FFBC News

The Farming for a Better Climate Newsletter

June 2014 (no. 8)

SRUC

In this edition…

Farms with a low carbon footprint are often also the most efficient.
From on-farm renewables to making best use of nutrients, the Farming for a Better Climate (FFBC) newsletter keeps you up to date on activities under the initiative. We highlight ideas that could help to improve farm efficiencies, increase farm profitability and also result in a lower farm carbon footprint.

Introducing the NEW Climate Change Focus Farmers

Following the successes shown at Torr, Glenkilrie and Stewart Tower in the first round of Climate Change Focus Farms, Scottish Government's Cabinet Secretary for Rural Affairs and the Environment Richard Lochhead MSP announced additional funding for the initiative, allowing us to double the number of farms we are working with from four to eight.

Farmers John Kerr, David Barron and David Girvan (from left to right) joined Cabinet Secretary Richard Lochhead (3rd from left) at the recent event at Easter Howgate Farm near Penicuik to launch the next phase of the initiative.

We hope to be able to tell you more about the other farms in the intitiative shortly; but for now, here's a bit more information about the first five to join the 2014 – 2017 programme.

Nether Aden

Nether Aden is owned by husband and wife partnership David & Nicola Barron. The farm covers 208 hectares near Mintlaw in Aberdeenshire where David rears and finishes 110 suckler cows.

Crops at Nether Aden include spring and winter barley, whole crop, winter wheat, winter oilseed rape plus grazing and silage ground. David has also made use of shelterbelts.

The farm covers the main arable and cattle enterprises typical of NE Scotland, so is ideally placed to explore a range of efficiency measures that their neighbours will be able to gain from too.

David said *"I am looking forward to participating in this initiative. It will give me the opportunity to look very closely at my business and its impact on the environment. It will allow me to look at more efficient methods, leading to improvements in profitability and also the sustainability of the farm, both for myself and also future generations."*

Woodhead

John Kerr, in partnership with mum Anne, runs 180 dairy cows plus followers in Ayrshire. The farm covers 141 hectares plus additional rented land for grazing. The family farm provides an excellent opportunity to explore and share practical measures that John and Anne can consider to benefit the farm business.

John already accounts for nutrients in slurry and manures via a nutrient budget for the farm and has recently begun to put in place a paddock grazing system to make best use of grass on the farm.

John said "*The plan at Woodhead is to look at ways to increase the yield of the herd without compromising milk solids. We are also looking at renewable energy opportunities to reduce costs and develop new income streams into the business"*.

The following three farms are taking a slightly different approach by working together as a '*Highland Efficiency Network'*. The network will compare and contrast current practices, looking for practical ways to make best use of inputs and improve farm efficiencies.

Corrimony

David farms with his parents Lindsay and Maime Girvan. The farm covers 3,035 hectares and is made up of predominantly permanent grass and hill ground. Corrimony has 130 spring calving cattle, along with 550 ewes with lambs all finished on the farm. David is keen to explore new ideas, for example choosing less common breeds where it would better suit his system.

The business has diversified with a holiday let, installed a biomass woodchip heating system for the farm cottages, a ground source heat pump and a recent wind farm with a community turbine.

David said *"We have tried to introduce different breeds in the last few years to find a system that suits the farm and we would like to work out exactly how efficient they are. We are keen to improve grassland productivity and increase output per hectare. We are looking forward to an increase in efficiency, improving the sustainability of the business for the future of the family"*

Auchmore

Stephen and Sheena Mackenzie run Auchmore Farm just outside Muir of Ord in partnership with Stephen's brother Donald. The farm covers 303 hectares of mainly grass and hill ground.

Crops include 8 hectares of turnips and 40 hectares of forestry. The farm runs 85 autumn calving Shorthorn and Saler cattle with calves sold as store. There are 250 pure Cheviot ewes plus an additional 800-1000 lambs bought in to finish. Stephen and Sheena have a wind turbine at Auchmore with plans for a second, plus a microhydro scheme and solar PV panels.

