



Know Your Stuff With Dr Will Talbot

Maximising Your Nitrogen Fertiliser Response for Dairy Pastures

Key Points

To get the most out of your nitrogen (N) fertiliser, keep these key points in mind:

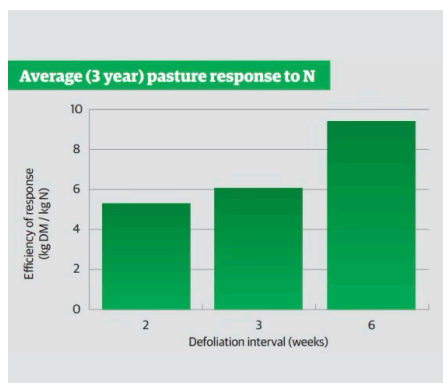
- **Timing of Application:** Apply N 3-4 weeks before you need the additional feed.
- **Growth Multiplier:** Nitrogen acts as a growth multiplier. Apply it when pastures are actively growing. You can also see good responses in late winter or early spring when the soil is very N deficient.
- **Grazing Management:** Allow the pasture time to respond before grazing. Ideally, avoid grazing for about 4 weeks after application. This gives the pasture time to uptake the N, convert it to proteins, and express the growth response.
- **Efficient Rates:** Applications between 25-50 kg N/ha in a single application are the most efficient and practical.

Growth Conditions

- Apply N fertiliser to actively growing pastures not limited by moisture, temperature, or other factors.
- Avoid extremes in soil temperature (e.g., below 5°C or above 30°C for ryegrass-based pastures) and soil moisture (near wilting point or saturation).
- Useful responses will occur in late winter and early spring due to soil N deficiency (low N mineralisation, low clover growth/N fixation and recent N leaching), when the mismatch between pasture supply and animal demand is greatest.

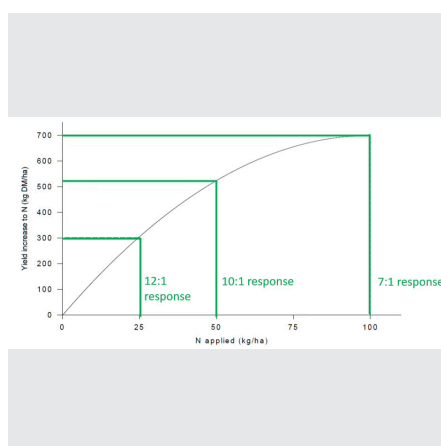
Typical efficiency of response and durations			
	Unirrigated	Irrigated	Duration
May/June/July	5-10*	5-10*	12-15 weeks
Aug/Sept/Oct	10-20	10-20	8-12 weeks
Nov/Dec	15-20	15-20	6-8 weeks
Jan/Feb	-	10-15	6-8 weeks
Mar/Apr	10-15	10-15	8-12 weeks

Grazing Management



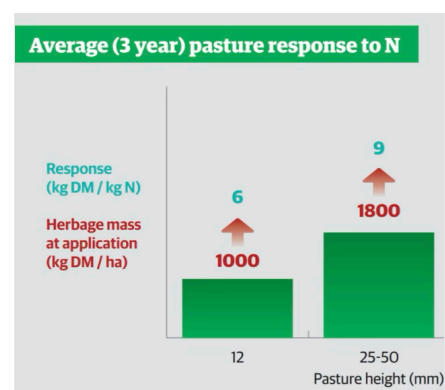
- It takes time for plants to take up N, convert it to protein, and express a growth response.
- Avoid grazing up to 4 weeks after application to maximise response.
- Balance is key: avoid excessive spelling to prevent shading of clovers by grasses and maintain pasture quality.

Application Rate



- Applications between 25-50 kg N/ha are most efficient and practical. The rate applied should be adjusted based on the feed requirements.
- The efficiency of pasture yield response declines slightly between 25 and 50 kg N/ha but drops significantly above 50 kg/ha.
- A commonly applied rate is 25-30 kg N/ha, with increases up to 50 kg N/ha if more feed is needed.

Leaf Grows Leaf



- Apply N fertiliser when there is enough pasture cover (more than 1500 kg DM/ha) to ensure a good response.
- Avoid applying N to hard grazed paddocks.

N-Protect* (Urease Inhibitor)

- Use a urease inhibitor coated urea, like N-Protect, from spring to autumn to reduce volatilisation losses.
- On average, 18% of N applied is lost during these seasons, reduced by 50% with N-Protect.



*N-Protect is registered under the ACVM act. Use as per directions. N-Protect - registered pursuant to the ACVM Act 1997, No.P010198.

By following these guidelines, you can maximise the efficiency and effectiveness of your nitrogen fertiliser applications.

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