

## Teagasc Notes for week ending Friday 17<sup>th</sup> September 2021

Key mitigation actions to reduce greenhouse gas emissions on dairy farms

Over the next 5-10 years, Ireland has to reduce its carbon footprint and like all sectors agriculture will have to play its part. This is a challenge that we in the agriculture sector must embrace in order to maintain access to premium markets abroad using our national green image. This is a central plank of our marketing strategy and to maintain it, we have to meet the challenge of GHG emissions and improve our water quality. Meeting the challenges translates to each and every individual farmer embracing the technologies available to help reduce GHG's and improve water quality. Many of these technologies are simple and easy to implement. The use of protected urea by all farmers is a major contributor to the reduction in Green House Gases in agriculture. It slows the rate at which urea is converted to ammonium, thereby reducing nitrous oxide emissions. Protected urea is slightly cheaper than CAN and grows similar grass yields to CAN. Protected urea has 71% lower nitrous oxide emissions than CAN. It reduces footprint & total emissions. As farmers, we must begin to replace all straight nitrogen (N) with protected urea. It is a chicken and egg situation, we need to demand protected urea from co-ops and merchants and the industry need to embrace the research and ensure a good supply of protected urea to the farmer customer. IF you are considering forward buying at present for your 2022 fertiliser requirements, make sure you order protected urea now. Improving the EBI of your herd and breeding more fertile and productive animals improves efficiency and profitability. Consequently, it also reduces GHG emissions by reducing the numbers of non-milk producing animals. Every €10 change in herd EBI will increase profit by €20/cow and for every €10 increase in EBI, GHG emissions decline by 1% per unit of product. Work with your Teagasc advisor each year to pick a team of bulls that will increase the EBI of your herd by €10 per year.

Animals grazing better quality forage produce less GHG as there is less silage in the diet. Every extra tonne of grass dry matter (DM) grown and grazed is worth €173 to the farmer and every additional week at grass reduces total GHG emissions by 1%. Reducing pre-grazing covers from 2,000 kg DM/ha to 1,300 kg DM/ha reduces GHG emissions by 15% per day. To implement this measure, work on improving farm infrastructure that helps to get cows out to grass earlier and later. Learn to grass measure, use PastureBase and walk your farm weekly. Focusing on improving animal health will increase animal performance, reduce replacement rate and reduce the number of non-milking animals. Keeping a healthy herd will improve efficiency, increase profitability and reduce GHG emissions per unit of milk. Farmers should use the EBI sub-index for health and in consultation with your vet create and implement a health plan/vaccination programme for your farm.

Low emissions slurry spreading equipment is becoming popular with derogation farmers required to use it under the regulation. Farmers like this measure as it reduces soiling of grass but the key bit of this technology is that it reduces nitrogen (N) losses through volatilisation. It therefore increases the N fertilizer value of slurry and will save money spent on chemical fertilisers. The key action is to use the technology and make sure take account of the nutrients in the slurry by reducing chemical N used. LESS spreading retains an extra 3 units of N/1,000 gallons of cattle slurry which is worth €3.30/cow. It also reduces ammonia emissions from slurry by up to 30% and nitrous oxide emissions through reduced chemical N use.

Reducing chemical N fertiliser used on the farm will reduce nitrous oxide emissions. Get lime right first. Soil sample your farm, identify fields that need lime, P & K and make a plan. Incorporating white clover as part of your reseeding programme will reduce nitrous oxide emissions by up to 40% due to reduced chemical N fertiliser use (up to 100 kg N/ha). Research

in Clonakilty Agricultural College has shown that using clover increases milk solids production 20-48 kg/cow per year and consequently net farm profit by €108-€305/ha. Over a 5 year period aim to have white clover in at least 30% of your paddocks (at a minimum average annual sward clover content of 20%).

