

Reducing Nitrogen Emissions on Grassland Farms

Protected Urea

Low Emission Slurry Spreading

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Sources of N & Losses



Protected Urea

No. 1 technology to reduce N losses









Why Protected Urea? Emissions

GHG emissions



What is Protected Urea?



5 Irish Life Beef Carbon

Protected Urea & Grass Yield?



Grass yield: Grazing



AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

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Rotation/Date

Protected Urea Fertiliser Products

Fertiliser products available on the Irish market containing a protected							
form of urea (N)							
Company	Product Name	Inhibitor Type &	Ν	Р	K	S	Na
		Name	%	%	%	%	%
Grassland	IFI Topper N-	NBPT + NPPT	46	-	-	-	-
Fertilisers	Sure	(LIMUS)					
(Kilkenny)	IFI Super Topper	NBPT + NPPT	38	-	-	7	-
IFI	N-Sure	(LIMUS)					
	IFI Topper Boost	NBPT + NPPT	29	-	14	3.8	-
	N-Sure	(LIMUS)					
Grassland	Eco Urea	NBPT + NPPT	46	-	-	-	-
Agro		(LIMUS)					
	Eco N 38	NBPT + NPPT	38	-	-	7.6	-
		(LIMUS)					
	Eco 29-0-14+S	NBPT + NPPT	29	-	14	2	-
		(LIMUS)					
	Alzon Neo-N	2-NPT + MPA	46	-	-	-	-
	Alzon Neo-N+	2-NPT + MPA	40	-	-	6	-
	S						
Goulding	Sustain / KaN	NBPT (Agrotain)	46	-	-	-	-
Fertiliser	Sustain / KaN	NBPT (Agrotain)	38	-	-	7	-
	Sustain / KaN	NBPT (Agrotain)	29	-	14	3.5	-
	Sweet SustaiN	NBPT (Agrotain)	35	-	-	5	5
NitroFert	Nitro Guard	NBPT + NPPT	46	-	-	-	-
		(LIMUS)					
	Nitro Guard	NBPT + NPPT	38	-	-	7	-
		(LIMUS)					
	Nitro Guard	NBPT + NPPT	30	-	15	2	-
		(LIMUS)					
Target	UreaMax	NBPT + NPPT	46	-	-	-	-
Fertilisers		(LIMUS)					
	UreaMax + S	NBPT + NPPT	38	-	-	7	-
		(LIMUS)					
	29-0-14+4% S	NBPT + NPPT	29	-	14	4	-
	Max	(LIMUS)					
Yara	Yara Vera AMIPLUS	NBPT (AMIPLUS)	46	-	-	-	-



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Low Emission Slurry Spreading (LESS)



No. 1 technology to reduce ammonia losses from agriculture & reduce chemical usage



Fertiliser Replacement Values

Available	Nutrient	Values

Nutrient	kg/m³	units/ 1,000gals
Ν	1.0	9
Р	0.5	5
К	3.5	32
DM%	6.3	6.3

Factors to Consider

- ✓ Slurry dilution with water?
- ✓ Slurry DM^{\$} 10 fold variation
- Testing slurry nutrient levels







Reducing slurry N losses

Best practice for reducing ammonia-N volatilisation loss

Timing of App.

- Application in Spring
- High crop N demand
- Maximise N recovery
- Aim to have 75% slurry applied by end of April



Weather

- Apply slurry during
 - Cool, damp, overcast or even misty conditions
- Avoid slurry application
 - Warm, dry, sunny weather

eagase



Application Method – Reducing Ammonia Loss





Reducing slurry N losses

N value with different slurry application methods



Dribbler Bar / Trailing Shoe Benefits

- Less grass contamination / More precise app. of nutrients
- Increased Flexibility -Spread on higher grass covers
- Wider window of application / better soil condition



Fertiliser replacement value?







In Summary

Protected Urea



- Reduces both nitrous oxide & ammonia emissions
- ~10% cheaper than CAN 27%
- LESS
 - Reduces ammonia losses



 Retains more slurry N to reduce chemical N fertiliser requirements

