

eNpower® Product Guide

eNpower®

Smarter nitrogen for Australian Farmers

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, 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 denitrification (N_2O and N_2 gas) especially under soil water conditions with greater than 60% water filled pore space (irrigated or high rainfall systems).
- Nitrogen as nitrate is much more prone to both leaching & runoff, particularly on soils with a CEC of $<4 \text{ cmol(+)}/\text{kg}$.
- 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 cation exchange sites, risk of nitrogen being carried out of the root zone by heavy rain or with irrigation is reduced.
- 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.

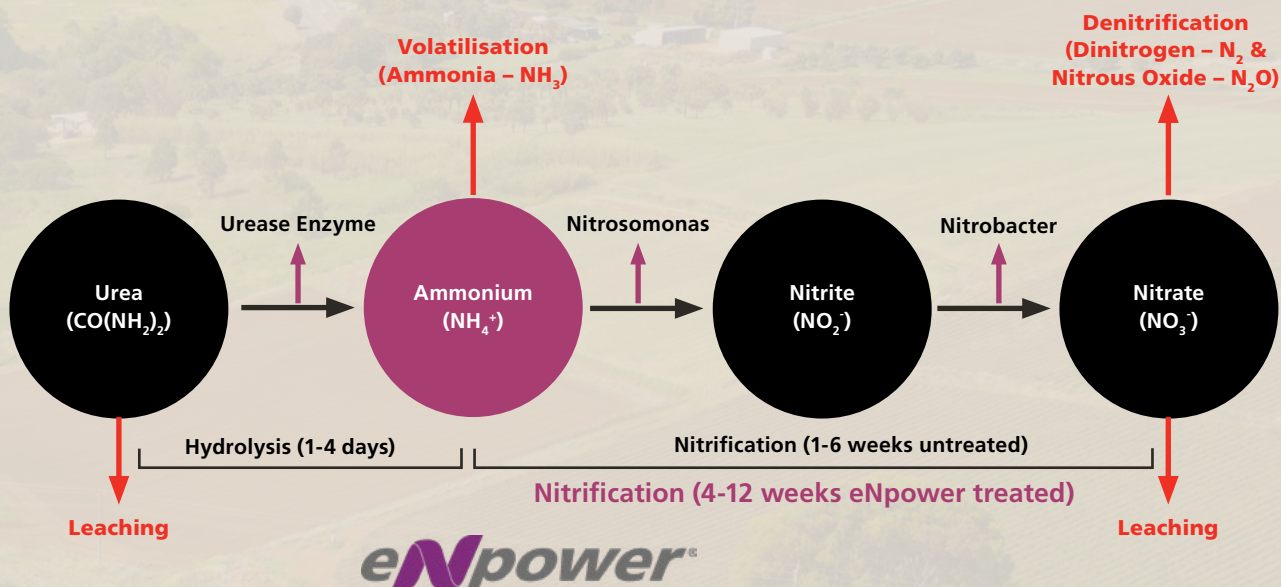
Proudly developed, tested, and patented in Australia.

Designed for Australian climate and soils.

Backed by years of IPF 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 effectively in both annual and perennial horticulture crops.

PLACEMENT

Usage pattern of eNpower in horticulture will vary greatly depending on crop type.

For granular products coated with eNpower, it is important to incorporate or irrigate in the fertiliser soon after application to avoid volatilisation losses.

For information on eNpower usage pattern relevant to your enterprise, please contact your local Incitec Pivot Technical Agronomist for more information.

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

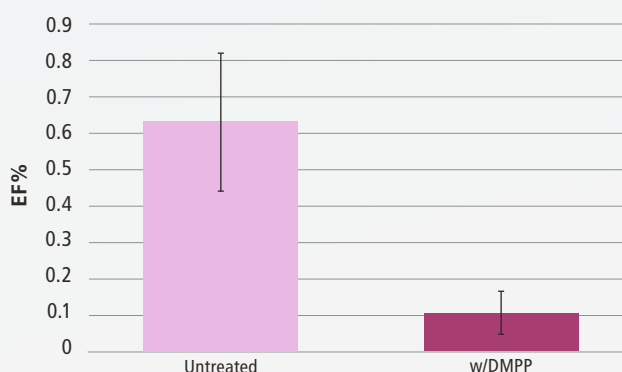
Timing of application will vary significantly based on the likes of the crop, stage of growth, climate and location.

eNpower delays nitrification. This means it is important to correctly synchronise application timing with crop demand to maximise performance.

