

Introducing Limus[®] Clear

frontier

BASF

We create chemistry

If you want to stop profits escaping, start by choosing Limus[®] Clear

Available exclusively from Frontier Agriculture, Limus[®] Clear is a new, registered urease inhibitor for use with liquid fertiliser (UAN) that minimises nitrogen losses and supports optimal nitrogen availability for your crop.

Liquid Fertiliser (UAN) Nitrogen losses

Nitrogen can be lost as ammonia following the application of liquid fertiliser (UAN). UK research suggests average nitrogen losses from UAN range from 11-14%. The amount of nitrogen loss was dependent on environmental conditions, including soil water content, soil temperature and rainfall.

Limus[®] can reduce these losses by up to 98%, improving nitrogen use efficiency (NUE) on farm, whilst reducing ammonia emissions.

Factors that increase risk of ammonia (nitrogen) losses

- Warm temperatures
- Dry soils
- Less than 10mm of rainfall within 48 hours
- Alkaline (high pH) soils

Limus[®] Clear should be used when the risk of nitrogen losses are high.

Benefits of Limus[®] Clear

- Improves nitrogen use efficiency by (NUE) reducing ammonia emissions by up to 98%
- Increases yield compared to untreated liquid fertiliser (UAN)
- Contains two actives (NBPT + NPPT) for optimal efficacy
- Fully compatible with liquid fertiliser (Straight N and NS grades)

+4% yield*

*Source: BASF, range of crops, n=21

ADAS Agronomics - A scientifically robust approach to tramline trials

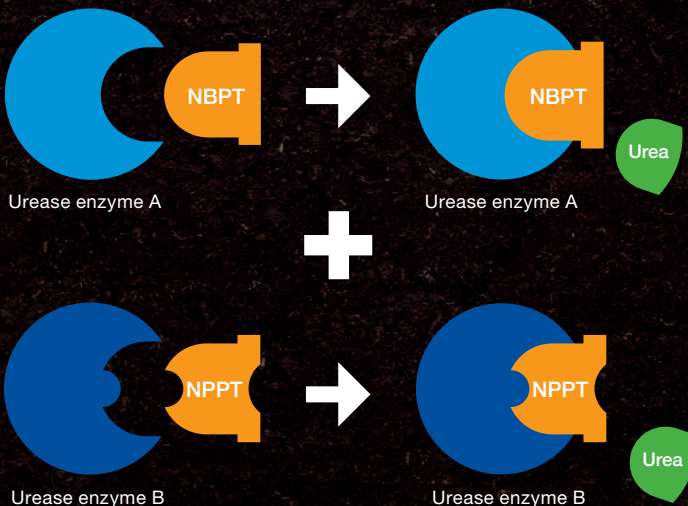


Across six, ADAS managed, tramline trials, Limus[®] Clear delivered an average yield benefit of 0.23t/ha and an average MOIC of £30/ha.

Site	Yield benefit (t/ha)	Statistically Significant	MOIC (£/ha)
Essex, 2019	0.29	Y	+ £39
Rutland, 2019	0.17	Y	+ £20
Bedford, 2019	0.57	N	+ £82
Essex, 2020	0.30	Y	+ £41
Shrops., 2020**	0.00	N	- £7
Norfolk, 2020	0.08	N	+ £4
Cross-site analysis	0.23	Y	+ £30

*Source: ADAS/BASF, Limus Clear applied in 2 or 3 of the fertiliser applications (as needed), n = 6, wheat, MOIC (Margin Over Input Cost) based on wheat at £160/T

**Site yielded lower than predicted, meaning excess nitrogen had been applied



What makes Limus[®] Clear unique?

Urea is not readily plant available and first needs to be converted into ammonium. This is done by urease enzymes in the soil that bind to the urea. Without sufficient rainfall post application, the ammonium concentration around the site of application increases, leading to a localised increase in soil pH. This converts the ammonium to ammonia gas.

Urease inhibitors temporarily bind to these enzymes, preventing the localised pH spike and reducing the losses of ammonia. However, different urease enzymes require different urease inhibitors. Limus[®] is the only urease inhibitor available with two active ingredients (NBPT and NPPT), enabling it to bind to a wider variety of urease enzymes and more effectively minimise losses.

For more information, visit agricentre.basf.co.uk/limus

Limus contains NBPT + NPPT. Limus is a registered Trade Mark of BASF.

How to use Limus® Clear

1. Fill spray tank with half the desired amount of fertiliser
2. Add the correct rate of Limus® Clear and mix thoroughly
3. Continue mixing while adding remaining fertiliser
4. Use tank mix within 5 days

Application Rate Guide, Spring 2020

Always read the appropriate Safety Data Sheets and wear appropriate PPE to ensure good operator safety when handling UAN / Limus® Clear.

