

Teagasc Signpost Programme Newsletter

Issue 6 - November 2021

This month's newsletter will provide a guide to the actions beef farmers can take to reduce emissions on their farm. Also included are 2 Signpost Farmers, Alex McCarthy (Dairy) and John Barry (Beef), outlining their carbon footprint and the actions they are taking to reduce that footprint. A guide and link to the Dairy Energy Decision Support Tool is also provided. We have the results of some interesting work from Johnstown Castle on the emissions from compound fertilisers. There is an update from the Signpost programme as well as a guide to housing animals this Autumn to minimise the impact on water quality. Pippa Hackett is interviewed by the Environment Edge Team on the challenges ahead.

Key mitigation actions to reduce greenhouse gas emissions on beef farms

This month's article provides a guide to the key mitigation actions beef farmers can take to reduce emissions

[Click here to read more](#)

Climate Actions for November

Each month, we will present climate actions that farmers can take to reduce gaseous emissions. These actions will be practical and timely. See below climate actions for the month of November.

Climate Actions for November

Check your targets for closing up for early grass next Spring.



Order your trees and hedging now. Choose native species.



Have you ordered your protected urea for 2022?



Soil sample your farm. Continue to spread lime where conditions allow.



Review your parasite control plan for liver fluke going into the housing period.



Test your silage and match concentrate feeding rate to the quality of the silage.



[Click here for more information](#)

Signpost Farmers use their carbon footprint to make a plan

This month we meet 2 farmers, Alex McCarthy (Dairy) and John Barry (Beef) that are engaging with their carbon footprint figure from the Bord Bia Farmer Feedback Report and provide us with some insight into the actions they are taking to reduce emissions.

[Click here to watch Alex's video](#)

[Click here to watch John's video](#)



Solar Panels

Teagasc has partnered with MTU and SEAI to develop the Dairy Energy Decision Support Tool to aide farmers in making decisions regarding energy efficiency and renewable energy investments. This on-line tool can be used to obtain farm specific recommendations related to energy use, technology investments, CO2 mitigation and renewable energy generation.

The tool, known as the Dairy Energy Decision Support Tool (DEDST) is available to use for free

The DEDST can be used to obtain farm specific recommendations related to energy use, technology investments, CO2 mitigation and renewable energy generation. It is an interactive and easy to use tool aimed at farmers, farm managers and farm advisors. It provides information to the user regarding key decisions that determine the energy efficiency and cost effectiveness of the milk production process, such as investment in certain technologies and changes in farm management practices. It can also be used to support government bodies in forming new policy relating to provision of grant aid for energy efficient and renewable energy technologies.

[Click here to learn more](#)

Meet two of the Signpost Farmers



Shane Cranny

Shane farms 40ha of grassland just outside Myshall, Co. Carlow, where he carries a calf-to-beef enterprise and a suckler herd.

As Shane runs an autumn-calf system, calf rearing is in full swing on the farm, with 80 calves purchased so far and currently being reared on milk replacer and concentrates. The plan is have all these animals weaned by Christmas and out grazing by day in early February.

What actions will Shane take?

[Find out here](#)



Diarmuid & Sean Fitzgerald

Diarmuid and Sean are farming in a partnership milking 125 cows on a grass based system on 67 hectares near Cratloe, Co. Clare. A major challenge Diarmuid and Sean see coming at them over the next couple of years are the environmental challenges and rising input costs. Diarmuid and Sean will have to adapt our system due to rising meal and fertilizer prices to remain profitable.

What actions will Diarmuid and Sean take?

[Find out here](#)

Article on Water Quality

Housing of livestock

Livestock housed over the winter period need facilities that are fit for purpose and have adequate storage capacity for the statutory number of weeks. Farmers should ensure that their housing facilities are designed and used in a manner that minimises the potential impact on water quality.

[Click here to read more](#)

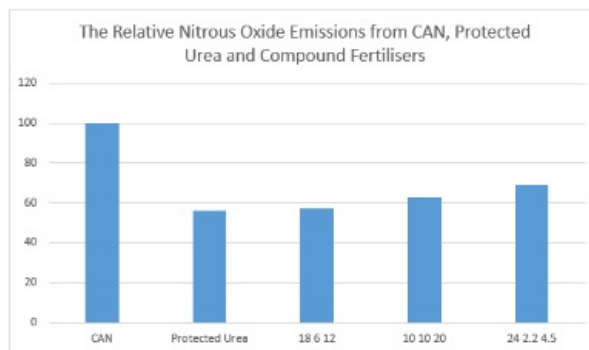
Research Updates

Ammonium-Based Compound Fertilisers Mitigate Nitrous Oxide Emissions in Temperate Grassland

Nitrogen fertiliser application represents the largest anthropogenic source of nitrous oxide (N₂O) emissions, and the magnitude of these emissions is dependent on the type of fertilisers applied in the agroecosystems. Despite N-P-K compound fertilisers being commonly used in agricultural soils, a lack of information exists regarding their effects on N₂O emissions. This study aims at examining the effects of different commonly used N-P-K compound fertiliser formulations with contrasting nitrate to ammonium ratios (0.05 to 0.88) on N₂O emissions, yield, and nitrogen use efficiency (NUE) in temperate grassland and to compare these variables with common straight N fertilisers.

