



# AGRONOMIC INSIGHT

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### A flexible solution to enhanced efficiency



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**Matching nitrogen supply with demand is seen by some as the holy grail of enhanced efficiency fertilisers, but I tend to disagree.**

In cane systems, where we can have extremely variable rainfall and weather conditions, it's practically impossible to track the growth of the crop on paper and design a product that will match this demand exactly with supply, year in, year out.

While we're reasonably good at predicting a wetter or drier season (and the latest forecast is for a 'neutral' SOI) no-one can pinpoint exactly when individual rainfall events will occur or how much each will deliver.

It only takes a single downpour to upset nitrogen management and cause yield losses.

For example, in a 2013-14 nitrogen trial at Ingham in ratoon cane<sup>1</sup>, conditions were quite dry for two months from fertiliser application until Boxing Day, when a significant rainfall event occurred.

At the end of the season, where ENTEC treated urea was used at 150 kg/ha of nitrogen, 81.5 t/ha of cane was cut for a sugar yield of 11.2 t/ha. The same rate of urea yielded only 53.7 t/ha of cane and a sugar yield of 8.4 t/ha.

This shows the value of ENTEC in providing better nitrogen management for cane.



#### Protection...

Research shows that protecting against only one of the nitrogen loss pathways increases the likelihood of nitrogen being lost via another pathway.<sup>2</sup>

To successfully improve nitrogen use efficiency, cane growers must protect against each of the major loss pathways at the same time.

And no matter what happens after you've applied your fertiliser, it is better protected from leaching and denitrification with ENTEC.

If it has been appropriately incorporated into the soil with 10 cm of compacted soil coverage, it is also protected against volatilisation and possible runoff.

#### ...whatever the season brings

ENTEC offers the flexibility to protect against nitrogen losses, whatever the season brings, while maintaining nitrogen availability to the crop.

- In rainfed cane systems, during those long dry spells while the cane is unable to take up the nitrogen applied, ENTEC is stabilising the nitrogen in the ammonium form.
- When the rain hits (and it sometimes hits hard) or in irrigated situations, there's less nitrate nitrogen in the soil to be lost to leaching and denitrification. The ammonium stays put and is available to the crop for growth.
- By the time the crop is approaching the out-of-hand stage, it has often been vigorously growing and acquired a significant proportion of its nitrogen requirement.
- ENTEC works in all of the many and varied unpredictable seasonal conditions cane growers face. It helps get more of the nitrogen applied into the crop, where it can help grow more cane.

For more information about using ENTEC this season, see your local ENTEC accredited fertiliser Dealer.



1800 009 832

[www.incitecpivotfertilisers.com.au](http://www.incitecpivotfertilisers.com.au)



1800 803 453

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<sup>1</sup> 'Effects of polymer- and nitrification inhibitor- coated urea on N<sub>2</sub>O emission, productivity and profitability in a wet tropical sugarcane crop in Australia' by Weijin Wang et al, published in the Proceedings of the 2016 International Nitrogen Initiative Conference in Melbourne.

<sup>2</sup> Prasertsak P, Freney JR, Denmead OT, Saffigna PG, Prove BG, Reghenzani JR (2002) Effect of fertiliser placement on nitrogen loss from sugarcane in tropical Queensland. Nutrient Cycling in Agroecosystems 62, 229-239.