Omex Products

Product Name	Analysis % (w/w)		Analysis % (w/v)		Limus® Rate (lt/m ³)
Nitroflo 30	30%N		39%N		1.00
Nitroflo 28 + S	28%N	2.5%SO ₃	36%N	3.2%SO ₃	0.90
Nitroflo 26 + S	26%N	5%SO ₃	33.5%N	6.4%SO ₃	0.80
Nitroflo 24 + S	24%N	7.5%SO ₃	30%N	9.5%SO ₃	0.70
Nitroflo 22 + S	22%N	10%SO ₃	28%N	13%SO ₃	0.60
Nitroflo 20 + S	20%N	12.5%SO ₃	25%N	15.5%SO ₃	0.50
Nitroflo 15 + S	15%N	15%SO ₃	18%N	18%SO ₃	0.35

NitraSol Products

Product Name	Analysis % (w/w)		Analysis % (w/v)		Limus® Rate (lt/m ³)
NitraSol N30	30%N		39%N		1.00
NitraSol N28	28%N		36%N		0.90
NitraSol N30 + 10SO ₃	30%N	10%SO ₃	39%N	13%SO ₃	1.00
NitraSol N27 + 5SO ₃	27%N	5%SO ₃	35%N	6.5%SO ₃	0.85
NitraSol N25 + 7SO ₃	25%N	7%SO ₃	32%N	9%SO ₃	0.75
NitraSol N24 + 8SO ₃	24%N	8%SO ₃	30%N	10%SO ₃	0.70
NitraSol N22 + 12SO ₃	22%N	12%SO ₃	28%N	15%SO ₃	0.60
NitraSol N15 + 15SO ₃	15%N	15%SO ₃	18%N	18%SO ₃	0.35

BFS Products

Product Name	Analysis % (w/w)		Analysis % (w/v)		Limus® Rate (lt/m ³)
UAN N30	30%N		38.7%N		1.00
UAN N28	28%N		35%N		0.95
BFS 26 + 5SO ₃	26%N	5%SO ₃	32.3%N	6.2%SO ₃	0.80
BFS 22 + 12SO ₃	22%N	12%SO ₃	27%N	14.8%SO ₃	0.60
BFS 18 + 15SO ₃	18%N	15%SO ₃	22%N	18.3%SO ₃	0.45
BFS 17 + 17SO ₃	17%N	17%SO ₃	20.3%N	20.3%SO ₃	0.40
NitroSulph 30 + 6SO ₃	30%N	6%SO ₃	39.2%N	7.8%SO ₃	1.00
NitroSulph 30 + 8SO ₃	30%N	8%SO ₃	39.3%N	10.5%SO ₃	1.00
NitroSulph 30 + 10SO ₃	30%N	10%SO ₃	39.5%N	13.2%SO ₃	0.95
NitroSulph 28 + 4SO ₃	28%N	4%SO ₃	35.7%N	5.1%SO ₃	0.90
NitroSulph 28 + 10SO ₃	28%N	10%SO ₃	36.3%N	13%SO ₃	0.90
NitroSulph 26 + 10SO ₃	26%N	10%SO ₃	33.1%N	12.7%SO ₃	0.80
NitroSulph 26 + 12SO ₃	26%N	12%SO ₃	33.5%N	15.5%SO ₃	0.80
NitroSulph 26 + 13SO ₃	26%N	13%SO ₃	33.6%N	16.8%SO ₃	0.80
NitroSulph 26 + 18SO ₃	26%N	18%SO ₃	34.3%N	23.7%SO ₃	0.80
NitroSulph 24 + 10SO ₃	24%N	10%SO ₃	29.6%N	12.3%SO ₃	0.75
NitroSulph 24 + 24SO ₃	24%N	24%SO ₃	31.7%N	31.7%SO ₃	0.70

Other Liquid Fertiliser Products

Product Name	Analysis % (w/w)		Analysis % (w/v)		Limus® Rate (lt/m ³)
37N			37%N		0.95
35N + 7SO ₃			35%N	7%SO ₃	0.85
32N + 9.4SO ₃			32%N	9.4%SO ₃	0.75
30.3N + 10.8SO ₃			30.3%N	10.8%SO ₃	0.70
29N + 11.9SO ₃			29%N	11.9%SO ₃	0.65
25N + 14.3SO ₃			25%N	14.3%SO ₃	0.50
19N + 19SO ₃			19%N	19%SO ₃	0.30