

# Malmesbury Monitor Farm

Meeting title: Towards Zero carbon farming

Date: 3 February 2020

Speaker: Becky Willson, Farm Carbon Cutting Toolkit



## Zero carbon farming

Everyone is talking about ‘carbon’ and ‘net zero’ - but what does it all mean? What is the size of the challenge and what needs to be done on this arable and beef mixed Monitor Farm to meet work towards the targets? While there are a multitude of Carbon Audits, measuring models and tools, Becky is Project Officer of The Farm Carbon Cutting Toolkit.

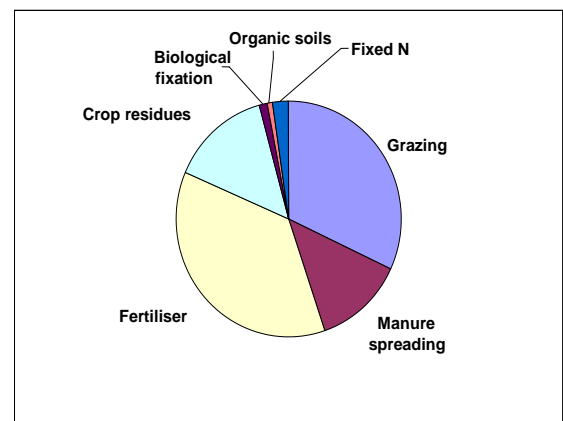
Agriculture accounts for 10% of UK emissions. Of these, the breakdown is as follows:

- 38% Methane (CH<sub>4</sub>)
- 54% Nitrous Oxide (N<sub>2</sub>O)
- 8% Carbon Dioxide (CO<sub>2</sub>)

Methane is generated from enteric fermentation, and released from manures and slurry. Hence it can be reduced from improved livestock health, modification of diet and breeding.

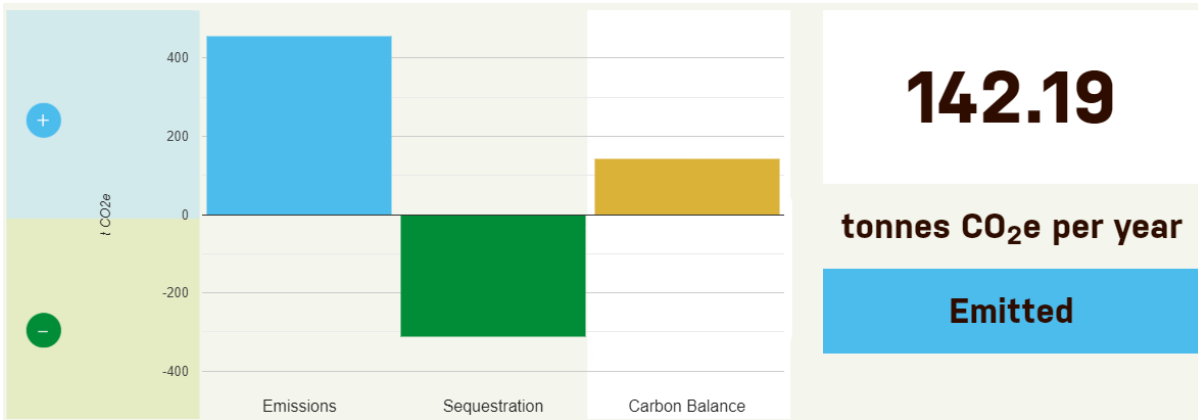
Carbon dioxide is released from burning fossil fuels, electric production, agrochemical manufacture and disturbance of the soil through cultivation.

Nitrous oxide emission is a complex picture but the majority is from soils and fertiliser production. Although the Nitrous oxide emissions account for just over half of the Agriculture total, that amount is approximately 80% of the UK’s total so clearly a high priority.

