

# EASY LIQUIDS for pastures

## EASY LIQUIDS fertiliser guide

Product	Maximum temp. for 5 days after application	Crop stage	Application method	Product rate	Nutrient applied (kg/ha)	
					N	S
EASY N	Less than 20°C	1 to 3 days post grazing	Aerial or flat fan nozzles	Up to 100L/ha	Up to 42.5	
EASY N	Greater than 20°C	Post grazing	Streaming nozzles or dribble bars	Up to 140L/ha	Up to 60	
EASY NS	Less than 20°C	1 to 3 days post grazing	Aerial or flat fan nozzles	Up to 110L/ha	Up to 41	Up to 8
EASY NS	Greater than 20°C	Post grazing	Streaming nozzles or dribble bars	Up to 150L/ha	Up to 55.5	Up to 10.5
EASY N	Not applicable where product is applied with irrigation water	At any time	Via centre pivot	2.3 - 4.6 L/ha/day	1 - 2/day	
EASY N	Not applicable where product is applied with irrigation water	Post grazing	With Irrigation	Up to 200L/ha	Up to 85	

## Why use EASY LIQUIDS?

EASY N<sup>®</sup> fertiliser is ideal for strategic applications of nitrogen to boost pasture growth at key periods and fill the feed gap.

Because EASY N contains approximately one quarter of its nitrogen as nitrate, it can provide quicker responses on cold soils than urea.

Its nitrate component also makes it less prone to volatilisation losses than urea.

Nitrogen is a mobile nutrient in soils, so if not utilised by the pasture it can be lost through volatilisation, leaching and denitrification. This makes smaller, repeated applications of nitrogen (e.g. 50 L/ha of EASY N after each grazing) more efficient. EASY N's application flexibility makes it ideal for farmers taking the 'little and often' approach to nitrogen application.

EASY N can also be beneficial where a spray is needed to help pastures recover from waterlogging.

Where sulfur is required, EASY NS<sup>™</sup> fertiliser at up to 150 L/ha would suit many pastures. EASY NS contains sulfate and elemental sulfur. When soil sulfur levels are low and a quick plant response is required, it is best to use fertilisers containing sulfate sulfur.

EASY N can also be blended with EASY KS<sup>®</sup> fertiliser where potassium is required. EASY N and EASY KS can only be blended in ratios of 1:4 or 4:1 (refer to the compatibility chart in the EASY LIQUIDS<sup>®</sup> manual for more details).

Also keep in mind the following points when using EASY LIQUIDS in pastures.

- Some leaf burn will occur when applying EASY N using aerial spraying or flat fan nozzles. Clover is more sensitive to burn than ryegrass.
- Avoid aerial or flat fan sprays on new leaf re-growth (>3 days post grazing) as decreased pasture utilisation may result.
- Avoid aerial or flat fan applications when dew is present on pasture.
- Streaming nozzles should be used when applying EASY Liquids in summer.
- Do not apply prior to grazing.



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# Application options

## Irrigation

Higher rates of EASY N can be applied to pastures by irrigation than other methods without risking leaf burn because of the high dilution rates achieved.

**Fixed line sprinklers** – Inject the liquid fertiliser into the lines over a reasonable period of time, e.g. the mid third of the shift, leaving the last third to flush the lines and wash any fertiliser solution from the leaves.

**Centre pivots/laterals** – This is a very convenient way to supply nitrogen to ryegrass pastures. EASY N can be applied every seven to 10 days. Calculate rates based on 2.3 to 4.6 L/ha of EASY N per day. For example, on a seven day irrigation interval, apply 16.1 to 32.2 L/ha of EASY N per irrigation. If using centre pivots, travelling booms or laterals, injection into irrigation water needs to be continuous. Centre pivots/laterals should be flushed with pure water at the completion of the fertiliser injection. If the pivot is set for two revolutions, inject the fertiliser in the first rotation and straight water in the second rotation.

**Flood irrigation** – Use a Constant Head Tank at the water wheel, in channel or at the bay outlet to add EASY LIQUIDS to the irrigation. EASY N can be applied at 70 to 140 L/ha post grazing. Flood the bay for 20-25% of the irrigation interval without fertiliser. For example, if the bay takes four hours to irrigate then apply water for one hour (25%), then introduce the EASY N over the following three hours. This allows a water-only wetting front to proceed down the bay into the tail drain, maximising nitrogen distribution and minimising fertiliser losses to the tail drain. Do not run EASY N or EASY NS in channels longer than 500 metres to avoid ammonium stripping out.

### Using a water wheel or pump

If EASY N is applied at the water wheel, then channels should be self-draining to avoid bringing fertiliser back into the channel. The wheel or pump will agitate the water and fertiliser, mixing them evenly for an even distribution over the bay.

