

Big future for Future Beef

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Future Beef is the new Teagasc suckler beef demonstration farm programme. It consists of a network of 24 demonstration farms positioned right across the island supported by three experienced advisors.

Each farm is typical of their region in terms of farm size, soil type, production system, stock numbers etc. The farms range in size from 13ha to 122ha, while herd size extends from 14-suckler cows right up to 112 cows. Systems represented on farms within the programme include selling weanlings, finishing heifers and steers, producing under 16 month bulls, with four farms buying in dairy-bred calves.

Mixed beef and sheep farms are also featured, with flock sizes of 50 to 250 ewes. There are also two organic farms. All within the one programme.

When designing the programme, we wanted an 'Operation Transformation' type model. There is one farmer, a 'leader' for the majority of systems within the beef sector – not a small task in the context of Irish agriculture. Regionally, each farm faces the same climatic and environmental challenges as their farming neighbours, while nationally, the financial and time pressures are the same.

Irish beef farmers produce a top-quality product that is sold worldwide and the Future Beef programme will demonstrate how it can be even better.

With the support of the Future Beef team, each farmer will endeavour to adopt efficiencies and technologies, new and old, to make beef farming more profitable, while also making it more environmentally and socially sustainable.

You would have to be living under a rock not to be aware of the growing concern in all sectors regarding climate change. This climate change is being driven by ever-increasing emissions of greenhouse gases (GHG), carbon dioxide (CO₂), nitrous oxide



Breda Meelin and Ed Curtin.

(N₂O), and methane (CH₄).

In agriculture, methane makes up 68% of total Irish agricultural emissions, while nitrous oxide makes up another 29.3%. Carbon dioxide only accounts for 2.7% of our agricultural emissions.

How are methane and nitrous oxide produced?

Methane is a by-product of digestion by ruminants, i.e. cattle, sheep and goats. In the rumen, bugs break down forage, a by-product of which is biogenic methane gas. The more fibrous the material, the more methane is produced.

Stored animal manure is also a source of methane. When slurry is stored in anaerobic conditions, the bacteria in the slurry break down the organic content and release methane

gas. Nitrous oxide (N₂O) is a gaseous form of nitrogen produced in the soil when microbes break down nitrogen (N).

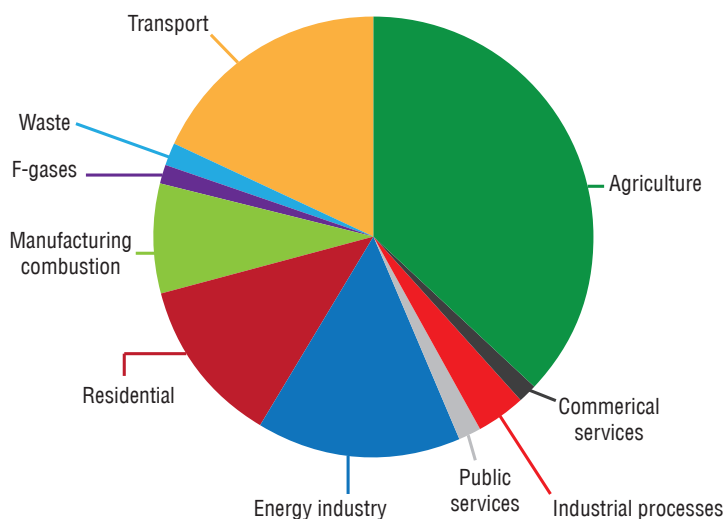
Last year in Ireland, due to the size of the agricultural sector in comparison to other sectors, we produced 37.1% of these gases, up 1.6% on 1990.

As can be seen from the chart below, the next largest emitter is transport at 17.9%. As we are such a large part of the problem, we must become a large part of the solution.

To that end last year, Teagasc launched the Signpost Programme and the Future Beef programme comes under its umbrella.

As part of the Future Beef programme, we will be supporting farmers to adopt technologies to reduce the level of GHG and ammonia emission from participant farms.

Greenhouse gas emissions share by sector 2020.



Key objectives

- Create more sustainable and profitable farms.
- Reduce greenhouse gas (GHG) and ammonia emissions.
- Improve water quality.
- Improve biodiversity.

Ed Curtin, Future Beef farmer

Ed Curtin is a new Future Beef farmer, based in Meelin, Co Cork. He is married to Eileen and last year they welcomed baby Aoibheann into the family.

Ed farms a suckler-to-weanling and dairy calf-to-store/calf-to-beef enterprise in partnership with his mother Breda.

The farm consists of three blocks of land, approximately 43ha in total. One of these home blocks is heavy in nature and is a Special Protection Area for Hen Harriers. Farming restrictions are in place to protect harrier habitats.

The second home block is also heavy clay soil, whereas the third block is rented land which is a lighter, more free-draining soil. Ed also works full-time as an area sales manager with Dairygold.

Ed is optimistic about the future of the beef industry and is focused on making a profit. He attributes this to his strong work ethic: "I am target driven, in the day job as well as farming."

He is breeding top-class weanlings by artificially inseminating his 25 Limousin cows with Belgian Blue or Limousin bulls. These calves perform well and averaged 1.12kg per day for 2020-born heifers and 1.26kg per day for the bulls.

Ed had some spring-calving cows, but plans to calve all the cows during the autumn, as it suits the land type on the farm. Some weanlings are kept as replacements, with the remainder sold at 10-11 months of age, weighing approximately 420-450kg.

Ed also buys in over 30 dairy-bred Angus, Hereford and Friesian bull calves and sells these as forward store bullocks at 550kg or more, or finishes them (depending on the market) at 22 months of age.


"There's no place in our system for poor-quality silage," says Ed, who aims to make his silage before 20 May every year, and targets over 72 DMD (dry matter digestibility).

This ensures that the cows milk well and are in good condition for breeding. It also means the calves, weanlings and stores perform well over their first winter. Ed tests his silage every year. "This means we can reduce ration costs, as we feed less concentrate, due to the high quality silage in diets."


Producing good silage also contributes to a reduction in methane emissions in cattle. They use less energy to digest leafy silage in comparison with poorer quality, stemmy silage.



Ed knows that it's through a combination of good health, breeding and nutrition that animals perform to their optimum and to ensure he is on track, he weighs all his cattle regularly.

He says: "I believe cattle are here for a good time not a long time, to achieve weight for age and for this it's crucial to monitor daily liveweight gain performance."



Teagasc Future Beef



As the farm is quite heavy in nature, he will continue to closely monitor his soil indexes and spread lime, slurry and chemical fertiliser to maximise grass production.

The challenges for Ed's farm include:

- Matching his farming system to land type and grass growth.
- Monitoring and improving technical efficiencies on-farm – fertility performance, etc as he firmly believes that "you can't control what you don't measure."
- Managing his Designated Hen Harrier land, which makes up 40% of the total farm area.
- Building soil fertility.
- Balancing his off-farm job with the

farm and family life.

Aisling Molloy is Ed's Future Beef advisor and Enda Maloney, who is based in Teagasc Kanturk, is Ed's local agricultural advisor. They will be working closely together over the coming years to improve the environmental and financial sustainability of Ed's farm.

For more information, check out the Teagasc Future Beef web page, and stay tuned to Facebook, Twitter and Instagram for regular updates on all 24 farms, plus information on upcoming farm walks and on farm meetings.