Stephen said "*We see this as a development of previous group work where we can take forward ideas encountered to a practical level for this unit. It is also an opportunity to test our business and our ideas against others in a similar position".*

Clynelish

Currently our most northerly focus farm, Clynelish near Brora in Sutherland is run by Jason and Victoria Ballantyne in partnership with Jason's father Murdoch. The tenanted farm covers 121 hectares of grass and hill supporting 75 suckler cows and around 500 ewes. A further 80 acres of rough grazing is rented locally. A sheep stock club of 235 ewes provides extra size and viability to the business.

Jason said *"Our main aim is to reduce our costs and inputs and we believe that this will work hand in hand with reducing our carbon footprint. A more unpredictable climate will increase the risks to our business and make future planning more difficult. Climate Change should be the focus for all farmers going forward"*

How can you benefit from work at the focus farms?

The discussion groups provide a forum to demonstrate and discuss ideas with other farmers and a range of invited specialist speakers; it's a good venue to find out what others are doing, see what's worked well on other farms and pick up practical hints and tips. The farm discussion groups are free to join and you will be able to benchmark your farm, helping you identify areas for improved profitability within the business (you will be under no obligation to reveal financial data about your farm, unless you want to of course). For more information on the discussion groups our contact details are at the end of the newsletter. You can also keep up to date via our webpages at www.farmingforabetterclimate.org, on Twitter @SACFarm4Climate or via our new Facebook page (coming soon!).

Counting carbon

There are lots of ways to compare your farm performance with like businesses. A carbon footprint may sound like a chore, but identifying ways to make better use of resources (inputs) strongly correlates with **reduced production costs per kg of output**, giving scope to improve farm profitability.

AgRE Calc, a newly launched agricultural resource efficiency tool, can show where the farm is performing well and point towards a few tweaks to improve efficiency, save money and demonstrate a reduction in the farm carbon footprint. Here are a couple of examples of savings identified at the first round of climate change focus farms:

Reduced age of calving
David Houstoun at Glenkilrie found he could reduce the cost of raising replacement heifers by calving at 24 months instead of at 36 months. From an initial trial batch of 20 heifers it was estimated that by reducing the age of calving, the business saved £7,000 and reduced emissions by 19.90 tonnes due to a lower feed requirement.

Improved energy use in the dairy
At Torr farm, Ross Paton found that energy use in the dairy could be reduced by replacing the constant speed milk pump with a variable speed milk pump, increasing insulation on two hot water tanks and resetting the time clocks on the boilers to take full advantage of cheaper tariffs. These actions contributed to a reduction in electricity use, saving £1,900 and reducing emissions by 13.33 tonnes during the initiative.

Renewables
Stewart Tower Dairy ice cream parlour and farm shop had a high demand for electricity; savings could be made by installing renewables. The business erected a 100kW wind turbine, estimated to save nearly £12,000 per year in electricity costs, reducing emissions by around 120 tonnes annually. You can read more about the turbine at Stewart Tower here.

How do you compare?

We will continue to use AgRE Calc at the Climate Change Focus Farms. Sign up (its free and confidential) and see how your farm compares. There are other carbon footprinting tools available, such as Cool Farm Tool, FCAT CPLAN and CALM. Although the results from individual tools are not directly comparable with each other, all will give a good indication of your farm carbon footprint and suggest areas for further investigation to improve farm profitability.

CAP Reform

Cabinet Secretary for Rural Affairs and the Environment Richard Lochhead recently announced how the Scottish Government intends to implement CAP Reform, details of which can be found on the Scottish Governments website here. Although the announcement remained lacking in some implementation details, it has provided clarity about the direction of the new CAP. With the changes proposed many farm businesses will be faced with significant reductions in their subsidy income; making more efficient use of resources will therefore be essential going forward. It's anticipated that support will be available under the new Rural Development Scheme for carbon auditing, helping businesses to identify practical efficiency measures.

Update: Meetings at Upper Nisbet

Robert and Jac Neill at Upper Nisbet are currently in the last year as a climate change focus farm; their results will be reported later in the year. Here we highlight two meetings held over the winter months:

'Away day' at Whitsome East Newton

Upper Nisbet discussion group were kindly invited by arable monitor farmers Alistair & John Hodge to Whitsome East Newton earlier in the year. Alistair spoke about the changes they had made to crop establishment and improvements in nutrient and fuel use, taking steps such as rationalising farm machinery to reduce fixed costs.