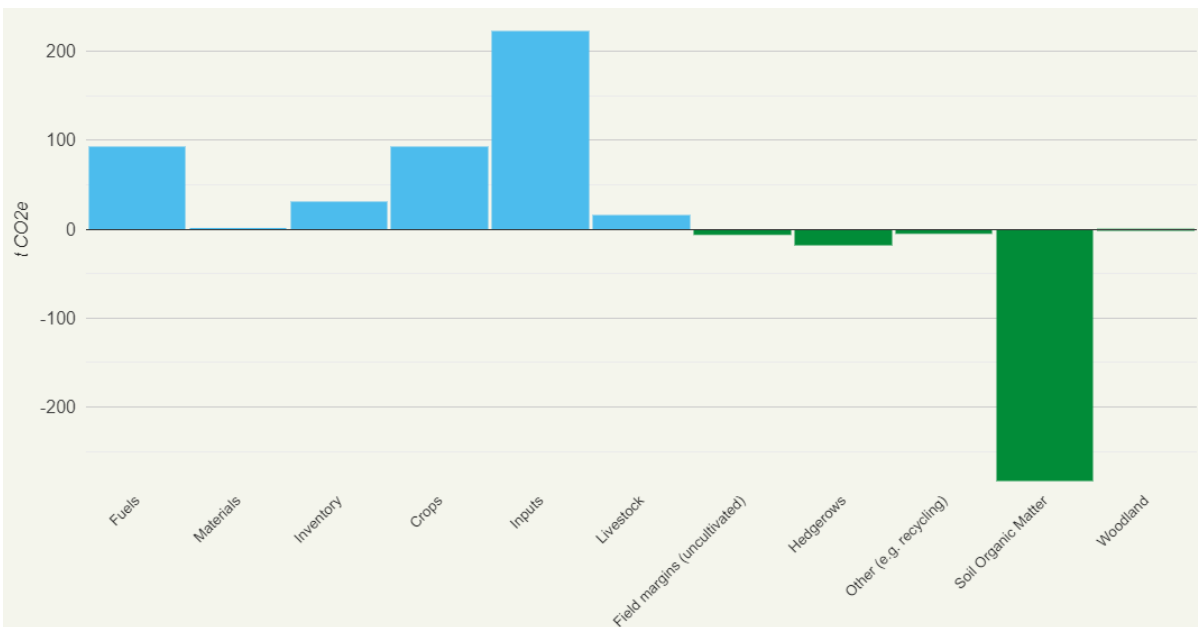


It was emphasised to the meeting however that methane and carbon dioxide (and livestock production) alone should not be the sole focus. Carbon measurement and management was a better overall parameter. Becky highlighted that whether considering carbon (soils and livestock) or nitrogen (soils and fertiliser), business efficiency (productivity) was closely related to the environmental impact of agriculture emissions.

Becky put Roger’s Lower Odd Farm figures through the Toolkit to look at the sources of emission, but importantly the levels of sequestration to try and redress the balance.



The Tool then breaks down the key totals as follows:



**Take-home messages – action plan for Lower Odd Farm - and many others!**

Armed with these facts the Monitor Farm group took different aspects of the model to draw up an action plan of points to consider to reduce emissions and increase sequestration.

- Review fuel management:  
Measure consumption, operator training, cultivation strategy (less soil movement), crop drying system, review PV
- Review fertiliser use and efficiency:

Test and maximise value of organic manures, tissue analysis, placement and variable rate technology, protected Nitrogen products, source of nitrogen, little and often application strategies

- Review livestock system:  
Intensity, age and timing of finishing, grass growth management and utilisation efficiency, use of clover
- Review rainwater harvesting
- Increase tree population and management on farm
- Consider agroforestry on permanent pastures
- Make more use of field margins with different grass species
- Review Hedgerow management:  
Less flail, more woody growth, more trees

The meeting realised how crucial baselining of the current position is, and importantly, and very positively, that farming practices, particularly carbon management and sequestration, can make a difference. Agriculture can play a major part in the solution to emissions problems.

#### Further information

- [Carbon footprint decision support tool](#)
- [Achieving net zero – NFU article](#)
- [Farm carbon cutting toolkit](#)

## AHDB resources

- Understand your business costs with AHDB's benchmarking tool Farmbench at [ahdb.org.uk/farmbench](https://ahdb.org.uk/farmbench)
- Monitoring tools are available at [ahdb.org.uk/tools](https://ahdb.org.uk/tools)
- Sign up to market information and research newsletters at [ahdb.org.uk/keeping-in-touch](https://ahdb.org.uk/keeping-in-touch)
- Find out what's going on at other Monitor Farms and Strategic Farms at [ahdb.org.uk/farm-excellence](https://ahdb.org.uk/farm-excellence)
- All AHDB events can be found at [ahdb.org.uk/events](https://ahdb.org.uk/events)
- For guidance on how Brexit will impact your business, see [ahdb.org.uk/brexit](https://ahdb.org.uk/brexit)

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