



FranklinVets

Wearables UPDATE

MARCH 2026

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How Wearables Improve Animal Health Management on Farm

A recent call from a farmer came after several cows triggered health alerts. Further discussion and assessment of the animals raised suspicions of facial eczema, which was confirmed by blood testing. Early detection meant the affected cows were quickly separated and treated with pain relief, minerals, vitamins, and a reduced pasture diet. The wearable data also helped

monitor their recovery, showing improved rumination after treatment and a decline as pain relief wore off. Prevention plans were adjusted, and monitoring of the wider herd identified further affected cows earlier than observation alone.

Wearable technology is becoming a powerful tool for dairy herds, helping farmers and vets identify health issues

earlier and manage animals more confidently throughout the season.

Alerts direct farm staff to animals needing attention, and simple-to-follow flowcharts can guide possible causes and allow early treatment.

For vets on the phone or on farm, wearable data such as rumination rates, activity

changes, or heat behaviour adds valuable context during examinations. It helps assess how long a condition has been developing and supports treatment decisions and recovery expectations.

While individual alerts are useful, the biggest benefit of wearable systems is at the herd level. Regular monitoring of data such as rumination minutes, cycling activity,



Amplify herd health, production and performance with wearable solutions.

1



and heat-stress indicators, alongside production figures and trends, and a visual assessment of animals, allows a more complete picture of the herd's health. This is particularly valuable at key times of the season, such as during the transition period and in the lead-up to and during mating. Early detection of changes in these assessments

allows adjustments in management or feeding to be made while there is still time for them to improve outcomes for the herd.

The graph below shows premating heats in the lead-up to mating for different age groups of cows. In this example, the observation that the 2nd-lactation cows

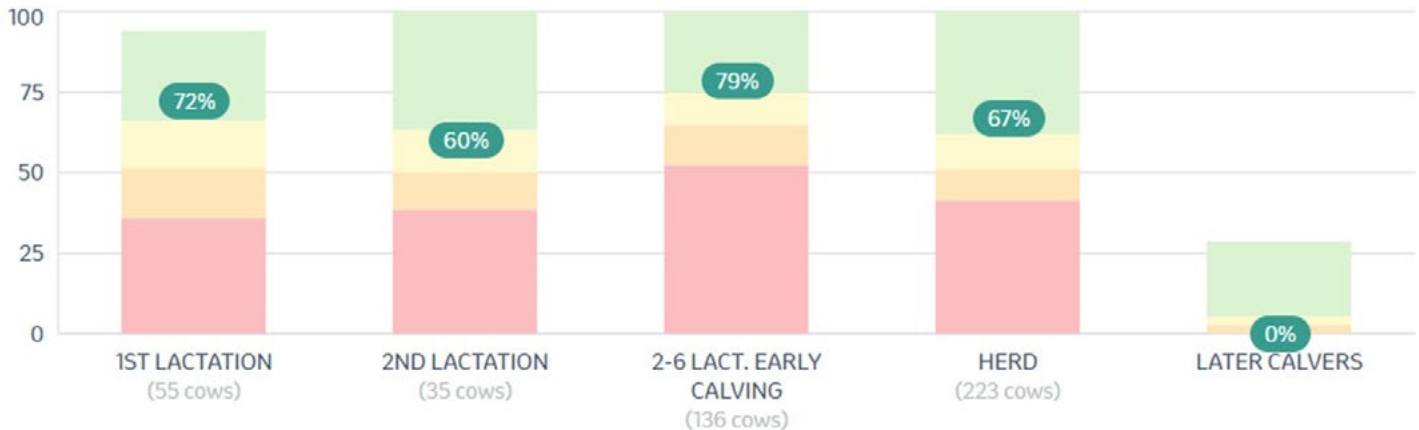
are below target allows further investigation and, if required, adjustments to their management prior to the start of mating.

