Improving farm profitability

Local farmers and growers were invited to the first meeting of the new climate change focus farm by kind permission of Willie Officer and family.

Willie farms at Ardoch of Gallery near Montrose in Angus. The arable farm covers just over 131 hectares, growing winter wheat, spring barley, oilseed rape and seed potatoes. The business has recently diversified into daffodils, with 8ha in bulbs and significant investment in new storage facilities.

Willie (pictured with SRUC’s David Ross) has volunteered to act as a Climate Change Focus Farm. Over the three year initiative, Willie and family, with support from SRUC, industry specialists and together with a local grower discussion group, will investigate and share practical measures to improve farm efficiency, resource use and profitability and in turn, reduce the farm carbon footprint.

Here’s an overview of some of the topics covered by the guest speakers, plus suggestions from those attending about which topics they would like to focus on in greater detail at future meetings.
Improving farm soils
Check and remedy any soil structural problems to benefit crop yields

By digging a soil pit at the entrance to a field currently in potatoes, visitors were able to view the soil profile which revealed a wet and compacted layer, likely as a result of trafficking.

SRUCs Gavin Elrick explained that once soils are compacted and the soil pore spaces are compressed, less water can be held within the soil to support crops during drier spells and the ground has less capacity to retain water at times of heavy rain, increasing the risk of flooding and subsequent soil loss through erosion. Loss of these pore spaces means soils are less able to adapt to our variable climate.

For growers, trafficking is the one of the main culprits when it comes to compaction. Bigger and heavier machinery, grain trailers running on super singles and incorrect tyre pressures were all cited as contributory factors towards an increased risk of soil compaction.

Precision farming
Improve efficiency and reduce costs

Nutrient applications were discussed by a number of speakers and growers in the four groups. Aiden Moynahan from SOYL explained that by collecting soil samples linked to GPS, a soil map could be built up showing the variation in soil nutrient status. Maintaining the correct pH is vital to avoid wastage; low pH will prevent nutrient uptake. Many in the group were already taking this in hand and had moved to variable rate spreading for lime.

At around £1000 a time to fill the spreader, adopting a variable rate application allows you to target bought in nutrients to exactly where they are needed within each field. Aiden covered some of the work he was doing with Unmanned Aerial Vehicles (UAV’s) or ‘drones’ and multi spectral imagery from the growing crop and satellite data, linking low plant numbers to levels of soil P, which is difficult to detect by eye alone at ground level.
Profiting from potatoes
Investigate scope to improve margins through targeted inputs

Phil Smith from Syngenta highlighted a range of ideas to reduce emissions and improve profits in the potato crop. Potatoes have a relatively low carbon footprint per kg when compared to other food products, yet there was still scope for growers to better-target inputs and improve profits with no loss of yields. Craig Herkes from Agrii noted the ever changing spectrum of blights and other diseases, which may become harder to deal with as our climate becomes wetter and warmer, stressing the importance of variety choice and robust spray programmes to protect yields. Each individual plant needs to be putting all its energy into growth rather than being compromised by infection.

Craig also looked at different aspects of cropping. With both potatoes and bulbs at Ardoch, soils will be worked hard. Maintaining and building organic matter levels is key for any arable unit; chopping straw, green manures, cover crops and composts were all discussed as potential opportunities. With a late harvest, getting a cover crop in and growing can be time limited, but with careful crop choice (and subject to rotation) this may be a good option to protect soils and boost organic matter for some farms.

Assessing soil structure
Soil texture is what you are given; soil structure you can influence.

Gavin Elrick demonstrated how with just a spade, you can tell a lot about soil structure. Laminated copies of the VESS guide – Visual Evaluation of Soil Structure – were handed round so participants could take a look at soil structure at home using this easy method. Copies are available to download here.
Benefitting from climate change?

Covering the science behind climate change, Scottish Governments Gordon Struth highlighted 5 key areas, focused on practical, low or no cost actions to improve farm profitability and reduce the farm carbon footprint. Gordon was able to confirm that the new requirement for soil testing on agricultural land was likely to be in place by late 2016.

SRUCs Alan Bruce illustrated efficiency savings gained by other farmers. For example, by applying agrichemicals at optimum rates and timing, reducing soil compaction, improving land drainage and selecting high yielding varieties suitable to local conditions, one farm increased crop yields by 5%. The increase in sales boosted profits and reduced equivalent CO₂ emissions by 6% per kg of grain sold.

How efficient are you?

Carbon emissions are a waste which could be costing you money. The AgRE Calc resource efficiency audit carried out at Ardoch of Gallery showed that the farm already has a low carbon footprint, but there is still scope to reduce emissions with no loss of productivity. SRUCs Gillian Reid explained you can measure efficiency at home with AgRE Calc. Farmers at the meeting were offered the opportunity for a consultant to collect the data, produce the report and go through the findings with them. Interested? Contact David Ross (details below) or Gillian Reid on 01738 636 611 or gillian.reid@sac.co.uk to discuss.

Next meeting

Timing of N applications, machinery performance, minimising fuel use, cover crops and renewables were all ideas the group wished to follow up. Keep an eye on our Facebook page and Twitter account for further details.

Meetings are free to attend and all farmers are welcome.

For Ardoch of Gallery, contact farm facilitator David Ross in the SRUC Stonehaven Office on 01569 762 305 or david.ross@sac.co.uk

Funded by the Scottish Government as part of its Climate Change Advisory activity

www.farmingforabetterclimate.org