

- ▷ A fresh look at energy
- ▷ Batt-Latch news and product development
- ▷ Does your Batt-Latch need repair?
- ▷ Getting the most from your GrassMaster Pro



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OPINION - A Fresh Look at Energy

Since we are now based in Taupō, it's hard to ignore the geothermal industry around here, especially Contact Energy's power stations connected to the Wairakei-Tauhara geothermal field. This field is up to 3km deep, containing steam/water at over 260° Celsius, and Contact's five geothermal plants generate over 8% of NZ's electricity. By the end of 2023, the nearby 174MW Tauhara Power Station will be completed. It has taken just over two years to build, and Contact will then be supplying 12% of NZ's power from this small area's geothermal resource. Geothermal generators are base-load (available 95% of the time) and reduce our use of coal and gas-fired plants like Huntly, while being up to 19 times more efficient than coal in terms of greenhouse gas emissions. In fact, by swapping some fossil fuel generation for Tauhara's new power, it's the equivalent of removing 220,000 cars off our roads.

Contact has plans to build another station beside Te Mihi, just north-west of the original Wairakei power station (online since 1958) and close down Wairakei by 2031. By 2026, they will not be sending any recycled geothermal fluids directly into waterways like the Waikato River. Instead, these fluids will all be reinjected into the field. I like the look of these emission-reducing changes to the energy network. Just as an aside, did you ever wonder where all the geothermal heat comes from?

About 2,900 kilometres below the Earth's crust, or surface, is the hottest part of our planet: the core. ...the vast majority of Earth's heat is constantly generated by the decay of very long-life radioactive isotopes, such as potassium-40 and thorium-232. Radioactive decay is a continual process in the core. Temperatures there rise to more than 5,000° Celsius. Heat from the core is constantly radiating outward and warming rocks, water, gas, and other geological material.

Source: <https://education.nationalgeographic.org/resource/geothermal-energy/>

Also, nearby on the Taupō-Napier Road at Rangitāiki, Todd Energy has approval to build a 400MW solar farm using 900,000 PV panels. This generator will steadily take over a 1,022ha dairy farm, and the power will be patched into the national grid lines which pass nearby. The big difference is that a solar installation isn't baseload, it might only be generating for about 20% of the time, and isn't usually at full power. Still, at peak output, the farm might be selling around \$28,000 of wholesale energy an hour.

That's one thing about extensive land holdings, there are always options!



What are your bright ideas?

We are always happy to hear from
Batt-Latch users and innovators.

Apart from applications with dairy, dry stock,
horses, and (yes!) sheep, we've adapted
a unit to release seed for quail.

We appreciate your feedback, comments and
questions... and your ideas on future applications!

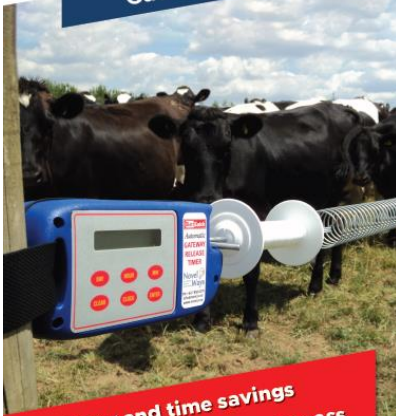
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Batt-Latch

Solar-powered Automatic Gate Release Timer



Labour and time savings
Reduces dairy herd lameness
Improves feed utilisation

Novel Ways
AGRI TECH INNOVATION

Batt-Latch in the Spotlight

The Batt-Latch – A Time Saver!

Our Batt-Latch timer is increasingly popular (in NZ and overseas), and we are continuing the process of sourcing rugged components to make them even more reliable.

Over nearly 27 years, the Batt-Latch (designed and manufactured by Novel Ways Limited) has been making life a lot more pleasant for many dairy and drystock farmers all through NZ and, increasingly, overseas.



The Batt-Latch gate timer is typically used with the supplied portable spring gate kit to hold the herd back in a paddock, raceway or feedpad.

At your pre-set time, the temporary gate's handle is released by the timer's gearbox, and the spring contracts onto the opposite post, alerting the stock that it's time to go. All timers come with a two-year warranty. The manual (if you lose yours) is available to download from our website: <https://www.novel.co.nz/downloads.html>

The payback period for one Batt-Latch timer is estimated to be as quick as just 15-16 days!