As vets, we are finding that when data from wearable technology is used to its potential, it can provide early warnings, clearer insights, and better herd level monitoring,

allowing farmers to act sooner, reduce disease impact, and support better outcomes for their cows.

Franklin Vets has cow and herd level tools available to assist you in getting the most from the technology you have invested in. Contact your herd health vet for more information.

21 days before PSM



Using Wearables to Improve Pasture Harvest

GPS tracking wearables have brought major changes to how New Zealand farmers manage grazing. With virtual fencing replacing traditional wire or tape, farmers can now control stock movement more precisely, opening up new options for daily breaks and rotations.

The biggest gains so far have been seen on drystock farms. Many of these farms are limited by steep contour, bush areas, or old fencing layouts, leaving them with large paddocks and little flexibility to adjust grazing intensity. While break fences can work in some places, they are often impractical on hill country. This extensive grazing style usually leads to poorer pasture quality, reduced pasture harvest, and slower regrowth.

Virtual fencing changes this. Large paddocks can be easily divided into smaller grazing areas, effectively increasing stock units per hectare and enabling true rotational grazing. As a result, farmers are reporting better pasture quality, stronger weight gains, and higher pasture productivity.

Most New Zealand dairy farms already use intensive grazing systems, with paddocks sized to allow close control of rotation length and grazing pressure. While the benefits may be less dramatic than on drystock farms, virtual fencing is still opening new opportunities. Farmers can experiment with more precise intra-paddock management, setting up break shapes and sizes that would have been too time-consuming with conventional

gear. Early feedback suggests improvements in pasture condition, fewer issues around gateways and high traffic areas, and better soil structure due to reduced pugging.

Although these strategies are technically possible with reels and standards, time is the real limitation. Splitting a paddock into multiple short breaks to optimise intakes and residuals is achievable – but rarely practical – without virtual fencing.

If you're interested, talk to farmers already using the technology. Many have developed their own grazing styles under the new system. It's opening the door to a whole new world of pasture management.



DR GREG LINDSAY
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Farm Vet & Regional
Manager, Kopu

Helping Cows Through the Transition Period



DR DAVID HAWKINS
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The **two weeks before and the four weeks after calving** are when cows face the highest risk of health issues. Managing this transition well sets cows up for better production and reproductive performance.

Why the Colostrum Period Counts

A key goal is to get cows back to a healthy appetite within **four days after calving**. This marks the end of the colostrum period and shows the cow is recovering well. Cows that eat and ruminate normally soon after calving produce more milk and return to cycling earlier.

Tracking Rumination

Wearable technology now makes it easy to monitor eating and rumination minutes. These behaviours are reliable indicators of cow health.

Research from **Sensehub, LIC, DairyNZ and Dairy Australia** shows a consistent pattern:

- Rumination **drops at calving**
- It should **increase steadily**
- By **Day 4**, rumination should be **higher than the two-week pre-calving average**.

This bounce-back pattern is a strong sign that the cow is transitioning well.

What Affects Recovery

Two main factors influence rumination and eating after calving:

1. Feed Offered

Fresh cows need plenty of high-quality feed. Low allocation or poor feed quality slows recovery.

2. Cow Health

Issues like milk fever, ketosis, retained membranes, mastitis, or pain after calving reduce rumination. Wearables often pick these up early.

When to Act

A cow may need attention if:

