

## Dissolving urea

Urea is very easy to dissolve. This process can be done with either tank agitation or by using a mixing tank and a water pump to recirculate the solution.



To make dissolving urea even easier,  
Donaghys are offering a  
**5,000L MIXING STATION**  
with tank, pump and fittings  
worth over **\$3,000**

to customers who purchase a qualifying amount of LessN.

Please call 0800 942 006 to speak to your local  
Territory Manager for the details of this promotion.

\*Conditions apply.

## Testimonials

"Last year when LessN first came out I decided to experiment and sprayed 1/3 of a paddock strip with straight urea – 1/3 in the middle without spray and 1/3 strip with urea plus LessN.

The growth rate of the LessN area was amazing. I invited Tim Rogers the Donaghys Rep and Mike Morgan of RD1 Matamata to come and have a look. I asked them to pick out the different areas. They did this to within millimetres and then found that the LessN area had grown 1/3 as much again as the urea only area. The plant leaf was longer, stronger and the root system up to 45mm deeper than anything else.

I am definitely using LessN again this year."

**-Callan McGrath, Matamata**

"I have used LessN on my pasture for the last 4 rotations halving my usage of urea and saved \$1,300 each rotation after costs of application.

The Cost saving benefits were attractive when I first looked at the Less N system and liked that I was only using 3 ton of urea instead of 6 ton but the other benefits were that I didn't have to wait for rain to apply it and the results were clearly visible.

I apply it at a 100 litre water rate per hectare as I have a small sprayer and having the Mixing station supplied by Donaghys has made it simple to have it, all set to go so I just pump the dissolved urea straight into my sprayer and follow the cows.

This is hassle free and easy to set up, it only takes me a short time to mix a ton of urea in the tank and is not time consuming at all.

I am happy to use a new product if I see the benefits of maintaining and growing more grass so I only need to use very little additional supplement feed in the season.

I also find talking to other farmers they are unsure of the ease of use of LessN but I tell them they can buy their own sprayer with the money they save using this system."

**-Ian Rushbrooke, Reporoa**

"Firstly the mixing station is easy to mix with. It is very convenient. I noticed a much more even coverage of growth on my paddocks. There is a better quality of feed, the cows do better and a much better recovery of growth after grazing. There was little response in colder conditions."

**-Lloyd & Sharon Vickers, Hikurangi**

All figures are correct at time of printing August 2009.

WILSON 18220

# Halve urea use, grow more pasture, faster and cheaper.



**LessN**  
NITROGEN UTILISATION ENHANCER



FOR MORE INFORMATION  
FREEPHONE 0800 DONAGHYS

**0800 942 006**

[www.donaghys.co.nz](http://www.donaghys.co.nz)

or see your local rural supplier

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[www.lessn.co.nz](http://www.lessn.co.nz)



Donaghys LessN is a natural microbial based nitrogen enhancer, formulated and extensively trialled specifically for use in combination with dissolved urea fertilisers.

LessN enhances the plants ability to take up the nitrogen directly through the leaf. By spraying on the LessN system, (dissolved urea and the LessN additive), the fertiliser is rapidly taken into the leaf in a form that the plant can instantly use to convert into plant protein and growth.

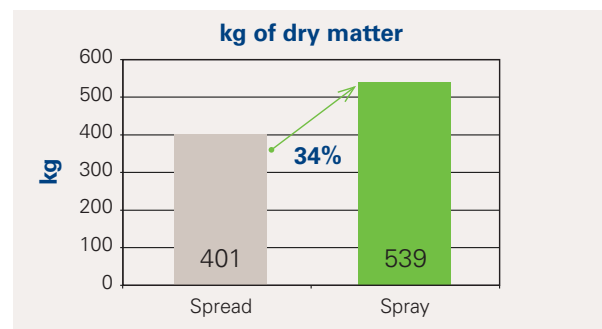
The LessN system is extremely efficient with over 95% of the nutrient applied being able to be turned into plant growth. There are virtually no losses to the environment through volatilisation to the atmosphere or leaching into the water system. The speed at which the nitrogen is converted to plant growth means you avoid the lag time experienced with the spread application of urea. The pasture recovery after grazing is also enhanced with the plant being better equipped to come away and grow again. This rapid uptake of nutrients and post grazing recovery means shorter rotations and increased production.

The LessN system is so efficient that you can get 2.5 times the nitrogen response you would normally expect from the spread application of urea. Due to the increase in nitrogen response and the fact that you can cut the amount of urea you apply by half, dry matter production costs can be reduced by over 37%.

## Grow MORE Pasture

Donaghys has carried out one of New Zealand's largest pasture studies with over 100,000 individual pasture measures. In 53 fully replicated and peer reviewed clover based trials (11 of which were carried out by leading independent crown research institutions) the LessN system is proven to grow more grass than spread urea and this is using a half rate of urea.

