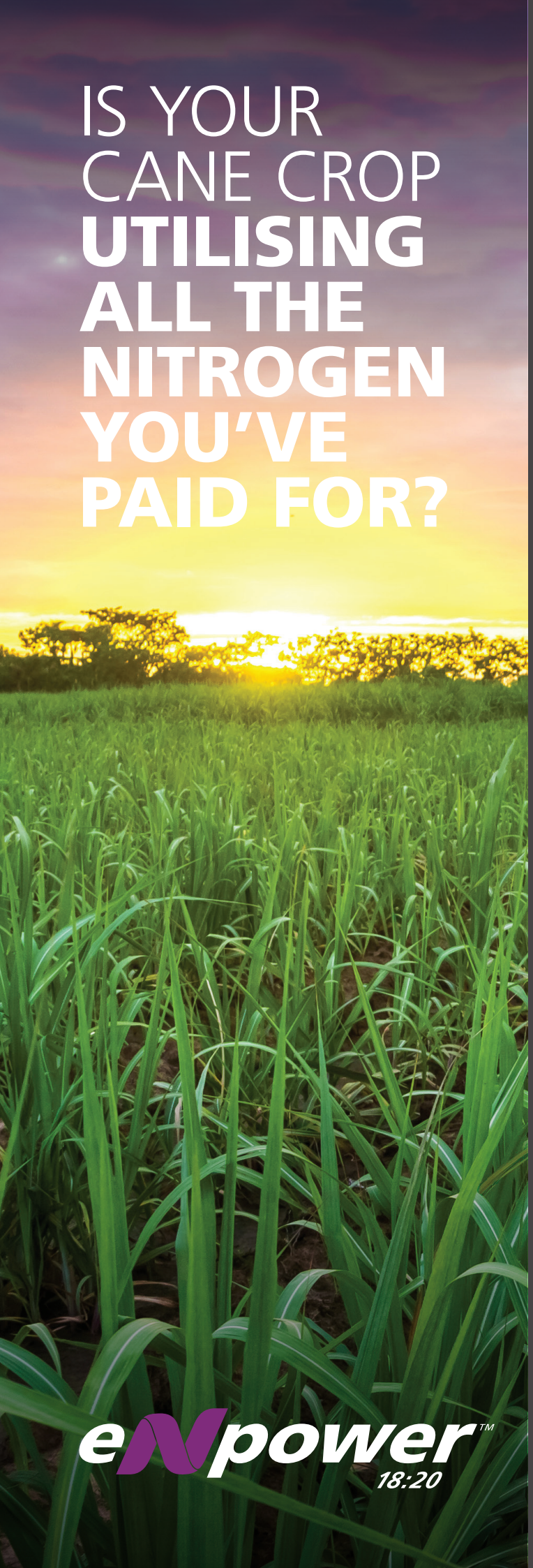

Incitec Pivot Fertilisers
SUGAR CANE
NUTRITION
FOR THE
LONG RUN.
✔ Keeping Nitrogen where it's needed
✔ Driving Phosphorus uptake
✔ Protecting nutrients when you need them most
✔ Potential for improved cane and sugar yield
✔ Unique patented formulation
incitecpivotfertilisers.com.au
eNpower™
18:20



IS YOUR CANE CROP **UTILISING ALL THE NITROGEN YOU'VE PAID FOR?**

eNpower™ 18:20

A CHALLENGING **ENVIRONMENT:**

Nutrient management is a constant challenge for Australian Sugar Cane farmers. Limits to nitrogen and phosphorus use, along with unpredictable rainfall means that cane farmers must optimise nutrients to maximise cane yield and sugar content.

KEEPING NITROGEN WHERE IT'S NEEDED

With conventional nitrogen fertilisers, ammonium N is converted to nitrate N in 1-3 weeks*. Heavy rain or irrigation can cause any nitrate N that hasn't been taken up to be lost through leaching in sandy soils – or through denitrification in heavier soils.

eNpower™ 18:20 contains the nitrification inhibiter DMP in IPF's patented DMP-G formulation. DMP works by inhibiting nitrifying bacteria in the soil, slowing down the conversion of ammonium N to nitrate which is more prone to loss.

REDUCED RISK OF LEACHING

eNpower 18:20's inhibitor stabilises the positive-charged ammonium (NH_4^+) which bind to the negatively-charged clay particles and organic carbon in the soil. This reduces the risk of N being carried out of the root zone by heavy rain or irrigation.

REDUCED RISK OF DENITRIFICATION

By holding more nitrogen in the ammonium form, eNpower 18:20 also reduces the risk of losing nitrogen as nitrous oxide or dinitrogen gas through a process called denitrification. This process is a particular risk when soils become waterlogged and bacteria are starved of oxygen.

This keeps nitrogen in the root zone for longer and available to the plant more continuously throughout the critical weeks of greatest N need*. Applied at the same time as conventional fertiliser, eNpower 18:20 can give the nitrogen weeks or even months more critical staying power.

TIME FOR NITRIFICATION TO OCCUR

Type of fertiliser	Time for nitrification to occur*
Conventional untreated nitrogen fertilisers	1-3 weeks
DMP treated enhanced efficiency fertilisers	4-10 weeks

A review of N-inhibiter DMPP for IPL .
Sultana, Suter & Chen – Melb Uni, 2010**

* Under typical soil condition. Actual results may vary. Factors such as weather and environmental conditions, soil conditions and other variables will impact the results growers achieve.
** A review of the nitrification inhibitor 3,4-dimethylpyrazole phosphate (DMPP) A report prepared for Incitec Pivot Limited by Sultana, H., Suter, H. and Chen, D. (2010). The University of Melbourne.