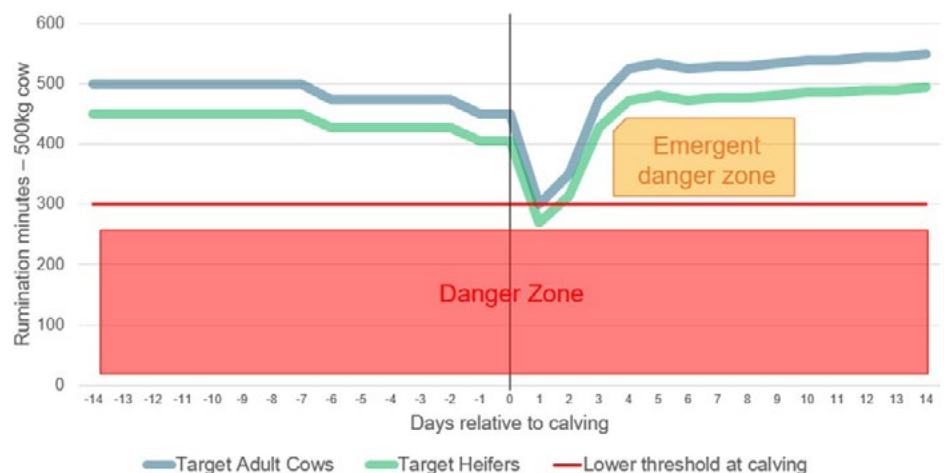
- Her rumination drops **below 60%** of her pre-calving average, or
- She hasn't recovered by **Day 4**.

Check her feed allocation, assess her health, and treat if needed – often with a **starter drench, pain relief**, and veterinary support.

Use the Data!

Wearables give early warnings so you can support cows before problems escalate. Combining good feeding, monitoring, and timely treatment helps cows start their lactation strong.

Rumination targets through the transition period (mins at 500 base)



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Getting More Out of Wearables on Pasture-Based Dairy Farms



DR DAVID HAWKINS
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Veterinary Consultant,
Te Kauwhata

Wearable technology is becoming a valuable tool on many dairy farms, helping with heat detection, drafting, and health alerts. Given the investment in these systems, it makes sense to use the data to its full potential. Understanding how rumination relates to milk production gives insights into optimising cow performance.

Why Rumination Matters

Rumination, or “chewing the cud,” is how cows break down fibre in the rumen. The time a cow spends ruminating each day is strongly linked to:

- How much she eats
- How well her rumen is functioning
- Her overall health
- Her potential milk production.

The amount of **fibre (NDF)** cows consume is a big driver of rumination. Fibre is essential for healthy rumen function. If cows don't get enough, rumen dysfunction can occur, leading to acidosis, disease, and reduced production. On the

flip side, too much fibre limits intake and lowers performance. Getting fibre levels *right* is key.

Using Rumination to Understand Diet Quality

Because rumination is closely linked to fibre intake, wearables provide an easy way to monitor whether cows are getting a balanced diet. Changes in rumination rates may indicate:

- Sudden changes in pasture quality
- Changes in fibre intake
- Early warnings of rumen health issues.

Combining Rumination and Milk Production Data

Looking at rumination on its own is useful but pairing it with milk production data gives farmers a powerful tool. Together, these indicators can help determine:

- Whether production is being limited by poor diet quality
- Whether cows are at risk of rumen dysfunction
- Whether a health issue is emerging
- Whether the herd is performing in the “optimal zone.”

This combined analysis allows farmers to act earlier, adjust feeding decisions, and prevent problems before they reduce production.

