

# Torr climate change focus farm meeting



Farmer discussion group meeting held at Torr with visit to Culnaightrie Farm, Auchencairn, on Friday 29<sup>th</sup> September 2011 at 10.30.

## Meeting theme – Soil structure and farm profitability

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Often, steps which benefit the farm in terms of efficiency can also reduce carbon emissions. Around 40% of greenhouse gas emissions from UK farms can be in the form of nitrous oxide, a powerful greenhouse gas implicated in climate change. We will never eliminate these losses entirely, but farmers can turn this to their advantage, as better soil management to decrease emissions can also benefit the farm business.

Soil was the theme for this meeting; good soil structure across the farm can increase farm profitability. The morning was spent at Torr looking at soils structure on the farm with a visit in the afternoon to Culnaightrie by kind permission of William Lindsay to look at his min-till system. Alongside farmers Ross Paton and William Lindsay, the invited speaker was SAC soil specialist Bruce Ball. The meeting was chaired by Gillian Reid.

### Soil structure reminder

SAC's Bruce Ball gave a recap on soil biology and outlined how a poor soil structure could be costing you more than you think.

Soil structure refers to the arrangement of particles and pores within the soil. In a well structured soil, the pores allow roots to grow down through the soil profile to access nutrients and anchor the plant, water to drain through and/or be retained in the pores, the formation of air pockets allowing the roots to 'breathe' and provide a healthy environment for soil microbes.

Soil problems are not always easy to identify in the early stages; common issues include compaction, surface capping and formation of anaerobic layers. All of these can significantly affect crop and or grass growth, indirectly affecting farm profitability. Bruce went on to give a range of tips about how to identify soil problems and deal with them plus ideas to avoid some of these soil structural issues forming in the first place.

### Farm soil samples

Unlike soil texture (e.g. sandy or loamy soils), there are things we can do to improve soil structure. Farmers were invited to bring in a spit of soil from their farm for assessment. There was a good range of soils on show, with some providing excellent examples of soil structure but others needing a bit of work to remedy structural issues. Bruce provided a handy guide to assessing your soil structure at [www.sac.ac.uk/mainrep/pdfs/pgsoilstructure.pdf](http://www.sac.ac.uk/mainrep/pdfs/pgsoilstructure.pdf).



## Soil Pit at Torr

The only way to really get a handle on what happening under your feet is to dig a soil pit and take a look at the soil layers. In a nearby field containing a rotationally grazed short term grass mix Ross and Bruce dug a soil pit to investigate if the soil structure could give any indication as to why the field was not performing as well as expected. The main issue revealed was the shallow rooting depth.

Ploughing-in manures, planting deeper rooting crops and even agro-forestry were all discussed as potential remediation options.



## Culnaightrie soils

Following lunch, the group visited Culnaightrie, a neighbouring beef and sheep farm. Farmer William Lindsay explained the minimum tillage approach he used at Culnaightrie.

Bruce noted that the drier and more stable structured the soils then the greater chance of success a min till approach. Min till isn't suitable for all sites; more care would need to be taken on heavier soils and possibly wouldn't be suitable on sites with poor drainage. A few soil spits were dug at Culnaightrie to reveal a rich and well structured soil.



## Summary

After a practical day on farm, key messages were:

- Poor soil structure can cost you money
- It's worth digging a few soil pits around the farm. It could reveal previously hidden top soil or subsoil issues
- Min-till could help to protect soils but its not suitable for all sites

More information on min till is available in SAC Technical Notes; see

[www.sac.ac.uk/mainrep/pdfs/tn553minimumtillage.pdf](http://www.sac.ac.uk/mainrep/pdfs/tn553minimumtillage.pdf) and [www.sac.ac.uk/mainrep/pdfs/tn580reducedtillage.pdf](http://www.sac.ac.uk/mainrep/pdfs/tn580reducedtillage.pdf)

### Do you farm and would you like to attend to future meetings?

The meetings provide sensible ideas for the farm business, from invited speakers and other farmers, to improve efficiency whilst reducing the loss of greenhouse gases. It's free to come along and you will be able to influence future topics, speakers and location of meetings.

The SAC facilitators role at Torr is shared by David Keiley and Gillian Reid. For details of the next Torr event you can contact either David at the SAC Dumfries Office on 01387 261172 or email [david.keiley@sac.co.uk](mailto:david.keiley@sac.co.uk) or Gillian in the SAC Bush Office on 0131 535 3435 or email [Gillian.reid@sac.co.uk](mailto:Gillian.reid@sac.co.uk)

If you want to keep up to speed with what's happening at Torr but don't want to attend all the meetings, ask to be added to the Torr email list; you will receive notification of future events and meeting notes.

Visit the website at [www.farmingforabetterclimate.org](http://www.farmingforabetterclimate.org) or email a general enquiry to [climatechange@sac.co.uk](mailto:climatechange@sac.co.uk)

