

Quick Wins: Protected Urea – Reduce chemical N required, Reduce costs and Reduce GHG emissions

Q. How does protected urea reduce greenhouse gas emissions?

A. Nitrogen fertilisers release nitrous oxide. Nitrous oxide is one of the main greenhouse gases we are concerned about. Protected urea has 70% less nitrous oxide emissions than CAN.

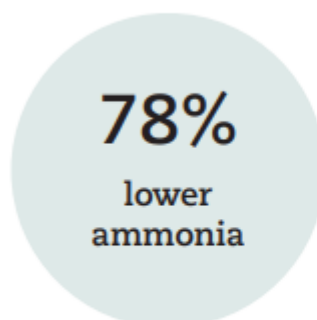
Of the tools assessed by Teagasc, using protected urea nitrogen fertiliser offers the single largest emission reduction potential to Irish farmers.

Q. Is there a gain for the farmer?

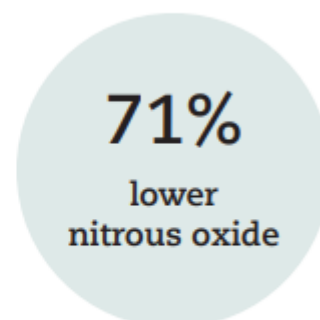
A. Protected urea is cheaper than CAN. For every 5 tonnes of CAN purchased, you will need just 3 tonne of protected urea (because of its higher nitrogen content) and you will save €280 at current fertiliser prices. (CAN = €380/t, protected urea = €540/t, straight urea = €480/t).

Up to 12% saving in chemical N use from using protected urea, compared to straight urea, while growing the same grass DM yield

What does it do for farm emissions?



“Protected urea has 78% lower ammonia emissions relative to standard urea.”



“Protected urea has 71% lower nitrous oxide (N₂O – greenhouse gas) emissions relative to CAN.”

B. Protected urea allows a saving of up to 12% in chemical N requirement, compared to straight urea while growing the same grass e.g. applying 200 kg N/ha using straight urea (Cost = €200) is the same as applying 176 kg N/ha using protected urea (Cost = €198).

C. The big advantage of protected urea is that farmers can use it throughout the permitted growing season. It will work as effectively as urea in spring in damp conditions and, due to the inclusion of the urease inhibitor, it releases N slower and more effectively than CAN in the summer

D. According to the 2023 MACC curve, high uptake of protected urea will reduce emissions by 0.55mt CO₂eq or 11% of the 4.857 Mt CO₂eq total reduction required for Agriculture.

Q. What action needs to be taken?

A. Order protected urea for 2024, instead of CAN and straight urea.

B. Use low N emitting compounds such as. 18-6-12 and 10-10-20



The Signpost Programme

