

eNpower®

Smarter nitrogen for Australian Growers

eNpower®

Why choose eNpower®?

eNpower® helps you get more out of your nitrogen investment.

As an enhanced efficiency fertiliser, eNpower is designed to minimise nitrogen losses, improve nitrogen use efficiency, and maximise return on investment. With nitrification inhibitor technology, proven through rigorous testing and trials, eNpower helps keep nitrogen where it belongs – in the soil, available to your crop.

With growing awareness of emissions from nitrogen fertilisers, as well as Reef Regulations in some growing regions, it's not practical, profitable or possible to just apply more nitrogen to offset the losses. Instead, use eNpower to get the most out of your applied nitrogen. Protect your fertiliser investment and ensure your nitrogen stays in the system.

eNpower complements existing agronomic management strategies, such as soil testing, nutrient budgeting, nitrogen fertiliser product selection and application timing which combine to optimise productivity.

HOW ENPOWER WORKS

eNpower is Incitec Pivot's patented nitrification inhibitor DMP-G, the next generation of DMP based inhibitors, which slows the nitrification of ammonium-nitrogen to nitrate-nitrogen. By matching nitrate-nitrogen formation to crop demand, less nitrate nitrogen is available to either denitrification or leaching losses.

- eNpower is a bacteriostatic, which effectively 'puts to sleep' the bacteria responsible for naturally converting ammonium through to nitrate.
- Nitrogen in the nitrate form is subject to both denitrification (N_2O and N_2 gas) and leaching losses throughout the season, especially under soil water conditions with greater the 60% water filled pore space (irrigated or high rainfall systems).
- eNpower has the capability to keep nitrogen in the ammonium (NH_4^+) form, which binds to the negatively charged clay particles and organic carbon fractions in the soil. Once held by clay particles (cation exchange sites), risk of nitrogen being carried out of the root zone by heavy rain or irrigation is reduced.
- Incitec Pivot research trials have demonstrated delayed nitrification of ammonium nitrogen from fallow N applications (e.g. June to September in traditional cotton regions), resulting in increased yields with the same N application rate or equivalent yields with lower N rates.
- Plants can take up both forms of nitrogen, ammonium and nitrate, meaning eNpower treated nitrogen is always plant available.

MADE FOR AUSTRALIAN FARMERS

eNpower was developed by the Incitec Pivot Research & Development and Agronomy teams, for Australian growers, with Australian conditions in mind, helping you get the most from every kilogram of nitrogen.

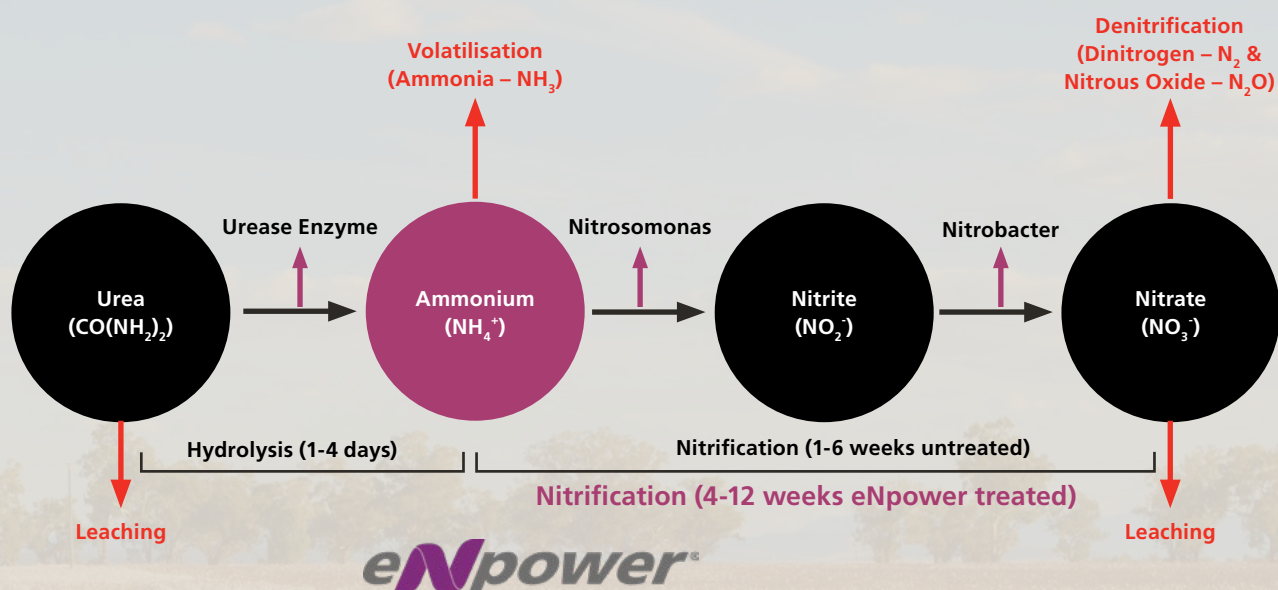
Proudly developed, tested, and patented in Australia.