When comparing a spread application of 80kg urea to the LessN system of 40kg urea and 3lt of LessN on average you will grow 34% MORE pasture.



\*based on Donaghys in-house trials comparing 80kg urea spread to 40kg urea and 3 litres of LessN sprayed. Nitrogen response for spread averaged 10.9kg/DM/kgN, while the sprayed averaged 29.3kg/DM/kgN. Trials were conducted over an average of 36.5 days

## Grow pasture FASTER

Due to the rapid uptake of nitrogen through the leaf the LessN system has been shown to increase the rate of pasture growth. A strategic approach can then be to shorten grazing rotations to suit management requirements and over the course of the growing season, to have the option of an extra grazing rotation.

Short grazing rotations are more efficient with the LessN system. Because of the rapid uptake and utilization of nitrogen, the nitrogen is not so prone to be wasted when grazing commences. With spread urea the nitrogen is quite often still in the plant waiting to be converted in to plant growth. This unutilized nitrogen is consumed by the cows and may possibly lead to nitrate poisoning, but definitely leads to high nitrate levels in the urine which is a major source of nitrate leaching.

Under the LessN system, the nitrogen will have had an optimal chance to be converted into protein and actual pasture growth. As seen in extended trials, LessN system treated pasture also has improved palatability and a greater relative recovery of pasture growth after grazing.

## Grow pasture CHEAPER

When taking the extra pasture produced under the LessN system and dividing it by the cost to produce you can reduce the cost of dry matter production by over 37%\*, from 16 cents per kg to 10 cents per kg.

If you then take the extra pasture produced under the LessN system and convert it to additional milk solids your milk payout will increase by over 15%.

Costings Using a Contractor for Application	Spread	Sprayed
<b>Costs \$ per ha</b>	<b>Urea 80</b>	<b>LessN 40</b>
Urea including freight and application	\$62.00	\$48.00
LessN including freight		\$17.25
Lime required to counteract urea	\$2.26	\$1.13
<b>Total Cost of Application per ha</b>	<b>\$64.26</b>	<b>\$66.38</b>
N Response (kgDM per kg N) ex trial results		25.40
Average N response taken from published data	11.00	
Incremental dry matter grown (kg per ha) ex trial results		467.36
Estimated incremental dry matter grown (kg per ha) from published data	404.80	
<b>Cost of incremental dry matter grown (cents/kg DM)</b>	<b>\$0.16</b>	<b>\$0.14</b>
<b>This reduces the cost of the incremental dry matter grown by</b>		<b>10.53%</b>
kg of milk solids @ 15kgDM/kgMS	26.99	31.16
Revenue based on milk payout	\$122.79	\$141.77
<b>This increases the milk payout by</b>		<b>15.45%</b>
Incremental payout		\$18.98
Less cost of application variance		\$2.12
<b>Net Upside of the incremental MS payout/ha/application</b>		<b>\$16.86</b>

Costings Based on Self Application	Spread	Sprayed
<b>Costs \$ per ha</b>	<b>Urea 80</b>	<b>LessN 40</b>
Urea including freight	\$52.00	\$26.00
LessN including freight		\$17.25
Estimated farm labour and fuel costs	\$1.86	\$3.09
Lime required to counteract urea	\$2.26	\$1.13
<b>Total Cost of Application per ha</b>	<b>\$56.12</b>	<b>\$47.47</b>
N Response (kgDM per kg N) ex trial results		25.40
Average N response taken from published data	11.00	
Incremental dry matter grown (kg per ha) ex trial results		467.36
Estimated incremental dry matter grown (kg per ha) from published data	404.80	
<b>Cost of incremental dry matter grown (cents/kg DM)</b>	<b>\$0.14</b>	<b>\$0.10</b>
<b>This reduces the cost of the incremental dry matter grown by</b>		<b>26.73%</b>
kg of milk solids @ 15kgDM/kgMS	26.99	31.16
Revenue based on milk payout	\$122.79	\$141.77
<b>This increases the milk payout by</b>		<b>15.45%</b>
Incremental payout		\$18.98
Plus the saving in the cost of application		\$8.64
<b>Net Upside of the incremental MS payout/ha/application</b>		<b>\$27.62</b>

**All figures assume:** Urea cost including freight @ \$650.00 per tonne, (\$0.65 per kg). LessN RRP \$5.75 per L. Spreading cost \$10.00 per ha. Spraying cost \$22.00 per ha. Labour cost \$14.00 per hr. Diesel cost \$23.10 per hr. Milk Payout \$/kgMS \$4.55. Fuel consumption based on a 80KW(107HP) tractor working @ 75% power @ 0.35L/per kW/per hour, diesel @ \$1.10/L. Spreading at 20.0 ha per hour. Spraying at 12.0 ha per hour.