Compound fertilisers with varying NPK inclusion rates (18-6-12, 10-10-20, 24-2.2-4.5, and 27-2.5-5), and CAN and protected urea (NBPT) were applied at 80 kg N / ha to experimental plots in managed grassland on two occasions in a growing season. Fluxes of N₂O during the experiment period, yield and NUE following two harvests were measured.

The cumulative N₂O emission from urea + NBPT, 18-6-12, 10-10-20, and 24-2.2-4.5 treatments were significantly reduced by 44%, 43%, 37%, and 31% compared with CAN treatment under conducive soil moisture condition.



The results suggest that ammonium-based compound fertilisers have a potential to reduce N₂O emissions while maintaining yields.

Further long-term study is needed to capture the full magnitude of variations in N₂O emissions, including ammonia (NH₃) volatilization from nitrate and ammonium-based compound fertiliser applications from multiple soil types and under different climatic conditions.

[Click here to read more](#)

Signpost Programme Update

With the help of their joint programme, local and ASSAP advisers the signpost farmers are currently completing their farm sustainability plans. The farm sustainability plans will assess all environmental areas on the signpost farms, namely gaseous emissions, water quality and biodiversity.

The initial gaseous emissions assessments are tailored to assess the farms on their current performance, short term goals and long term goals around farm actions that will have a positive impact in reducing total farm gaseous emissions. Areas such as fertiliser type used, soil fertility, slurry timing and spreading methods, animal breeding strategy, animal health strategy, age of slaughter, cover crops, flock performance and energy saving are all assessed on the farms. The planner uses a traffic light colour coded system to highlight deficiencies, areas for improvement and areas of best practice. The purpose of the traffic light system is to guide the signpost farmers towards best practice in reducing total farm emissions.

Gaseous Emissions									
Code	Issue	High Impact	Current	Target in Year 1	Target in 3 Years	Action Required (Ctrl & W to Edit)	Action Agreed	Reason for Not Acting	Visit/Cons 1-4
General Measures								Data Migration Builder	
GE1	Use of Protected Urea - Proportion of Total Chemical N as Protected Urea	None	<=44% N	>50% of N	I am committed to maximising the use of protected urea on my farm so as to reduce GHG emissions. I will replace CAU with Protected Urea. I will change the compounds I use to ones with higher levels of P and K to allow more Protected Urea.				
GE2	Soil Nutrient Management for improved N Efficiency	Follow plan a bit	Follow plan closely	Follow plan closely	I am committed to following my nutrient management plan on my farm so as to reduce GHG emissions. I will take soil samples for next season and every 3 to 4 years thereafter.				
GE3	Soil Status - Mineral Soils - Proportion of soils with pH at or above 6.2	50-75% above 6.2	50-75% above 6.2	75-90% above 6.2	I am committed to implement my liming plan on my farm so as to reduce GHG emissions. I will apply lime to all mineral soils below pH 6.2.				
GE4	P Index on High Output Pasture - Proportion of soils with P index 3 or 4	50-75% index 3 or 4	50-75% index 3 or 4	75-90% index 3 or 4					
GE5	Are you using LESS for Slurry application	Disable Bar	Disable Bar	Disable Bar					
GE6	Slurry Spread timing- % of Slurry spread before 10 May	<25%	<25-50%	>75%					
GE7	Proportion of Cover in Sward	Little or None	Low - But Managing for Cover	Moderate - 10-20% sward					

Once the sustainability planner is completed each signpost farmers will receive a report highlighting the areas for action to undertake to reduce farm emissions. The farms will be assessed also for water quality and biodiversity and areas for actions to maintain and improve water quality and biodiversity will be compiled for each farmer.

Policy Updates

Check out the latest update on emissions policy

[Click here to find out more](#)

The Environment Edge Podcast



The Environment Edge is Teagasc's environment podcast focusing on challenges and opportunities in agriculture. Presented by Cathal Somers and Deirdre Glynn, this podcast will bring you the latest information, science and opinion on farm sustainability. This week Deirdre and Cathal interview Senator Pippa Hackett on the challenges ahead

[Listen in here](#)

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