

Calculating the Carbon Footprint of your Farm

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The Environment is at the forefront of all our decisions these days as we actively make positive moves to lowering Greenhouse gas emissions (GHG) We know that Greenhouse gases have a negative impact on our planet. Greenhouse gases are Methane (CH₄), Nitrous oxide (N₂O) and Carbon dioxide (CO₂). In Agriculture, Methane (CH₄) and Nitrous oxide (N₂O) are the most important.

Farmers are being asked to reduce GHG from the farming system to control global warming. So where to start? Many farmers have a carbon emissions figure available to them but it may not be that easy to know where to locate this figure.

After each *Bord Bia* audit, all certified farmers receive a Farmer Feedback Report from Bord Bia with their *farm's carbon footprint* as well as an assessment of farm productivity, nutrient management, grassland, animal feeding and farm safety.

The carbon footprint refers to how much greenhouse gases (GHG) are emitted from an activity such as the production of milk or meat or driving a car or taking a flight. The emissions of all GHG gases are expressed as carbon dioxide equivalents (CO₂ Eq). In farming, the production of every kg of milk or meat or grain has a carbon footprint.

How is the carbon footprint calculated?

There are four sources of data required to complete an accurate calculation of a farms carbon footprint, using the Teagasc model.

1. Animal Identification and Movements Database (AIM) – DAFM – Beef and Dairy
2. Daily Live Weight Gain - Irish Cattle Breeding Federation (ICBF) – Beef Only
3. Milk Production Data – Dairy Processors - Dairy Only
4. Sustainability Survey – Scheme Members – Beef and Dairy. The sustainability survey is the only data source required for the carbon footprint calculation that is collected directly from the farmer.

How does the information provided in the Sustainability Survey relate to the carbon footprint?

1. Turnout and housing influences the calculation of manure storage emissions, grazing and digestion related emissions.
2. Manure management calculates the emissions from the application and storage of manure on the farm.
3. Concentrate feeding rates calculates the emissions associated with the production of concentrate feed fed to animals.
4. Fertiliser application data are required to track the emissions from the production of fertilisers and minerals and the emissions related to the application of fertiliser to the land.

It is important to note that inaccuracies in the data provided via the sustainability survey can result in an inaccurate carbon footprint and grass-fed result, and farmer feedback report.

When do you get the Farmer Feedback Report?

The feedback report is posted to the farmer within one week of certification of the Bord Bia audit. It can also be accessed from the audit portal website, www.farm.bordbia.ie using your herd number and pin (which you can reset if you have forgotten it!).

Where do you find the carbon footprint on the report?

Beef Farm

Parameter	Unit	Current assessment (Production year 2020)	% Change from previous (Production year 2018)	Average for Suckler to weanling/store farms
Carbon Footprint - Beef Enterprise	kg CO ₂ / kg beef live weight	11.75	-5%	13.28

The carbon footprint is displayed on the first page of the report. The example above is for a suckler to beef farm – the carbon footprint for this farm is 11.75 kg CO₂ / kg live weight which is 5% lower than it was in 2018 and compares well to the national average for suckler to beef herds which have a carbon footprint of 13.28 kg CO₂ / kg live weight.

Dairy Farm

Parameter	Unit	Current assessment (Production year 2020)	% Change from previous (Production year 2018)	Average for 100 - 125 cow farms
Carbon Footprint - Dairy Enterprise	kg CO ₂ / kg FPCM	0.84	-19%	0.96

The carbon footprint is displayed on the first page of the report. The example above is for a dairy farm – the carbon footprint for this farm is 1.10 kg CO₂ / kg FPCM which is 3% lower than it was in 2018 and compares well to the national average for herds of 125-150 cows which have a carbon footprint of 1.15 kg CO₂ / kg FPCM

Note: The Carbon footprint on Beef and Dairy farms is measured in different units and are compared within their specific enterprise

For example: Carbon footprint for Beef Farm measured in CO₂ / kg **live weight**
Carbon footprint for Dairy farm is CO₂ / kg **fat- and protein-corrected milk (FPCM)**

How do you know what is contributing to your carbon footprint?

Page three of the Bord Bia Feedback report shows a graph displaying the percentage share of carbon emissions on your farm under the following headings and farm activities: animal digestion; manure; fertiliser; forage/feed production; other (e.g. transport, fuel, etc.).

The report is a good starting point in measuring farm specific Carbon Footprint.

The **Teagasc Signpost** programme was set up to lead and support farmers in the transition towards more sustainable farming systems.

The Signpost Team are hosting a farmer webinar on Wednesday Oct 20th @7.30pm explaining where you can access the Carbon Footprint for your farm and how you use that information to reduce emissions.

To register for the event, please visit www.teagasc.ie/carbonfootprint