

# Protected Urea - Fertiliser Planning in 2022

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# What is Protected Urea?

- Urea + Inhibitor
  - NBPT or NBPT & NPPT
- Stabilises the conversion of Urea to Ammonium
  - Urea – 15.5% N
  - Pro Urea – 3.3%
- 12% more effective N
- 10% cut in N limits

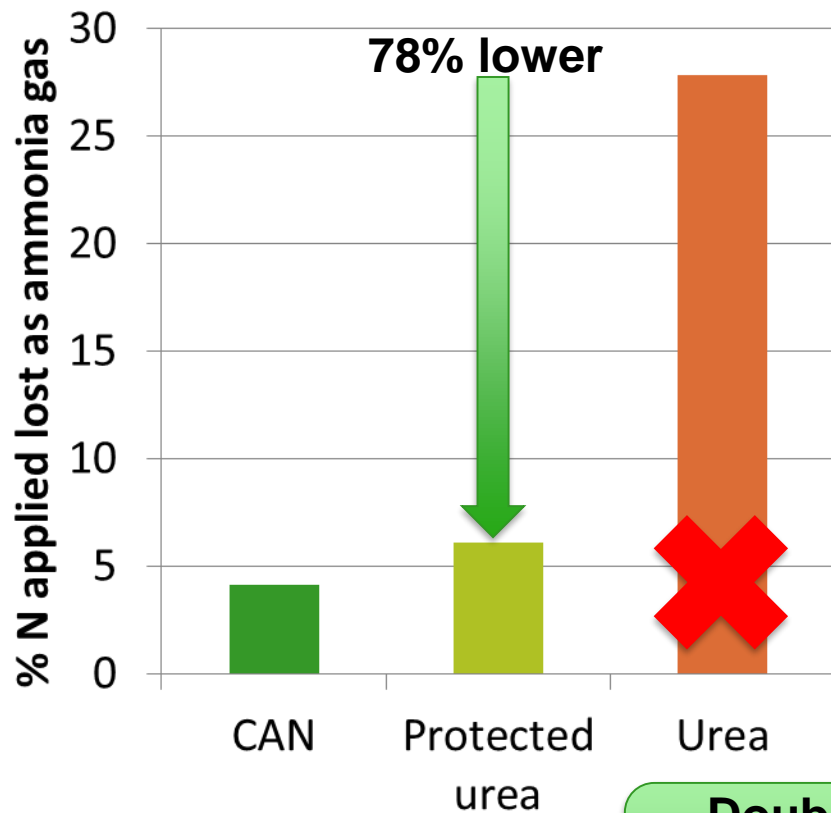


# Why Protected Urea? Emissions

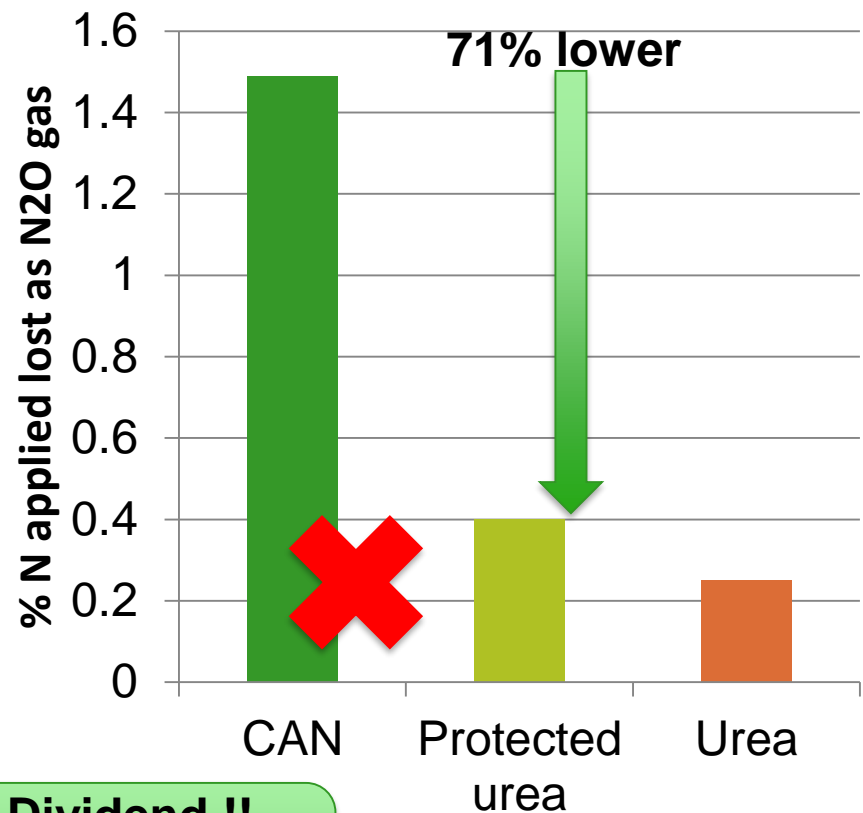
Urea to Protected Urea

CAN to Protected Urea

