

Signpost programme

Signs for the times

The Teagasc Signpost Programme is promoting actions that are good for the environment and also save farmers money.



The Teagasc Signpost programme is devising emissions' reduction actions for different farm enterprises. This case study is based on an intensive, high-performing dairy herd in Munster.

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At this year's National Ploughing Championships, I met a group of Nuffield Scholars mainly from Australia and New Zealand. I outlined my recent move to the Advisory part of Teagasc's Signpost Programme. I told them about the new team in place, 21 climate advisors delivering workshops, promoting technologies that are good for the environment, preparing plans and visiting participants to support them in making the changes they plan to make.

Case study

Teagasc has prepared a number of case studies for different enterprises. We've looked at the implications of the actions taken on dairy and dry-stock farms from both economic and gaseous emissions reduction perspectives. Let's have a look at the example of an intensive, high performing dairy farmer from the south of the country.

Our farmer milks 113 cows and grazes 32 calves and 25 yearling replacement heifers on his 61 hectare farm (stocking rate 2.28 LU/ha). In 2021 the cows milked well and he sold 558 kg

milk solids per head on 1.1 tonnes of meal. That year he used 218 kg N/ha. The greenhouse gas (GHG) and economic impacts of the actions detailed are presented in Table 1 (opposite).

The GHG reduction achieved from all of the actions included in Table 1 cannot be simply added together:

Actions

For example, reducing replacement rate by 4% and reducing age at calving by 40 days don't give a combined GHG and cost reduction of 3% and €4,550 respectively.

However, the actions have the potential to reduce total farm emissions by approximately 12%.

Such a farm would milk the same

number of cows, have clover in every paddock, spread 135 kg N/ha across the farm and calve in 20 replacement heifers to produce the same milk solids yield. It would achieve a cost reduction for the same amount of milk produced of approximately €16,000.

Going to the Nuffield Scholars at the Ploughing Championships, one of them, with the benefit of an outsider's fresh perspective, asked: 'What you're telling me is that you're promoting actions farmers can take that are good for the environment and can save farmers money at the same time? So there's no issue getting them to change?'

When you look at it like that, it's a 'no-brainer'.



New Zealand visitors to the Teagasc exhibit at the National Ploughing Championships: (l-r) Professor Frank O'Mara, Teagasc; Ray Smith, director general, New Zealand Ministry of Primary Industries (MPI); John Roche, chief science advisor (MPI); Catherine Keena, Teagasc; (back) Ernest Stokes, New Zealand Embassy Ireland and Paul Maher, Teagasc.

Table 1: Financial benefits and GHG reductions from implementing individual climate actions on the case study farm.

Step no.	Farm action	Financial benefit	Farm GHG reduction
1	Change from 0% to 94% protected Urea	€3,000	8.40%
2	Applying lime - bringing soil pH to pH 6.2	€180	0.12%
3	Kg/ha	€1,806	1.10%
4	Low emission slurry spreading €450	€450	0.40%
5	Reducing chemical N by 20% €3,936	€3,936	2.40%
6	Reduce replacement rate by 4%	€3,950	2.00%
7	Incorporate clover and reduce fertiliser N input by 37%	€600	1.00%
8	Incorporate clover and reduce fertiliser N input by 37%	€7,182	4.40%

1. Assumes a cost of €500 and €300 per tonne of protected urea and CAN respectively.
2. Reduces fertiliser N requirement by 2 kg N/ha.
3. Currently 66% and 12% of the farm is at index 2 for P & K respectively.
4. Reduces fertiliser N required by 20 kg N/ha.
5. Reduces fertiliser N required by 5 kg N/ha.
6. Based on a replacement heifer calf value of €250/head and variable costs of €540/head.
7. Reduces fertiliser N required by 80 kg N/ha.

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