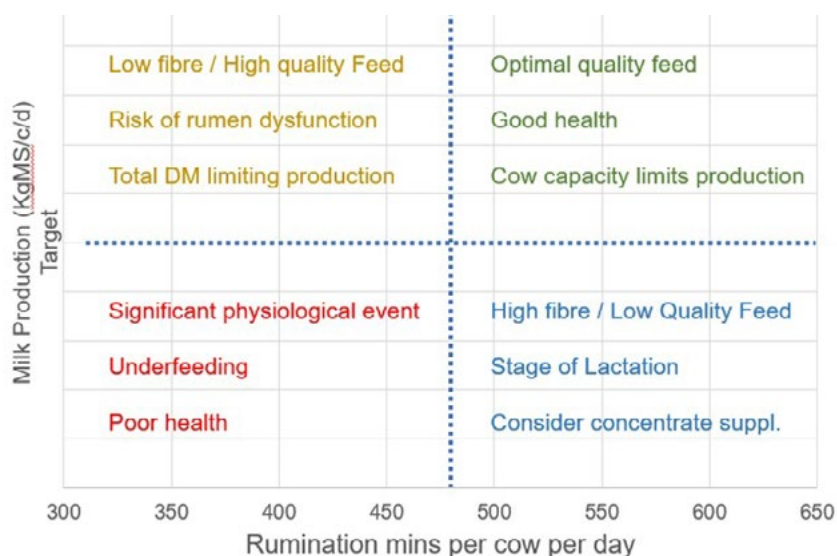
A Simple Quadrant Model to Make It Easy

To help farmers get more value from their wearable data, we've developed a simple quadrant model. This model helps interpret rumination and production patterns so you can quickly identify whether cows are:

- Tracking well
- Limited by diet
- At risk of rumen dysfunction
- In need of urgent attention

If you have wearables, you have the data. Make sure you turn the numbers into practical information that supports cow health and farm productivity through timely decisions.

Rumination vs KgMS Quadrant Model



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How Is Cow Monitoring Tech Changing Cow Breeding Options?



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& Productivity),
Pukekohe

With the rapid growth in cow monitoring technology from collars to ear tags, there has been a significant change in how dairy cows are being bred.

The benefits of reproductive management are a big driver of uptake of this tech, and it has been interesting to see changes in how vets interact with farmers at mating and pregnancy testing times.

Due to the significant investment required in devices, repeater stations, drafting gates, etc., most farmers are looking to reduce costs elsewhere. In most cases, farms are moving to AI only to reduce the cost and other impacts (human health and safety and cow lameness) of having bulls on the farm. With this change, we now have recorded heats and mating data from the pre-mating period right through until the end of mating. This opens up options in reproductive interventions and data analysis that we didn't previously have. It also means there are more options for selective use of different semen types across different cows based on BW, stage of mating, etc., including sexed semen, replacement vs. beef straws, and short-gestation semen.

In terms of veterinary interventions that become available, simpler or more accurate, below are some examples:

- Accurate pre-mating heats- allows tracking compared to target, informing decisions on whether to treat non-cyclers or leave.
- Non-cyclers can be classified as cows that have had a heat and stopped (more likely to have a CL and respond to a PG shot) or cows that have never cycled (requiring a CIDR program)
- Phantom cow scanning- 35 days after the end of the first round of mating, cows that haven't returned to heat can be pregnancy tested, and phantom cows (i.e., empty cows that haven't returned to heat) can be given a PG shot or a CIDR program to give them a second chance of mating before the end of the breeding season.
- The non-return rate can be used as an accurate indicator of conception rate, which, in conjunction with submission rate, provides a good guide as to how mating is progressing, which can guide decision-making around mating length.

- After pregnancy testing, cows that have been confirmed pregnant and that show subsequent heats can be drafted and scanned before dry off to identify any cows that have slipped (typically 1-2% of the herd). This allows these empty cows to be culled rather than dried off with dry cow therapy and being carried through the dry period only to be identified at calving time.

The added benefit of all this data is that it allows us to identify what has gone well

and what needs attention when we review your pregnancy test results at the end of the season. Hopefully, this will allow you to continue improving your herd's performance over time.

If you are already investing in cow-monitoring tech or if you are sitting on the fringes watching, we encourage you to make your vet part of your farm's decision-making team!

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Amplify herd health, production and performance with wearable solutions.

Financial Returns of Cow Wearables in NZ Pasture Systems

*a summary of recent findings**



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Te Kauwhata

Across our practice and NZ, there is increased uptake of cow wearable technologies – such as Halter and Sensehub. The benefits promised include better heat detection, improved animal health monitoring, labour savings, and, in Halter's case, virtual fencing. But the big question remains: do they pay their way in NZ's pasture-based systems?

This article summarises the findings of a 2025 study* looking at three large, well-run North Island dairy farms (700–1,500 cows), all performing above industry averages for reproduction, pasture harvested, and general herd health. The research modelled the likely financial returns from adopting Halter or Sensehub collar systems, based on labour savings, reproductive gains, animal health improvements, and (for Halter) pasture utilisation.