## Ammonia Emissions



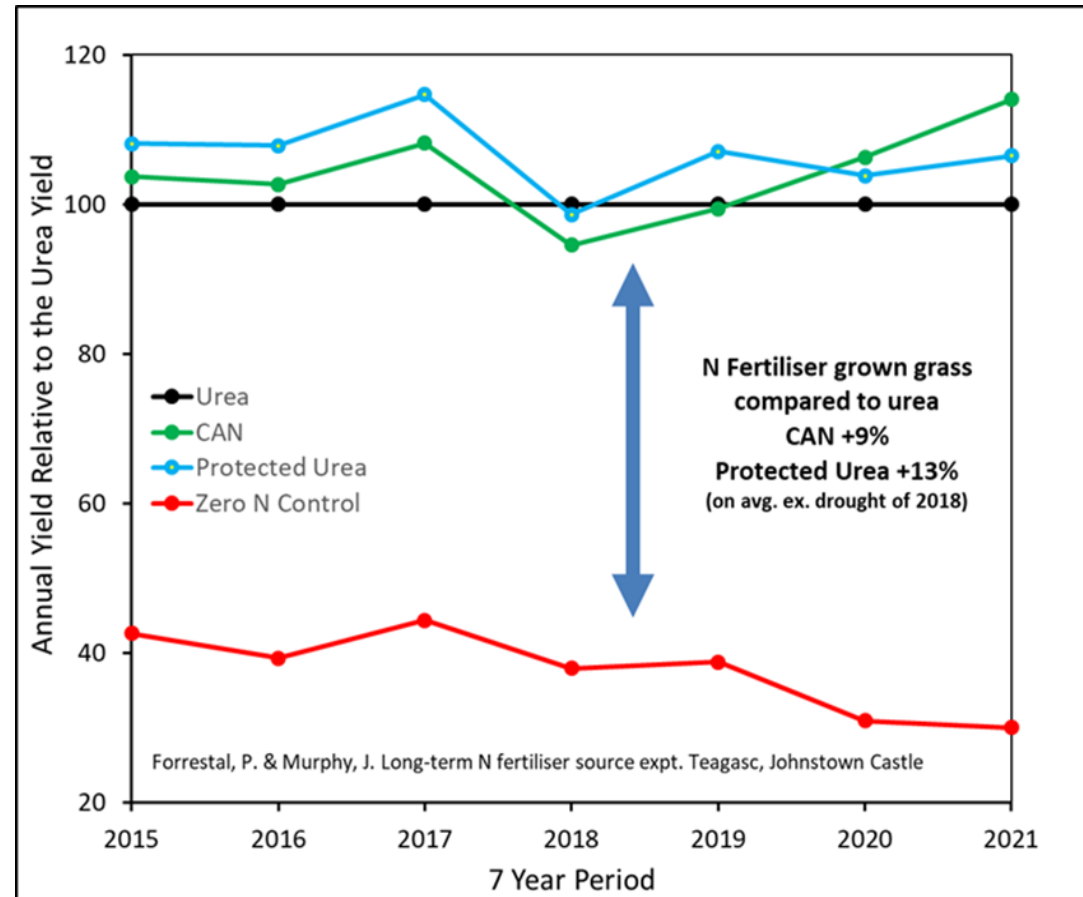
## GHG emissions



**Double Dividend !!**  
**7-8% Dairy**  
**1-2% Drystock**

# Protected Urea – Yield Advantage

- 6 out of 7 years
- Pro Urea v Urea
- +13% more Grass
- More effective N
- In effect reduce N rate



# Cost per kilo of N (€€€€!)

	Urea (46% N)	NBPT Pro Urea (46% N)	CAN (27%N)
kg N / t	460 kg N	460 kg N	270 kg N
€ / tonne	€900	€950	€700
€ / kg N	€1.96	€2.06	€2.59