Designed for Australian climate and soils.

Backed by years of Incitec Pivot agronomic research.

Stable formulation well suited to fertiliser blends

Figure 1: Nitrogen cycle. eNpower delays nitrification of ammonium to nitrate.



Source: Incitec Pivot, 2026.

KEY BENEFITS

- eNpower is coated using **next generation technology** that ensures uniform application and superior coverage of fertiliser granules.
- Reduces nitrogen loss by up to 85%^{a, b}** keeping more nitrogen available to the crop.
- More flexible application timing – apply ahead of rain or irrigation knowing **you have protected your nitrogen investment**
- Higher nitrogen **uptake efficiency**
- Reduces** greenhouse gas emissions
 - » **eNpower reduces denitrification**, lowering emissions of nitrous oxide, compared to untreated nitrogen.
 - » Nitrous oxide has 265 times the global warming potential of carbon dioxide (CO_2), can remain in the atmosphere for more than 100 years and is an ozone-depleting substance.

APPLICATION GUIDELINES

eNpower can be used in fallow or pre-plant in irrigated crops where high rates of nitrogen are applied.

PLACEMENT

Furrow irrigation		Overhead irrigation
Sub-surface banded	Broadcast / spread	Sub-surface banded or Broadcast / Spread
10-15cm below the bottom of the water furrows Adequate soil consolidation, ensuring seed safety and reducing runoff potential.	Apply fertiliser before hilling up / bed forming so fertiliser will be mixed into the soil. For already formed hills / beds, depth of incorporation and position of fertiliser in hill / bed will be influenced by soil mixing and soil movement during operation.	Ensure fertiliser is adequately covered by soil.

RATE

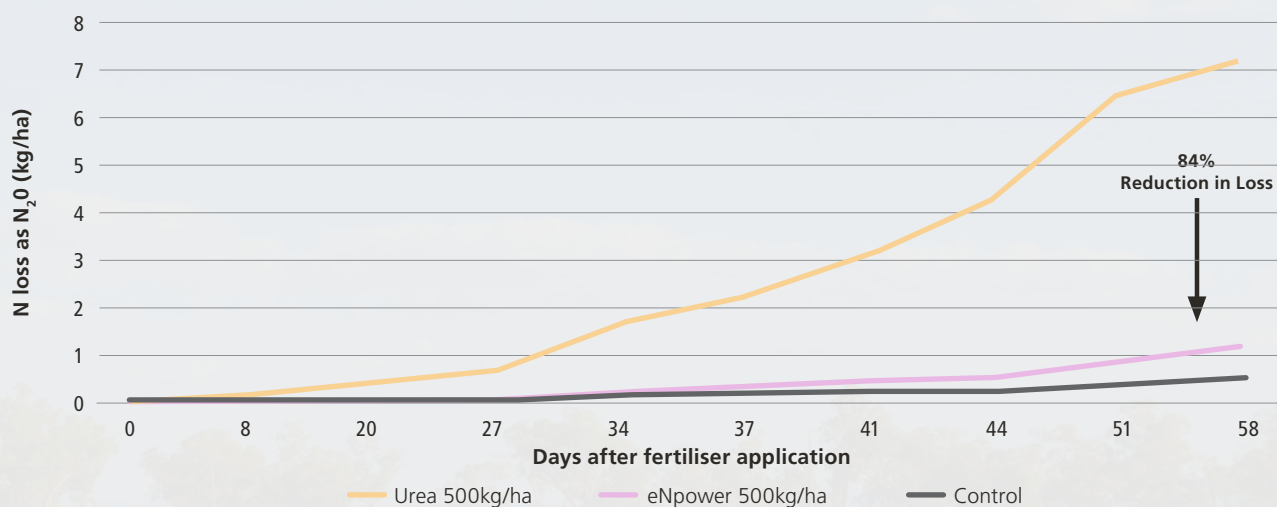
Applying nitrogen rates above crop demand will increase nitrogen losses. Selecting nitrogen rates based on realistic crop yield targets and expected available soil nitrogen will help to reduce nitrogen losses. Soil testing and nitrogen budgeting through Nutrient Advantage and the NA Pro software can help in calculating appropriate rates.