A crop walk gave an opportunity to discuss topics ranging from timing of fertiliser application and sprays, to the value of taking tissue samples before applying trace elements. Poor crop establishment and low grain price were outlined as two major threats to any arable business; the group was challenged with the question of what can be done to build in resilience, especially in light of the developing CAP reform. You can read the notes from the meeting and see a farm spray plan prepared by guest speaker Fiona Burnett from SRUC here.

Looking forward; ways to improve arable margins

Often its not one action that will make the difference, it's a range of steps that all add up to improve farm margins. With this in mind, and building on the visit to Whitsome East Newton, Upper Nisbet focused on crop nutrient, trace element requirements and early season fungicide programmes at a meeting back in March.

Guest speaker SRUC Soil Specialist Alex Sinclair discussed the fertiliser policy and top dressing; Robert highlighted how they have targeted pH levels across the farm to achieve optimum soil conditions for the growing crop. Key points from the meeting included:

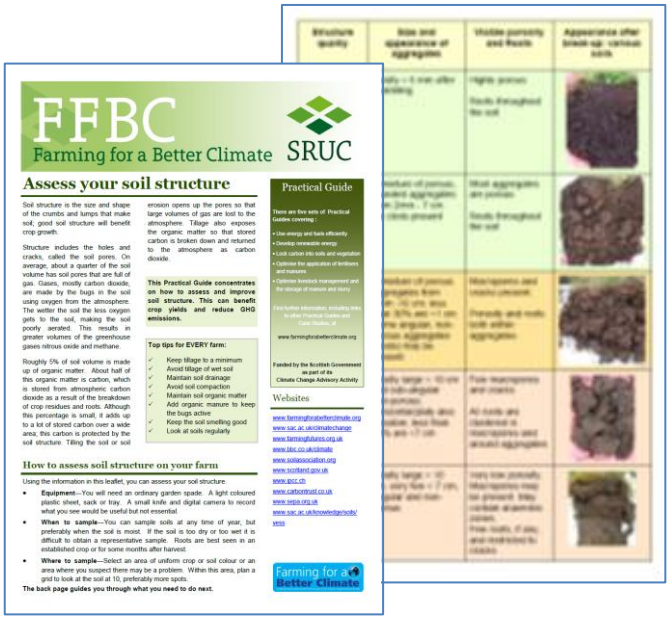
- Balance nutrient applications with soil nutrient status and crop demand
- Get full N application on in good time for the growing crop (based on nutrient budget)
- Sulphur additions may not always be required
- Take tissue samples before applying trace elements

SRUCs Donald Dunbar (L) and Alex Sinclair (R) discuss potential trace element deficiencies.

Notes from the all the focus farm meetings to date are available here.

Soil Structure – the foundation of your farm

Soil is often referred to as the most important asset on the farm; healthy soils not only support profits but can lock up carbon as soil organic matter.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Assess your soil structure
Practical Guide
Websites
How to assess soil structure on your farm

Protecting and improving soil structure was the topic of a meeting at Dalivaddy Farm, Drumlemble in Kintyre in November 2013. Courtesy of the Ralston family, and with guest speaker SAC Consulting's Soil and Drainage Specialist Gavin Elrick, the effect of soil compaction and how crop growth as well as drainage can be affected if farm soils are neglected was highlighted. Glenside Tractors of Campbeltown kindly demonstrated machinery to aid soil aeration and remediation techniques were discussed.

There are a range of practical guides that cover soil issues at the FFBC website, including step by step guides on how to visually assess your soil structure, tips for improving soil quality and field drainage.

Soil and Nutrient Network

Managing soils and nutrients can save the business money and improve efficiency; that was the message at a recent event at Ednie Farm in Aberdeenshire as part of the Soils and Nutrient network.

Six farms are participating in the network to see how they can make better use of nutrients and improve farm soils. To date, the participating farms have had soils analysed on 12 fields across the farm, along with investigations into soil structure and nutrient status. A second meeting will follow up on the changes made at the host farms.

One farmer said "*its useful to take a back to basics approach, the meeting provided a good refresher*". You can read more about the farms and their findings here.

Reducing waste and improving outputs

Farmers and crofters on Skye had two opportunities to hear about various measures that could improve farm profitability at Inverienate Estate, By Kyle and Waternish. Topics ranged from fertiliser spreader calibration to weed control and improving habitat for bumblebees. It was a timely reminder about the importance of soil pH status, the impact this can have on nutrient uptake and ultimately on farm profits.