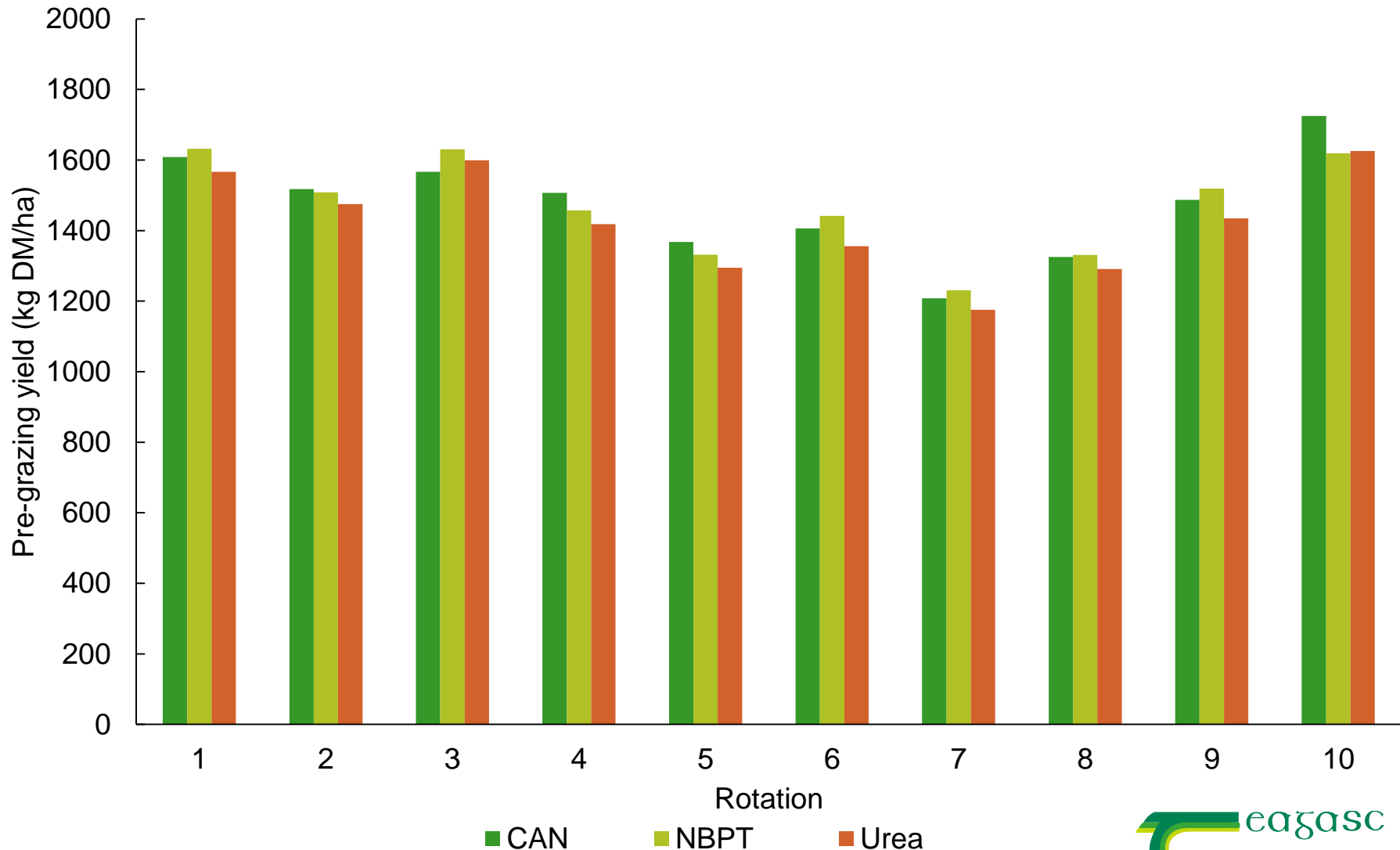
**Protected Urea 20% lower cost  
Reduce Cost**

# Protected Urea - Other Benefits

- Lime
  - No issue with timing of lime app.
- High N 46%
  - Spread more acres
- National inventory accounting



# Summary of Grazing trials



Protected Urea Jan 2022

Aine Murray - Average of six site years, 9 cuts in Clonakilty, Moorepark (3 years), 10 cuts in Ballyhaise and 8 cuts in Athenry (2 year)

# Spreading Protected Urea



1. Density – Urea less dense / lighter (won't travel as far from the spreading disc/veins)
2. More affected by windy conditions
3. 80% of granules 2 to 4 mm in size
4. Important to calibrate your fertiliser spreader
5. Spread up to 18 to 24 meters depending on conditions

Fertiliser Size (mm)		
<2mm	2.00 to 3.3mm	3.3 to 4.75
		

# Fertiliser programme

- Grazing ground
- 1<sup>st</sup> round – 25 to 30 kg N/ha
  - Safest form of N
- Use throughout the season
  - Similar performance to CAN
- P & K's –
  - 2<sup>nd</sup> or 3<sup>rd</sup> round 18-6-12 + S
  - Pro Urea 46%