TIMING

Crop	VIC/Southern NSW	NSW/Southern QLD	Tropical/Northern Aust
Maize/ Sorghum	August-December	June to early September	All year round, prior to planting
Cotton	July-October	June to early September	December/January – May

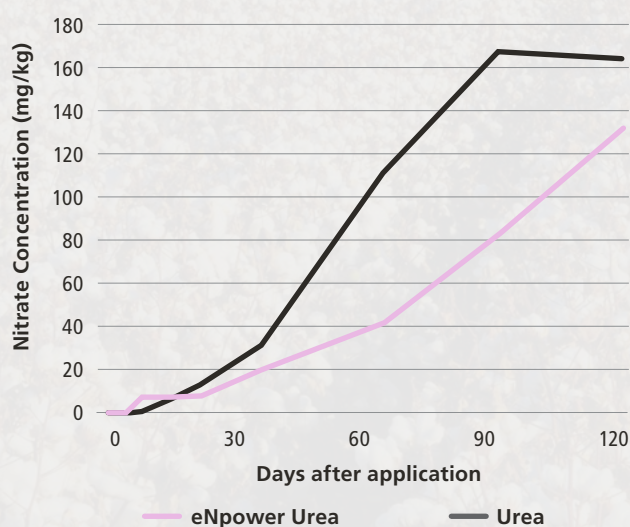
PROVEN RESULTS

Nitrous Oxide Losses – Urea vs eNpower



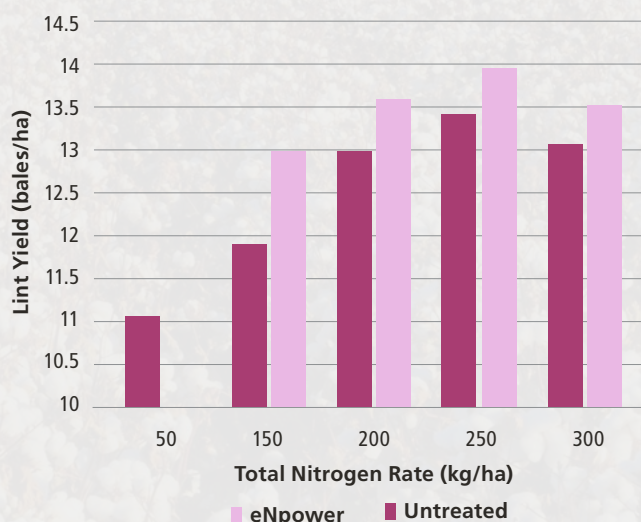
Graph 1: eNpower in irrigated maize. eNpower successfully reduced the losses of nitrogen through denitrification by an average of 84%. Nitrous oxide emissions were measured to quantify N loss. (2025 Trial Nathalia Victoria). *Source: Incitec Pivot, 2025.*

Nitrate Nitrogen (NO₃⁻)



Graph 2: Delayed nitrification of urea in a clay soil (glasshouse study). N rate 250kg/ha. *Source: Incitec Pivot, 2015.*

Irrigated Cotton – Boggabri



Graph 3: Replicated Irrigated Cotton Trial at Boggabri NSW. Pivot Irrigation. 2022/23 IPF replicated Trial. *Source: Incitec Pivot, 2023.*

REFERENCES:

- Schwenke G and McPherson A (2018) Mitigation of nitrous oxide emissions from furrow-irrigated Vertosols by 3,4-dimethyl pyrazole tetra-methylene sulfone, an alternative nitrification inhibitor to nitrapyrin for direct injection with anhydrous ammonia
- Incitec Pivot Internal (2024/25) In Field Measurements of Nitrous Oxide in Irrigated Maize.

For more information Contact your local Incitec Pivot Technical Agronomist or visit www.incitecpivotfertilisers.com.au

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