



## 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.

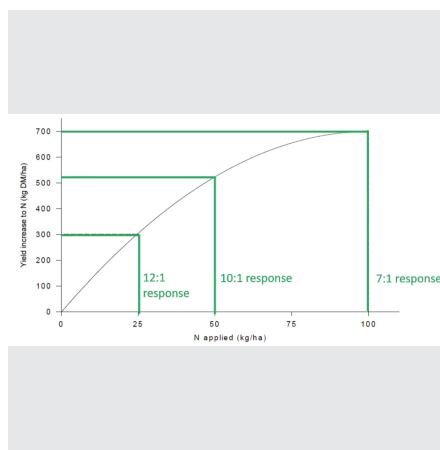
Typical efficiency of response and durations			
	Unirrigated	Irrigated	Duration
May/June/ July	5-10*	5-10*	12-15 weeks
Aug/Sept/ Oct	10-20	10-20	8-12 weeks
Nov/Dec	15-20	15-20	6-8 weeks
Jan/Feb	-	10-15	6-8 weeks
Mar/Apr	10-15	10-15	8-12 weeks

## Grazing Management



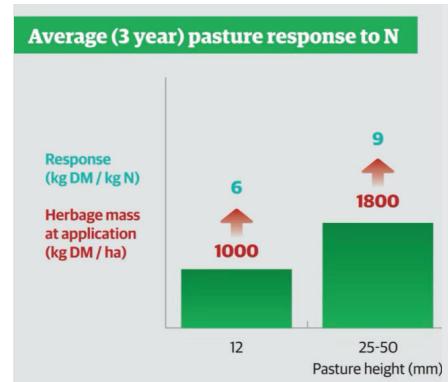
- It takes time for plants to take up N, convert it to protein, and express a growth response.
- Avoid grazing up to 4 weeks after application to maximise response.
- Balance is key: avoid letting the pasture sit ungrazed too long to prevent shading of clovers by grasses and to maintain pasture quality.

## 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.



Want to know more? Talk to your local Agri Manager or call our Customer Centre on 0800 100 123.