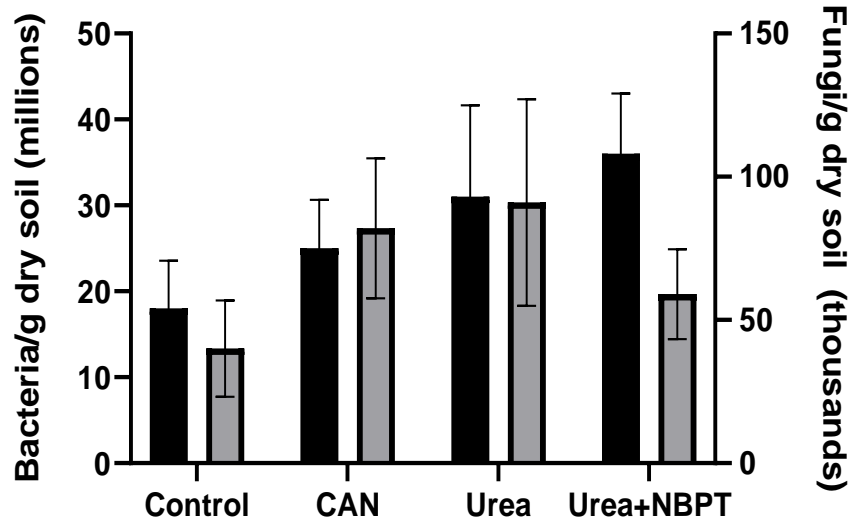
# Fertiliser programme

## ■ Silage Fields

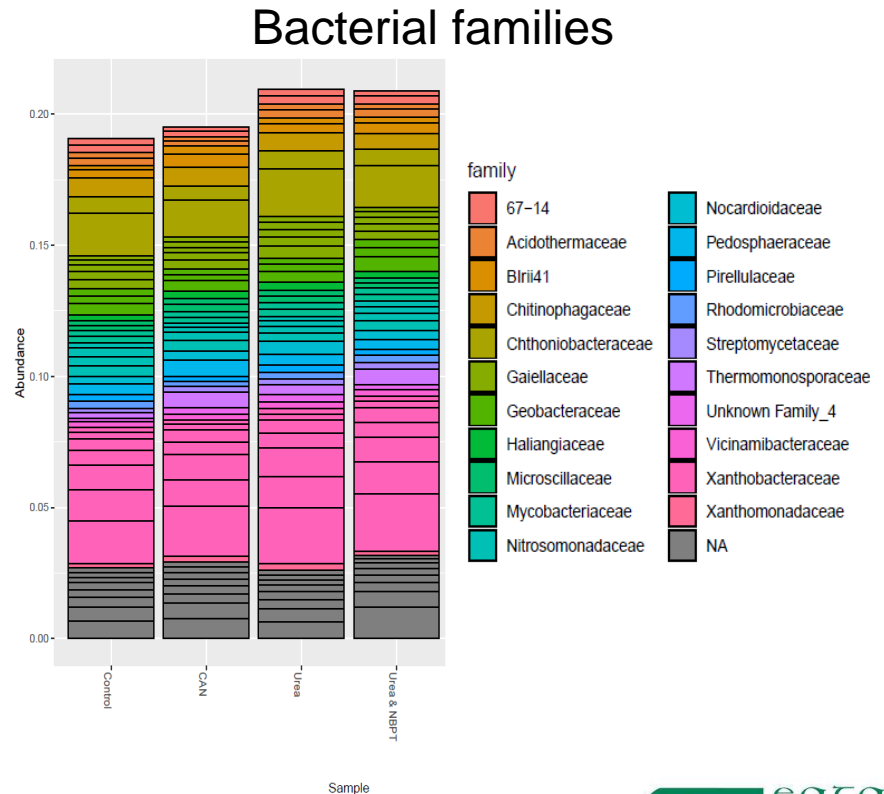
- Cattle slurry – Supply P & K's
  - » 40% + 6% S
- 29 – 0 – 14 + 3.5% S
  - » Supplies N, K & S
  - » High P Soils / silage fields
  - » Good product in last round – build soil K



# Soil Health? Measured in long-term trial Duff, Forrestal & Brennan



No significant difference in bacterial or fungal population from fertiliser treatment  
Similar bacterial diversity



# In Summary

- Protected urea delivers
  - Emission reductions
  - Extra productivity at lower rates of N
  - At lower costs €€€!
- Develop a fertiliser plan & plan fertiliser requirements for 2022
- Calibrate your fertiliser spreader
- Apply protected urea through the growing season & apply when conditions are suitable