### Channel or Bay outlet

Numerous distribution points across the channel or bay outlet will help generate an even mixture of fertiliser and water. For example, if the channel is two metres wide, it is advisable to have at least six dribble outlets or introduce the fertiliser prior to a siphon/culvert to encourage agitation.

## Ground sprays

Up to 100 L/ha of EASY N can be applied using streaming nozzles, aerial spraying or flat fans immediately after grazing under good moisture conditions. Guidelines on when to use aerial spraying, flat fan or streaming nozzles are listed on page 1. These guidelines should be followed to avoid excessive leaf burn and subsequent decreases in pasture utilisation.

Follow-up rain or irrigation will help to carry the fertiliser into the soil and plant root zone.

Be aware of the specific gravity of EASY N when using ground sprays. A tank of EASY N is heavier than a tank of water and may over burden the application system.

## Application in waterlogged conditions

Aerial sprays of up to 20 L/ha of EASY N can be useful in helping pastures overcome waterlogging stress. Ideally, spray the pasture before waterlogging occurs. Otherwise, spraying should not commence until the pasture shows signs of growth.

In the wet, consider:

- a four wheel motorbike and small boom spray
- helicopters and aeroplanes.

For more information of application systems for applying EASY LIQUIDS, specifically through boom sprays and fertigation systems, please refer to the application section of the EASY LIQUIDS manual.

## Minimising or avoiding leaf burn

It is impossible to avoid leaf wetting when applying EASY LIQUIDS using ground or foliar sprays in pastures. In most situations, some leaf burn will occur. This will not necessarily reduce dry matter production or utilisation, provided the following rules are followed. If in doubt, use streaming nozzles.

Foliar burn can be minimised by applying the fertiliser immediately after grazing when there is less leaf material present. If applying EASY LIQUIDS fertilisers in a ryegrass or ryegrass/clover pasture using aerial spraying or flat fan nozzles, ensure the application is made no later than three days post grazing to avoid burning the new emerging leaves. After this time, streaming nozzles can be used.



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The following tips can help minimise leaf burn:

- Use streaming nozzles or dribble bars so that as much of the fertiliser solution as possible runs off the leaves onto the soil.
- When using aerial spraying or flat fan nozzles, apply the fertilisers under cool conditions or when a rainfall or irrigation event is imminent. Maximum daily air temperatures of less than 20°C for the three days following application are ideal.
- Avoid applying EASY LIQUIDS in aerial sprays or with flat fan nozzles when dew is present.
- Streaming nozzles or dribble bars are best for spring, summer and early autumn applications (during hotter weather).

## Pasture growth

EASY N can be used to generate additional feed on farm, reducing bought in feed. Home grown feed can be the cheapest source of feed if it is well utilised. Before applying EASY N, ensure the additional forage produced can be well utilised by developing a feed plan.

EASY N can be effective at the onset of autumn, when clover growth slows down as soil temperatures decline and the pasture becomes nitrogen deficient. This is where strategic topdressing of EASY N is useful. For example, if you apply 30-50 kg/ha of nitrogen as EASY N you could expect to grow an extra 10-12 kg DM/kg N.

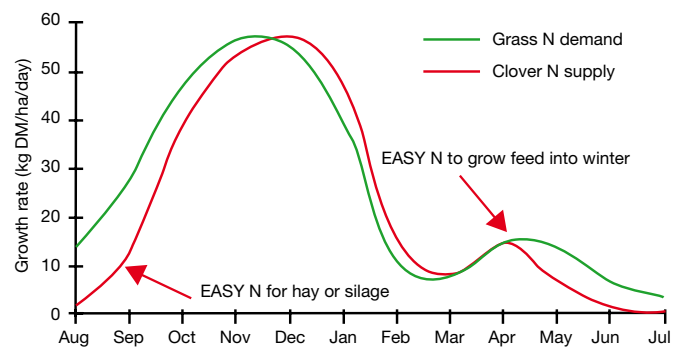
The response to an application of EASY N is limited by the adequacy of soil moisture, soil temperatures, the right soil pH and the major nutrients such as phosphorus and potassium.



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## Nitrogen supply



The relationship between potential grass yield and the ability of clover to supply the total N needs of the pasture (the arrows indicate periods of the year when the N demand of the grass exceeds the clover's ability to supply).

Source: Richard Eckard, University of Melbourne 'Strategic Nitrogen Fertilisation for Dairy Pastures'

## Grazing management

A grazing management plan that focuses on utilising the additional feed produced can significantly enhance the value of EASY LIQUIDS applications.

Pastures should be grazed fairly short (1200 to 1500 kgDM/ha) as quickly as possible. Fertiliser application is best following grazing.

Allow at least 21 days after applying nitrogen before allowing grazing on the pasture again to minimise the risk of nitrogen related disorders in stock.

Hungry or unadapted animals should not be given unrestricted access to nitrogen fertilised pastures.

**EASY** Liquids



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