For more information on eNpower usage pattern relevant to your enterprise, please contact your local Incitec Pivot Technical Agronomist for more information

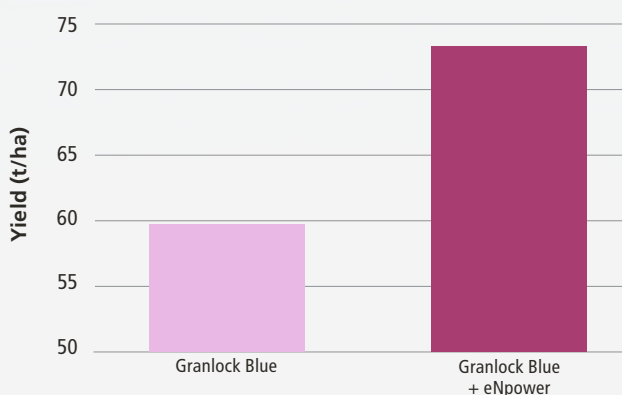
PROVEN RESULTS

DMPP reduces emissions in Horticulture



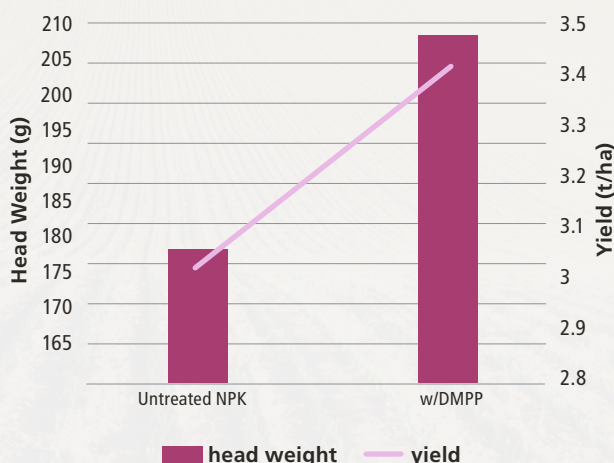
Graph 1: DMPP reduces emissions in Horticulture. N rate and EF (Horticulture). *Source: Grace et al, 2023.*

eNpower increased yield of potatoes



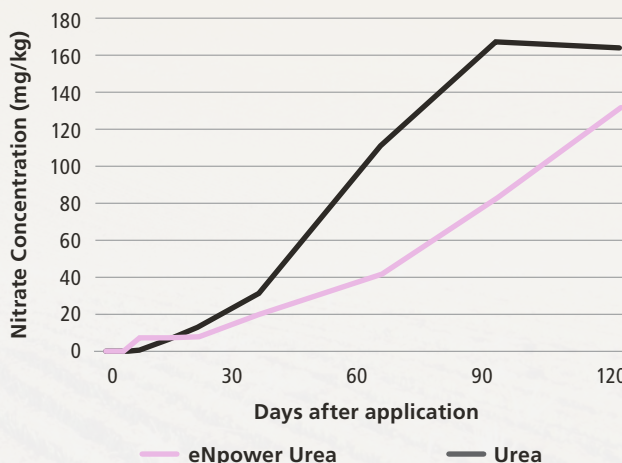
Graph 2: eNpower increased yield of potatoes at Pinaroo (2016). *Source: Jamie Clifford, IPF Agronomist, Adelaide.*

eNpower increased yield of Broccoli



Graph 3: eNpower increased yield and head weight of Broccoli in a trial at Werribee. *Source: Peter Melville, Horticulture Australia Ltd 2012.*

Nitrate Nitrogen (NO_3^-)



Graph 4: Delayed nitrification of urea in a clay soil (glasshouse study). N rate 250kg/ha. *Source: Incitec Pivot, 2015.*

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
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- Grace P, De Rosa D, Shcherbak I, Strazzabosco A, Rowlings D, Scheer C, Barton L, Wang W, Schwenke G, Armstrong R, Porter I, Bell M. (2024) Revised emission factors for estimating direct nitrous oxide emissions from nitrogen inputs in Australia's agricultural production systems: a meta-analysis. *Soil Research* 62, SR23070. <https://doi.org/10.1071/SR23070>
- Melville et al (2012) A Project Conducted under the DAFF Climate Change Research Program (CCRP), Horticulture Australia Limited.

For more information contact an Incitec Pivot Technical Agronomist or visit www.incitecpivotfertilisers.com.au.

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