Not quite feeling the (renewable) heat…

Back in March 2014, visitors to the Woodfuel Renewables Open Day at Swanbister were greeted by gales and horizontal rain on their arrival. Looking at a six year old 1 hectare plot of willow in such miserable conditions demonstrated some of the challenges faced when establishing and harvesting trees on Orkney.

However, with a warm drink and a sit down at the local pub, SAC Consulting's Simon Amor spoke about some of the requirements for tree establishment and grants that would be available to farmers and crofters on Orkney, leaving colleague John Farquhar to discuss a range of opportunities for landowners under the Renewable Heat Incentive (RHI) Scheme to conclude the meeting. "*Despite the cold and wet weather, it was a very useful day overall*" commented one farmer.

Forthcoming meetings and events

We hold meetings and events across Scotland. Keep an eye on our webpage and twitter feed to see what's coming up.

FCS suggests new opportunities for new woodland

Planting woodland not only creates a timber resource for the future, it can also help to make your property more resilient to the effects of climate change and generate long-term incomes, writes Julie Paton from Central Scotland Green Network (CSGN). If you are looking to boost your business, new woodland creation on your land could be an option.

Roger and Susan Lucey of Gartmorn Farm Poultry, a 46 hectare free range poultry farm near Alloa, have recently completed their second phase of tree planting in 10 years. In 2005, 7.5 hectares of native woodland were planted to screen the farm which overlooks the popular Gartmorn Dam Country Park. In 2012, a further 18 hectares of grassland was put into mixed woodland. Linking to the path network around the Dam and adjacent woodland, the new woods provide trails and a timber resource in the years ahead. "*It just made sense*" says Roger "*The grants were more attractive than the rental income from grazing lets and we didn't have a business need for the land. In the future we could use the new woods to rear birds but meantime, we've created an asset for ourselves and the community*."

Assess your potential

Forestry Commission Scotland and Soil Association Scotland are looking for farms in the Central Scotland Green Network area (from Ayrshire and Inverclyde in the west, to Fife and the Lothians in the east) to host *'Assessing Your Potential'* farm walks throughout 2014. Host farms will be offered a free assessment of existing woodland to identify potential costs, savings and incomes which could be generated through new planting or taking woodland into management. The findings will inform a half-day open farm walk and discussion to look at the options and share ideas with other land managers. For further information, contact julie.paton@forestry.gsi.gov.uk or call 01698 368546.

Selecting slurry spreading systems

Picture a traditional slurry spreading system - most of us probably still think of a tanker spraying a large arc of slurry behind it as it travels round the field. Increasingly, we are

being encouraged to consider alternatives which can benefit both the environment and the producer's pocket, writes Chloe McCulloch, Agricultural Consultant with SAC Consulting.

Splash plate application can result in up to 30% of the available nitrogen in the slurry being lost as ammonia gas in the first 3 hours, increasing to 80% in the following 12 hours. This is because the action of spraying the slurry exposes a large surface area to the air – air fresheners are effective for the very same reason.

Even at light applications, the splash-plate effectively coats the grass with slurry. This is unpalatable to stock for long periods and, at heavier applications, you could risk be bringing it back in with a silage crop. Alternatives worth considering include a trailing shoe, band spreading and injection (shallow and deep).

Band spreading (placing slurry close to the ground rather than through the air) reduces ammonia losses – though it still coats the grass. A natural progression from the band spreader is a trailing shoe (pictured). The 'shoe' is pulled through the base of the sward depositing the slurry underneath the leaves.

Deep injection (to around 6") can be very successful on the right ground – hard stony fields are out. Injection into much shallower channels (shallow injection) is more widely suitable.

Placing slurry below the grass leaves means that stock can be moved back onto the grass relatively quickly and opens up the possibility of using slurry in a paddock grazing situation. Equally slurry can be applied to silage crops 6 weeks before cutting with no adverse effects on silage quality.

New look website

The *Farming for a Better Climate* website has had a bit of a make-over. There's more information about the focus farmers and a range of practical guides and case studies, showing what steps others have put in place to improve their farm efficiency and adapt to our changing climate. Let us know if there are other things you would like to see on there. We're always looking for new case studies, so if you would like to tell others what you are doing on your farm, we would love to hear from you!

