](http://dairynz.co.nz/tails)



## Upper North Island

Head of Upper North Island	Sharon Morrell	027 492 2907
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### Northland

Regional Leader	Tareen Ellis	027 499 9021
Far North	Denise Knop	027 807 9686
Lower Northland	Tareen Ellis	027 499 9021
Whangarei West	Graeme Peter	021 809 569

### Waikato

Regional Leader	Wade Bell	027 285 9273
Senior Consulting Officer Lead	Phil Irvine	027 483 9820
South Auckland	Mike Bramley	027 486 4344
Hamilton North	Aaron Traynor	021 245 8055
Matamata/Kereone	Frank Portegys	027 807 9685
Morrinsville/Paeroa	Euan Lock	027 293 4401
Hauraki Plains/Coromandel	Annabelle Smart	021 242 2127
Te Awamutu	Stephen Canton	027 475 0918
Otorohanga	Michael Booth	027 513 7201
South Waikato	Kirsty Dickens	027 483 2205

### Bay of Plenty

Regional Leader	Andrew Reid	027 292 3682
Central BOP (Te Puke, Rotorua)	Kevin McKinley	027 288 8238
Eastern BOP (Whakatane, Opoitiki)	Ross Bishop	027 563 1785
Central Plateau (Reporoa, Taupo)	Colin Grainger-Allen	021 225 8345
Katikati, Galatea, Waikite/Ngakuru	Jordyn Crouch	021 619 071

## Lower North Island

Head of Lower North Island	Rob Brazendale	021 683 139
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### Taranaki

Regional Leader	Sarah Dirks	027 513 7202
South Taranaki	Sarah Dirks	027 513 7202
Central Taranaki	Sarah Payne	027 704 5562
Coastal Taranaki	Anna Arends	021 276 5832
North Taranaki	Lauren McEldowney	027 593 4122

### Lower North Island

Horowhenua/Wanganui/South Taranaki/Southern and Coastal Manawatu	Kate Stewart	027 702 3760
Wairarapa/Tararua	Abby Scott	021 244 3428
Hawke's Bay	Gray Beagley	021 286 4346
Central/Northern Manawatu/Rangitikei	Jo Back	021 222 9023

## South Island

Head of South Island	Tony Finch	0277 066 183
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### Top of South Island/West Coast

Nelson/Marlborough	Mark Shadwick	021 287 7057
West Coast	Angela Leslie	021 277 2894

### Canterbury/North Otago

Regional Leader	Virginia Serra	021 932 515
North Canterbury	Virginia Serra	021 932 515
Central Canterbury	Natalia Benquet	021 287 7059
Mid Canterbury	Stuart Moorhouse	027 513 7200
South Canterbury	Heather Donaldson	027 593 4124
North Otago	Trevor Gee	021 227 6476

### Southland/South Otago

Regional Leader	Richard Kyte	021 246 3166
South/West Otago	Mark Olsen-Vetland	021 615 051
Central and Northern Southland	Nicole E Hammond	021 240 8529
West Otago/North Eastern Southland	Liam Carey	027 474 3258
Eastern Southland	Nathan Nelson	021 225 6931
Western Southland	Leo Pekar	027 211 1389

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