Your Feedback

- *The Batt-Latch is a magical piece of equipment that can knock hours off your working week...*
- *... we pretty much had no lameness all of last season...*

Sending Messages Later...

There are a range of apps which enable you to schedule sending texts in the future, for example if you know you won't have time to send them when needed.

Auto Text, Do It Later, SMS Scheduler, Later or AutoSender Apps allow you to pre-program and schedule a text message to be sent out at a specified time. You can also set up recurring messages.

This can extend the functionality of the Batt-Latch Modem Unit. For example, you can schedule a job for more than seven days in the future, edit or change a message before it goes out, or ask for a periodic status update.

Search in the Google Play Store (Android) or App Store (IOS) for options and details.

If you do use any of these apps, please give us some feedback.

The Batt-Latch Modem Unit

Text/Cellular Remote



The modem version of the Batt-Latch timer can be controlled with text commands, in order to:

- *Have it release immediately*
- *Check its status*
- *Delay or cancel the release time*
- *Set new release times*

For example, when away from the farm and late for a milking, the Batt-Latch can be sent a text to delay its release.

Communicating by mobile phone makes the Batt-Latch unit very flexible for changing situations. To start you off, they are supplied in New Zealand with a pre-paid SIM card (specify Spark or Vodafone when ordering) but you must remember to top up online at least once every 12 months, or, for greater convenience, add it to your current service provider's plan.

For overseas purchasers, a local SIM card will need to be installed – choose a reputable local provider to ensure the best possible service/reception. Instructions are on our website.

See our website products page at: <https://www.novel.co.nz/>

Keep up to date with the latest manual – also on our website

Batt-Latch Product Development

From New Zealand and around the world we're told about new and innovative ways of using our solar powered automatic gate timer.

Read more about other applications for the Batt-Latch, on our website:

- *sheep feeding trials in the South Island*
- *horse feeding systems in Denmark and Finland*
- *cell grazing for remote dry stock movement in Manawatu*
- *bird seed timed releases in the Waipahihi Botanical Gardens, Taupō*



Contact us if you would like one of these free cams and instructions to build your own bird feeder using your spare timer!

Break-feeding Sheep

A sheep farmer in the South Island has been helping us work out a suitable gateway system to use with the Batt-Latch timer, for allowing a mob of sheep into a new break. We have ended up with a three-spring 5-metre-wide gateway; the springs being lighter gauge and smaller diameter than the cattle springs we normally use. We have been able to keep the gearbox shaft loading down to below 7kg inline, and, after a small amount of training, his mob of sheep are regularly moving unattended into new intensive breaks, assisted with Kiwitech temporary fencing. It's also possible that shock cord could be used instead of springs, but they would need more adjustments for the changing width at each gateway, and might not retract all the way back across when released. **Interested in finding out more? Contact Novel Ways for details.**

Icelandic Horses

Our agent in Denmark, Ole Trier (Smartfold ApS), was excited to tell us about his customers' use of the Batt-Latch with Icelandic horses.



Photo: <https://www.icelandtravel.is/blog/the-incredible-icelandic-horse/>

When teamed up with a Roller Gate (see below) the horses are released to a new feed area. We're told that horses need regular feeding opportunities not only to maintain energy levels, but the right feeding frequency helps to control physiological, digestive, and behavioural issues.

Utilising the Roller Gate – mounted either permanently or temporarily in a gateway, or on fence standards for break feeding – gives you all of the functionality of the Batt-Latch or Modem Batt-Latch. Resellers in the UK and Europe also report that the Batt-Latch successfully releases horses, allowing them access to new pasture or hard feed, meaning the owner can control the weight gain and condition of the animal. Horse owners find the Batt-Latch useful, as often they are 'absentee owners' for much of the time each day.



Roller Gates are available from Smartfold ApS:

<http://www.smartfold.dk/>

or we have a limited number of these specialised gates for potential NZ customers.

See our website products page at:

<https://www.novel.co.nz>

Batt-Latch Servicing and Repairs

We've published a handy guide for when your Batt-Latch timer needs service or repair.