Overall, the study found that wearables deliver real benefits – but not a positive financial return for the three farms studied.

On all farms, both Halter and Sensehub improved performance. However, after costs were included, none of the farms achieved a positive return on investment using typical assumptions.

Wearables improved

1. Labour Efficiency,

This improved through reduced time spent shifting breaks and moving cows (Halter), and supervising heat detection.

- a. Minimum staffing needed in the shed
- b. Roster sustainability
- c. The need for skilled cover during calving and mating
- d. Not always translating into the removal of a full labour unit.

2. Animal Health.

Wearables helped detect issues earlier, reducing severity and treatment costs of lameness, mastitis and metabolic disease. However:

- a. Early detection is not prevention.
- b. Infrastructure (races, yards, cow flow), milking routine, and transition management have greater influence on herd health.

3. Reproduction

All farms already had high heat-detection efficiency (91–92%), so wearables delivered only modest gains – typically \$10–\$12 per cow.

4. Pasture Utilisation (Halter only)

Virtual fencing can improve grazing accuracy in rolling country, but all three farms already manage pasture well, given relatively easy-to-manage topography.

Wearables could pay off when

- Hardware costs drop by ~25%
- Animal health and reproduction improvements are greater than those modelled
- Pasture utilisation increases more broadly, such as on harder topographies
- Baseline performance is lower.

Key Takeaways for Farmers

1. Wearables offer genuine value, especially for labour, safety, and early detection – but not always financial value.
2. Farms already performing strongly may get better returns from infrastructure upgrades, staff training, or system improvements.
3. Wearables should be adopted to solve specific, measurable problems, not because the technology is impressive.
4. Non-financial benefits may still justify adoption for some farms.

We strongly encourage farmers to make the most of their wearable solutions. We have tools to help.



Why was the ROI negative?

There were four main reasons technology did not translate into a positive return on the investment:

- There was little room for improvement on the farms studied compared to targets.
- Minimum staffing needs reduced the ability to capture the dollar value of efficiency gains.
- Technology costs outweighed the benefits.
- Animal health improvements could be observed, but did not always translate into increased profitability.

***2025 D March:** Collars, cost and returns: Assessing the value of cow wearables in NZ pasture systems. Kellogg Rural Leadership Programme – Course 54,



Wearable Technology Considerations



								
Features	SenseHub	Halter	Tru-Test	Tru-Test	Cow Manager	afimilk	GEA CowScout	Smactec
Type	Collar	Collar	Collar	Tag	Tag	Collar	Collar	Bolus
Heat detection	✓	✓	✓	✓	✓	✓	✓	✓
Behaviour monitoring	✓	✓	✓	✓	✓	✓	✓	✓
Rumination	✓	✓	✓	✓	✓	✓	✓	✓
Rumen pH								✓
Water intake								✓
Health alerts	✓	✓	✓	✓	✓	✓	✓	✓
Temperature					✓			✓
Milk sensor option	✓					✓		
Locator		✓	✓				✓	
Virtual fencing		✓						
External software integration	✓	✓	✓	✓	✓	✓	✓	✓
Drafting integration	✓	✓	✓	✓	✓	✓	✓	✓
Phone app	✓	✓	✓	✓	✓	✓	✓	✓
Range	200x500m	Matched to farm	500m	500m	800m	500m	500m	500m
Battery	7y	5y	8y	5y	5y+	5y	7y	5y

Consider also:

- How easy is it to sort and customise groups, data and displays?
- Third party access for veterinarians and farm consultants?

- Are additional features included or add on services – what do these enable? E.g. benchmarking, KPIs, reporting.

Please note this is based on readily available information, technology is frequently changing. Note also that details and feature technology vary between products.



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Wanting to take the next step with wearables tech in your herd, talk to one of our team members today