Improving efficiencies in the sheep flock

With information ranging from nutritional change to handling systems, a meeting at Kirkton and Auchtertyre earlier in the year showcased measures farmers can consider to improve efficiencies in the sheep flock.

Demonstration of ewe feeding and management systems, plus the electronic shedder, gave participants a chance to be hands on with the sheep. Hearing from both specialists and researchers working with the flock at Kirkton and the farm staff, highlighted how some of the research finings were being translated into routine activities on the farm.

The team at Kirkton and Auchertyre have recently released a video on the benefits of electronic identification of sheep (EID); you can view the video here. To read a bit more about about some of the more general challenges at Kirkton and Auchtertyre farms and how they are adapting to a changing climate, follow the link here.

Dates for the Diary

The FFBC meeting programme will begin later in the summer. However there are still a range of events focusing on improving profitability going on across Scotland; for example:

Soil and nutrient management and efficient grassland production

2nd July – Strone Farm, Fort William

With kind permission from Malcolm Cameron, the team at SAC Consulting Oban office are inviting you to take a look at farms soils, nutrient management and efficient grassland management strategies. The event is free to attend but please reserve a place for catering purposes through frbsOban@sac.co.uk or calling the SAC Oban office on 01631 563 093.

Paddock grazing for profit

8th July - Forgandenny, Perthshire

The Soil Association Scotland is hosting a practical introduction to paddock grazing and the benefits it can bring, optimising animal performance from pasture. Speakers include Murray Rohloff, NZ sheep/grazing consultant and Robyn Hulme, Easyrams, plus visit to Culeuchar Farm courtesy of Michael Blanche. It's free to farmers and land managers & £60.00 plus VAT to others. To reserve a place/for further information call Lyn on 0131 666 0847 or email lwhite@soilassociation.org

Biomass, Solar and Wind Energy

22nd July, Woodend Farm, Berwickshire, Duns

By kind permission of John Seed, NFUS Renewables Development Initiative are running a visit to Woodend Farm. The meeting will look at the 950kW batch boiler, providing heat for a drying floor and a district heating system, plus a 50kW solar PV array and a 75kW wind turbine and will have installers of renewables on hand to discuss a range of options for those considering renewables on their farm.

Biomass, Solar and Wind Energy

30th July – West Mains of Kinblethmont, Arbroath

NFUS Renewables Development Initiative are running a visit to Robert Ramsay's West Mains of Kinblethmont Farm to see two installed batch boilers (300kW and 600kW) and two wood chip boilers (75kW and 195kW). Particular focus will be given to the grain drying system which is run off the two batch boilers and the upgrading works that Robert is looking at. There's also an operational 11kW Gaia wind turbine and a 50kW solar PV system.

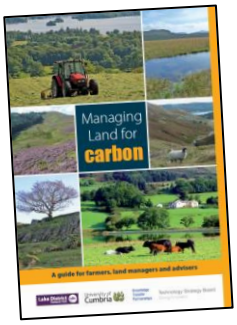
For more information or to book a space on either of the *Biomass, Solar and Wind Energy* RDI renewable events please email RDI@smithsgore.co.uk.

Useful publications

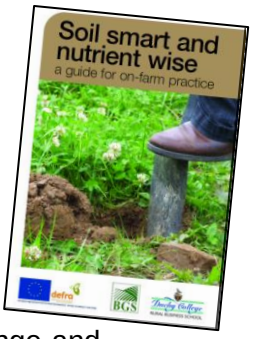
Aside from our Farming for a Better Climate practical guides and farm case studies, here are a couple of publications from different organisations that you might be interested in:

Managing land for carbon

Developed by the Lake District National Park, the guide looks at ways farmers can protect and sequester carbon and benefit the farm business. Its worth a read – you can download by following the links here, or paper copies can be requested from the Lake District National Park head office: 01539 724555 or hq@lakedistrict.gov.uk



Soil smart and nutrient wise



The British Grassland Society has just produced a useful guide on soil and nutrients, setting out activities on a seasonal basis. Although regulations refer to England and Wales, it's still got some useful information in there. You can view a copy here.