<https://www.novel.co.nz/>

Please ensure that any timer returned to our Taupō workshop for repair:

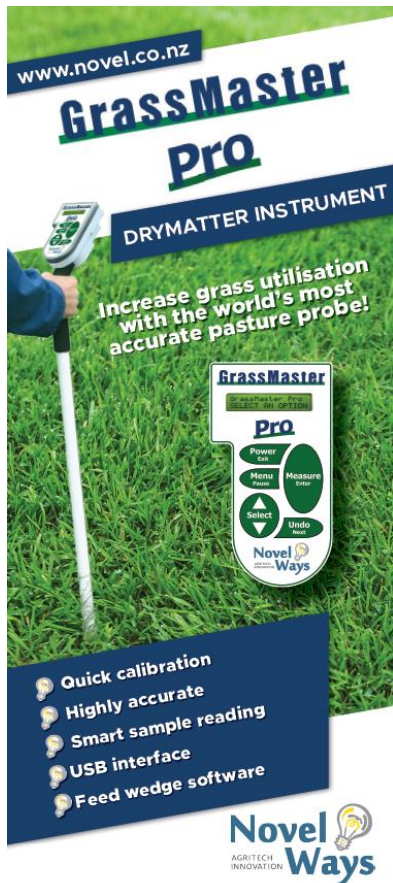
- is clean, so we don't spread anything around
- includes contact details and a description of the issue(s)
- identifies any new or spare parts required, for example, a strap, full spring gate kit

Warranty

While each new Batt-Latch has a two-year warranty, we will charge for damage caused by extreme external forces, even if the unit is otherwise within a warranty period.

See our full servicing and repair guide online for details.





Manufactured exclusively by Novel Ways, the GrassMaster Pro uses the well-established capacitance method to estimate drymatter.

It is highly portable and easy to use, is not affected by pugged pasture or hills, and can be used in damp conditions.



Free for use with all GrassMaster products, GrassTrack supports the storage of 800 paddocks - it imports and exports data to EXCEL. It is suitable for larger farms and forage cultivar trials.

These quadrat readings (graphed, right) were taken on a chicory/ryegrass/clover mix paddock and then compared to actual weighed drymatter.



Getting the most out of the GrassMaster Pro

Using electronic signals, the hand-held GrassMaster probe senses the water trapped inside the nearby grass blades, and uses a recent calibration to give a repeatable average of the drymatter in the paddock. The resulting figure is usually given in kilograms of drymatter per hectare (kgDM/ha).

The rugged and dependable GrassMaster Pro holds the average drymatter figure for all paddocks on the farm, and this very useful information can be read off the screen or downloaded to a computer.

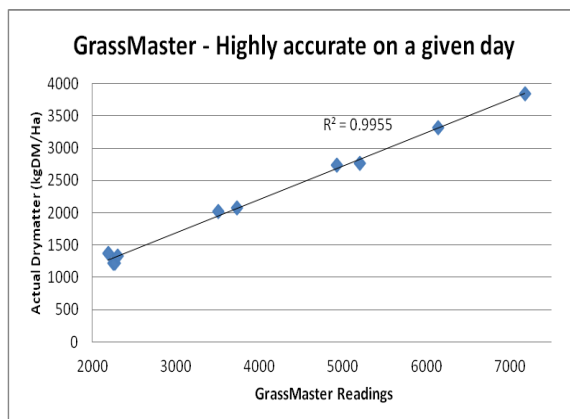


Extra profitability on farms can result from:

- using better grass cultivars,
- having less pugging and damage from improved stock and pasture management,
- reducing reliance on supplements,
- using fertilizers carefully,
- improving Metabolisable Energy of the grass grown,
- increasing top-soil depth and quality.

Many of these outcomes rely on initial monitoring of the current situation, and accurately measuring changes and improvements. At RRP NZ\$1,995 + GST, the GrassMaster Pro drymatter instrument should be a highly cost-effective starting point.

The GrassMaster Pro is usually calibrated within minutes at the start of the walk by both probe measuring and carefully estimating kgDM/ha in one low cover area and one area with high forage cover. Once the brisk farm walk is completed by any staff member (you can take data from the side of a quad bike too), the GrassMaster information can be used to quickly create a feed wedge graph, total feed available, and a host of other trending data.



Recent trials also indicate that, once calibrated, the GrassMaster Pro will closely match even highly experienced whole paddock visual assessments of similar forage mixes. Put simply, it's great at grading cultivar plots or paddocks!

Research shows that regular estimates of herbage mass **can improve profitability of pasture-based dairy systems**. By measuring pasture cover, feed supply and demand can be better matched, reducing wastage and saving some imported feed costs – a potential difference of up to \$100,000!

Read more on our website or visit Grazetech - our business associate's website: <https://www.grazetech.com.au/page/articles-and-information/>

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