Incitec Pivot Fertilisers

AGRONOMIC INSIGHT

2 August 2019

EASY N® opportunities this Winter

Lee Menhenett - Technical Agronomist
Incitec Pivot Fertilisers

Many growers are seeing good yield prospects for their grain and canola crops, and will be topdressing with nitrogen this season. While urea is the most widely used fertiliser for nitrogen topdressing, why not consider EASY N® liquid nitrogen this season? It's an easy way to supply nitrogen to match crop demand through the boomspray.

EASY N offers great versatility and flexibility, allowing growers to control when, where and how nitrogen is applied to their crops. The variation in volume applied between nozzles on the boomspray is minimal and therefore the uniformity of distribution of nitrogen across the boom width is excellent. The application can even be combined with some chemical sprays, reducing farming workload.

It is important to be aware of the potential for leaf burn when applying EASY N, particularly at high nitrogen rates. To reduce the potential and severity of leaf damage, growers can lower the rate of EASY N applied and ensure the spray is made under favourable environmental conditions.

Growers and their advisers should have an open and honest conversation about the potential for burn before applying EASY N, taking into account growth stage, nitrogen rates, any chemicals applied in combination with the product, environmental conditions and nozzle selection.

The first thing to note is that leaf burn may not necessarily lead to yield losses. In wheat and barley, if some leaf burn does occur before GS31 and the crop is being grown in a nitrogen responsive situation, the effect is likely to be temporary. Any leaf burn is likely to be more than offset by grain and/or protein responses where there is follow-up rain and reasonable seasonal conditions.

During the reproductive growth stages (GS32-39), it is critical to pay attention to retaining the 'money leaves' when making EASY N applications. The expected contribution to yield from particular leaves is shown in two sets of data in Table 1 and will vary within seasons and cropping districts.

Growers can take precautions for better crop safety by keeping application rates below 50 L/ha of EASY N when using fungicide mixes with flat fan nozzles, and only spraying when temperatures are less than 18oC and Delta T conditions are between two and six. Adding water does not necessarily reduce leaf burn. However, if EASY N is applied in conjunction with fungicides, a minimum of 20% water is recommended. Even better crop safety can be managed by applying EASY N as a straight through streaming nozzles. These minimise leaf wetting by directing the flow of EASY N straight to the soil. Rates of up to 100 L/ha of EASY N can be used with streaming nozzles.

Table 1: Contribution to grain yield in wheat by plant component

Component	UK data	Condobolin data*
Ear	21%	14%
Flag leaf	43%	21%
Lower leaves	36%	17%
Stem	0	23%
Reserves	-	25%

** with moisture reserves and no sign of water stress.*
Source: 'Is it time for a 'source and sink' re-think' by Alan Bowring and Neil Fettell, Australian Grain, Mar-April 2011

Canola crops can benefit from EASY N applications right through to 30% flowering. EASY N can be applied with Prosaro® fungicide where nitrogen is needed late in the season. Take care with other fungicides, especially if they are more heavily loaded with surfactants and adjuvants. Because of the cabbaging nature of canola plants, there may be greater damage from EASY N applied using streaming nozzles at higher rates than when using flat fan nozzles, because a more diffuse layer of fertiliser is spread across the leaves with flat fans. Rates of up to 100 L/ha of EASY N can be applied in canola.

The primary pathway for nitrogen uptake is through the plant roots, so applications of EASY N should be planned ahead of rain to maximise nitrogen use efficiency. For best results, nitrogen application rates should always match nitrogen demand by the crop.

In summary, EASY N applied with flat fan or herbicide type nozzles can cause leaf damage, but this will typically not impact on yields if the crop is in the vegetative stages. The chance of leaf burn and the degree of damage can be reduced by:

- reducing nitrogen rates to below 50 L/ha of EASY N;
- not adding fungicides, particularly those with surfactants and wetters which stick the EASY N to the leaves; and
- applying when temperatures are under 18ºC and Delta T is between 2 and 6.

Alternatively, switch to streaming nozzles to direct the EASY N to the soil.

For more information on EASY N and nitrogen application strategies for winter crops, please contact me at lee.menhenett@incitecpivot.com.au or 0412 565 176.

®EASY N is a registered trademarks of Incitec Pivot Limited. ® Prosaro is a registered trademark of the Bayer Group.Incitec Pivot Fertilisers is a registered trademark of Incitec Fertilisers Limited ABN 56 103 709 155. This is a guide only, which we hope you find useful as a general tool. While Incitec Pivot Fertilisers has taken all reasonable care in the preparation of this guide, it should not be relied on as a substitute for tailored professional advice and Incitec Pivot Fertilisers accepts no liability in connection with this guide.