FORAGE *for* PROFIT

Farm Advisory Service

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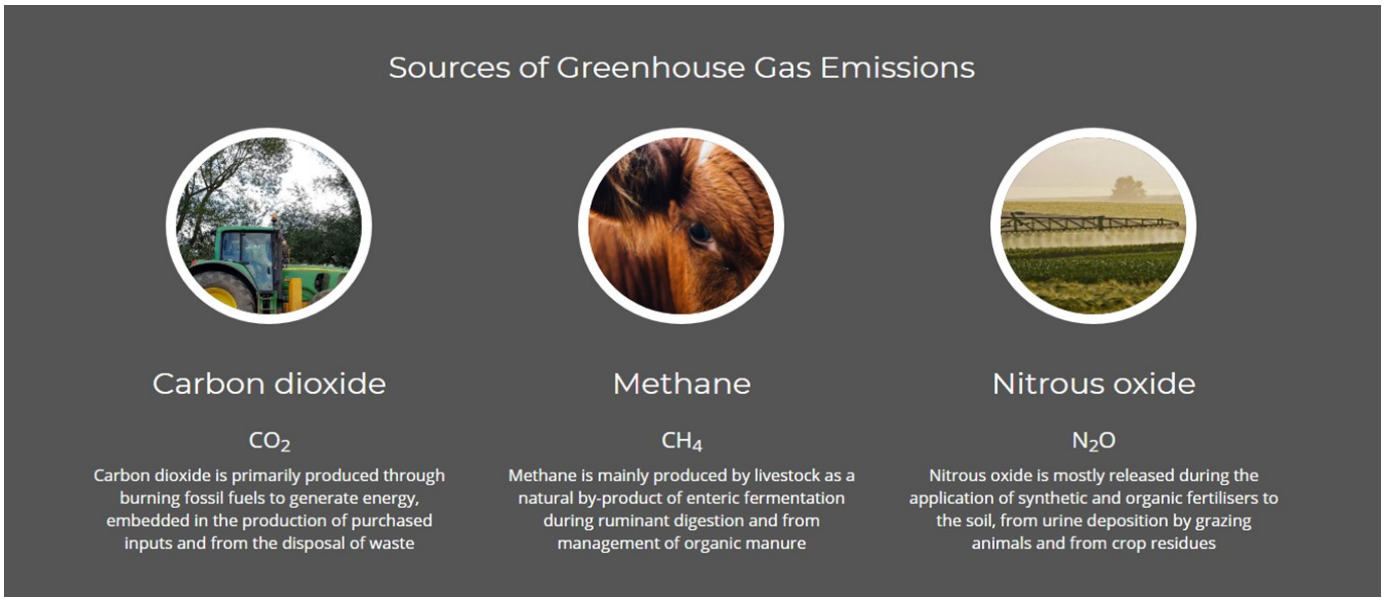
The Forage for Profit Discussion Group are a group of beef and sheep producers based in South West Scotland with a common desire to improve business profitability through improved utilisation of grass and forage crops.

A carbon audit measures emissions form farming practices against the output of produce from the farm to provide a figure of CO2 emissions per kilogram of output.



What is involved

A carbon audit requires accurate recording of information to truly measure the efficiency with which resources are used on farm. Some of the information which is required is:

- Land use area
- Crop yields and allocation of use
- Sales, purchases and deaths of all livestock
- Purchased feeds and bedding
- Grass and crop production
- Crop inputs such as fertiliser, lime and agrochemicals
- Fuel use (diesel, kerosene and petrol)
- Livestock performance such as lambing and calving percentage and daily liveweight gain
- Energy use
- Average stocking densities and liveweights throughout the year

It may seem daunting initially to gather this information but using accounting software to record number of lambs sold or litres of diesel purchased can make it easier in the future. This information can also be used for other benchmarking exercises so it can be time well spent to get to grips with the performance of your business.

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FORAGE *for* PROFIT — Carbon Audits

Group Results

The forage for profit group members each completed a carbon audit for the year 2020. The majority if businesses run a combination of beef and sheep enterprises. Although there are differences between the farms, benchmarking their information as a group will provide valuable feedback for them to formulate an action plan on reducing emissions on their own farm. The group are all within a small geographical area so the impact of weather patterns will be consistent across all businesses. Each business also has a shared desire to maximise their use of homegrown forage so establishing a baseline will enable them to monitor and measure the impact of management changes in the future.

The table below shows a snapshot of the groups emissions results in comparison to industry average figures:

	Sheep	Beef
Group Average Emissions	35.51	30.64
Benchmark Average Emissions	30.76	37.69
Group Range	21.49–46.64	25.64–37.79

A set of key recommendations have been laid out below which apply to all businesses, The Forage for Profit group intends to meet in 2022 and formulate a detailed action plan as to how they can reduce their C02 emissions from farming activities. This will require each group member to have a critical look at their management practices and identify the weaknesses before establishing how they implement the transformational changes.

For example, if soil pH is at 5.5 on a grass field, only 77% of inorganic nitrogen applied is available to those grass plants, this represents a financial and environmental loss. A recommendation to overcome this would be to apply 5t of ground lime/ha to raise the pH to a minimum of 6. This will increase grass yield, and provide a soil environment in which clover is more likely to flourish which will in turn reduce reliance on Nitrogen and purchased feed which will lower carbon emissions as well as reducing the likelihood of Nitrogen losses to the environment and financial loss to that business.

Key Recommendations

- Increase in rearing percentage of lambs and calves
- Increase in daily liveweight gain of youngstock
- Soil sampling to monitor soil fertility
- Use of precision slurry spreading equipment
- Consider planting trees
- Monitoring of herd and flock fertility
- Monitoring of fuel use
- Incorporation of clover and legumes into crop rotation to reduce fertiliser applications
- Consider use of renewable sources of electricity
- Min till cultivations to minimise soil disturbance