What is FFBC?

Messages in the media can often leave you confused about climate change and the impact it could have on your business. With Scottish Government funding and support from NFUS, SRUC are running the Farming for a Better Climate (FFBC) initiative, focusing on improving the profitability of the farm business, which in turn will help to reduce farm emissions linked to climate change and help to demonstrate that the agricultural sector is taking action.

We all want to hand on a thriving and profitable business. With changing weather conditions and increasing prices, this is becoming more of a challenge.

The key to reducing greenhouse gas emissions is **improved efficiency**, which is also vital for a sustainable and profitable business.

Working with volunteer climate change focus farmers (Figure 1), the initiative promotes 5 key action areas to improve farm efficiency:

- Using electricity and fuels efficiently
- Developing renewable energy
- Locking carbon into the farm
- Making the best use of nutrients
- Optimising livestock management

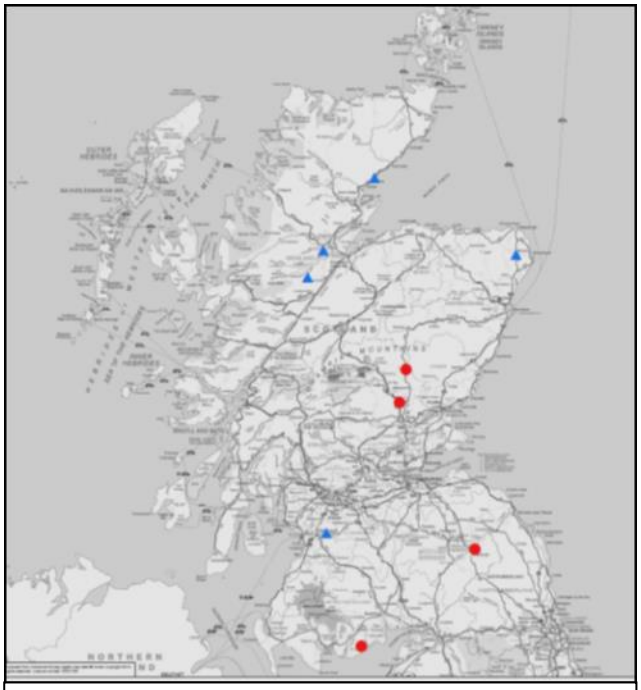


Figure 1. Location of climate change focus farms
○ - 2010 to 2013 farms; △ 2014 to 2017 farms

As demonstrated by the first four climate change focus farms, even already technically efficient farms can still improve efficiency, save money and reduce the farm carbon footprint.

Taking a second look at routine practices could help you to identify further efficiency savings. For ideas and information, see www.farmingforabetterclimate.org.

Getting in touch

What would you like to see covered in future newsletters, practical guides or at farm meetings and events? You may already be taking steps to mitigate or adapt to climate change; we would love to hear about them.

You can send a general enquiry to climatechange@sac.co.uk or contact one of the team:

- **Project Coordinator** – Rebecca Audsley, SAC Consulting Auchincruive Office. Email rebecca.audsley@sac.co.uk Tel 01292 525 089

- **Upper Nisbet** Focus Farm Facilitator – Moira Gallagher, SAC Consulting St Boswells Office. Email moira.gallagher@sac.co.uk Tel 01835 823 322

- **Auchmore, Clynelish and Corrimony** 'Highland Efficiency Network' Focus Farms Facilitator – Jenny McCallum SAC Consulting Farm Business Services (FBS) Inverness Office. Email jenny.mccallum@sac.co.uk Tel 01463 233 266

- **Nether Aden** Farm Facilitator – Alan Bruce SAC Consulting FBS Turriff Office. Email alan.bruce@sac.co.uk Tel 01888 563 333

- **Woodhead** Focus Farm Facilitator – Robert Ramsay SAC Consulting FBS Ayr Office. Email robert.ramsay@sac.co.uk Tel 01292 525 252

- **Glenkilrie** and **Stewart Tower** Focus Farm Facilitator – Peter Lindsay, SAC Perth Office. Email peter.lindsay@sac.co.uk Tel 01738 636 611

- **Torr** Focus Farm Facilitator – Gillian Reid, SAC Perth Office. Email gillian.reid@sac.co.uk Tel 01738 636 611

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