DRIVING PHOSPHORUS UPTAKE

Phosphorus is essential for photosynthesis, plant growth and crop development and it is the most expensive macro nutrient. Most phosphorus in the soil is tied up, so ensuring uptake of P is critical to achieve maximum yields.

AMMONIUM IMPROVES P UPTAKE

With conventional fertilisers, most nitrogen is converted to and taken up as nitrate, a negatively-charged anion. Uptake of nitrate can limit the uptake of other anions like orthophosphate (phosphorus), potentially limiting cane and sugar yields.

Keeping nitrogen as ammonium (NH4+) for longer, means more N is taken up in this form. As the plant absorbs the positively-charged ammonium, it compensates by absorbing anions such as orthophosphate. Localised decrease in pH can also improve uptake of other positively-charged nutrients such as potassium, iron, manganese, zinc and copper.*

Nitrification inhibitors like eNpower have the potential to significantly increase uptake of phosphorus and other nutrients in different crops.

INFLUENCE OF THE N-FORM ON UPTAKE OF OTHER NUTRIENTS^

	pH value		Nutrient uptake (µg/m root length)					
N-form	Root distant	Rhizosphere	P	Fe	Mn	Zn	Cu	K
Nitrate	6,6	6,6	**123**	55	8	7	1,4	903
Ammonium	5,7	5,6	**342**	71	20	13	2,0	1127
Ammonium with N-Inhibitor	6,6	4,5	**586**	166	35	19	4,6	1080

^ Adapted from : Thomson et al. (1993) J. Plant Nutr. 16, 493-506.

PROTECT YOUR NUTRIENTS **WHEN YOU NEED IT MOST**

Cane regions are subject to some of Australia's most unpredictable weather. Good rains early in the season can set the potential for bumper yields. However, heavy early rains can increase nitrogen losses. eNpower™ 18:20 can help stabilise nitrogen and improve phosphorus uptake, reducing the risk of limiting cane yield. This gives the crop the best chance of making the most of good soil moisture conditions.

POTENTIAL TO IMPROVE CANE AND SUGAR YIELD

eNpower 18:20's stabiliser helps keep more nitrogen and phosphorus available for uptake by the crop, this can lead to improved nutrient efficiency, which is a building block for improved cane and sugar yields.

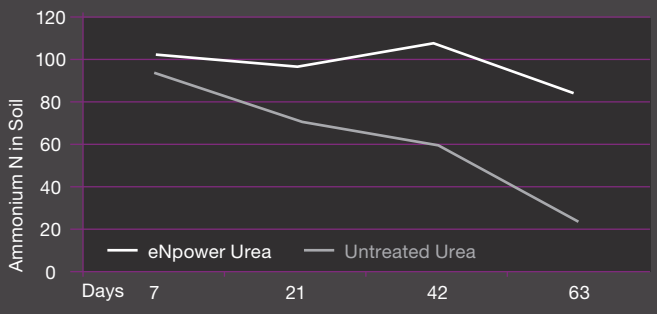
UNIQUE PATENTED FORMULATION

eNpower 18:20 contains IPF's patented DMP-G inhibiter. This is a unique formulation of DMP that remains stable on di-ammonium phosphate (DAP), allowing IPF to produce the first N-stabilised 18N:20P fertiliser. With a balance of N and P, along with an inhibitor designed to maximise their uptake, eNpower 18:20 helps your crop to make the most of the nitrogen and phosphorus you've paid for.

PROTECT YOUR ENTIRE BLEND

eNpower 18:20 is available in sugar cane as a straight fertiliser, in propriety blends, or as a 'custom blend' to exactly match individual crop nutrient requirements. If your blend requires additional nitrogen components, IPF incubation trials have shown the eNpower inhibitor to be effective on other nitrogen blend ingredients like GranAm® or Urea. This helps protect more of your N investment.

ENPOWER ON UREA



Incubation Trial – Nutrient Advantage Lab, Werribee 2016

eNpower™ 18:20

Incitec Pivot Fertilisers

Nutrient Advantage®

EXACTLY HOW MUCH **N & P DO YOU NEED?**

Our Nutrient Advantage® soil and plant tissue testing service can provide precise nutrient analysis and expert, objective recommendations based on your local conditions. When you know exactly what your plants need, targeted blends can be very cost effective. And today growers around the country are producing higher yields with less fertiliser than in the past.

WANT THE ADVANTAGE?

Visit **nutrientadvantage.com.au** or call **1800 803 453** and ask about our soil and plant tissue testing services.

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PROTECTION FOR YOUR ENTIRE BLEND

Whatever other IPF nitrogen fertilisers are included in a blend, eNpower™ 18:20's concentrated inhibitor acts to stabilise the ammonium nitrogen from all blend components. This helps protect more of your nitrogen investment and helps improve phosphorus uptake.

For more information, contact your eNpower accredited IPF distributor or visit **incitecpivotfertilisers.com.au**

Organisation FERTCARE®

eNpower™ 18:20