

## Teagasc Notes for week ended Friday April 12<sup>th</sup> 2019

### Protected Urea – What’s it All About?

The Irish government has committed to reduce national losses of both ammonia and the potent greenhouse gas nitrous oxide while achieving good status for all waters. In relation to gaseous emissions agriculture accounts for 33% of national GHG emission and 98% of ammonia emissions and as a consequence is under the spotlight to reduce emissions. The use of protected urea nitrogen fertiliser is the largest single avenue currently open to Irish agriculture to meet these commitments to reduce GHG and ammonia emissions.

### What is protected urea?

Protected urea is urea which is treated with an active ingredient called a urease inhibitor. This moderates the rate at which urea converts to ammonium. In so doing ammonia loss is reduced to low levels.

### Can I spread protected urea throughout the growing season?

Yes, you can spread protected urea across the growing season at times when you would otherwise spread calcium ammonium nitrate (CAN) or unprotected urea. This may potentially simplify the fertiliser spreading programme on the farm and setting up of fertiliser spreader for only 1 straight N product each year.

### Will using protected urea reduce yields?

No, published Teagasc trials have shown that protected urea consistently yields as well as CAN in Irish grasslands with no difference in annual production between the two fertilisers.

### Will using protected urea reduce efficiency?

No, published Teagasc trials conducted in different areas of Ireland have shown that the nitrogen recovery efficiency of protected urea and CAN are consistently the same.

### Is protected urea more costly?

On 14 March 2019 the following costs detailed in Table 1 were quoted. These costs show protected urea to be less costly than CAN while performing just as well in terms of yield. Bear in mind that fertiliser costs fluctuate but always make the cost comparison on the basis of cost per kg N for straight N products.

Table 1. Prices in € per tonne fertiliser and € per kg N delivered for the three main fertiliser N types available as per 14 March 2019 Fertiliser N product

	N content (%)	Cost per tonne (€)	Cost/kg N (€)
Urea	46%	391	0.85
Protected urea	46%	437	0.95
CAN	27%	284	1.05

### Does protected urea reduce loss of the potent greenhouse gas nitrous oxide?

Yes, published Teagasc trials have shown that protected urea has 71% lower nitrous oxide emissions than CAN.

### Is there potential for protected urea to reduce nitrate loss to water?

Yes, during periods when leaching occurs nitrate present in the soil is vulnerable to leaching loss. Protected urea does not deliver N directly as nitrate to the soil, therefore reducing the risk of nitrate losses occurring with rainfall post fertiliser application. Reduced ammonia loss compared to urea will also reduce the risk of ammonia N being deposited from the atmosphere onto sensitive habitats or into sensitive water bodies.

**Suckler Breeding Event at Kildalton College 12<sup>th</sup> April**

Breeding key performance indicators underpinning profitability of suckler calf-to-weanling production systems are age at first calving, calves per cow per year and 6-week calving rate. These key topics, amongst others, will be discussed at the forthcoming suckler breeding event at Kildalton College on Friday the 12<sup>th</sup> April starting at 10.30 – 11am. This is a KT approved event. All welcome.

