

Farming for a Better Climate



Working towards net zero carbon at High Garphar Farm

Scott Shearlaw farms at High Garphar near Maybole, South Ayrshire, Scotland, in partnership with his parents. The farm extends to 560 acres, milking 380 mainly crossbred cows producing 3 million litres of milk per year. The farm has four employees.

The milk produced at the farm is sold through First Milk, a British farmer-owned dairy co-operative. The milk from Scott's farm goes to Nestle to make chocolate crumb, which is manufactured in the nearby town of Girvan, to make the well-loved Kit-Kat biscuits. Kit-Kat aims to be carbon neutral by 2025. Like all dairy farmers in Scotland, Scott adheres to the standards set out in the Red Tractor Food Assurance Scheme.

A number of measures have been introduced at High Garphar to help reduce emissions and increase carbon sequestration, supporting the journey towards net zero carbon.



Dairy sector in Scotland and Ayrshire

Scotland is rightly proud of its dairy sector, with the mild, and damp climate of Ayrshire being ideal for growing lush pastural grass which cows turn into the most fantastic quality milk. Ayrshire is home to 213 herds of dairy cows reflecting the family nature of the businesses who contribute greatly to the both the local Ayrshire economy and our landscapes.

Reducing fossil fuel use

Scott has invested in a 30,000l milk silo, moving to an every second day collection rather than a daily milk uplift. Reduced collection frequency has meant less trucks on the road. Scott has also invested in renewables on the farm, with both solar panels and a biomass boiler. These provide heating and power needed for the dairy system and the requirements for the family homes, which has further reduced the reliance on fossil fuels.



Case Study

Find out how other farmers are improving profitability and adapting to a changing climate in our series of case studies, or take a look at our practical guides covering:

- Energy and fuel use
- Renewable energy
- Lock carbon into soils and vegetation
- Optimise the application of fertilisers and manures
- Optimise livestock management and the storage of manure and slurry

For more information, visit our webpages at

[Farmingforabetterclimate.org](https://www.farmingforabetterclimate.org)

or find us on Facebook and

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Optimising livestock performance

Using grass measuring technology and grass management software, Scott is able to manage the supply and demand of grass to his cows to ensure that his cows are grazing pastures at the optimal growth stage to provide a nutritious and efficient natural feed supply for the cows. Silage is tested to establish its nutritional value and the cows diets are tailored accordingly. Scott also includes the use of 'super grains' in the cows feed, a by-product from Scottish distilling, rich in natural protein and energy.

Cows have access to grazing for at least 180 days per year, and the farm has an active animal health and welfare plan for happy and contented cows. When the cows are not grazing, during the colder and wetter months, they are housed in a modern and bright unit with comfortable cubicles.

With the use of pedometers for cows, Scott and his team are able to provide real-time welfare monitoring. Scott can act quickly when he notices any changes in animal behaviour.

The farm breeding policy uses artificial insemination with sexed semen. The female calves are reared to join the dairy herd and any male calves are finished through to the red meat market. These measures make sure that livestock performance is optimised but with the health and wellbeing of the cows being foremost.

Soil management

The farming sector is committed to help to tackle climate change and support sustainable practices to help the country deliver net zero. Another way Scott has reduced emissions is by protecting and improving farm soils. Healthy soils are better at recycling nutrients, store more water helping to reduce flooding risks and support plants at time of drought, and require fewer inputs to be productive. After taking a detailed look at soils and grazing ground across the farm, Scott recently purchased a grassland rejuvenator to assist with grass reseeds and reduce the need to plough. Reducing soil disturbance is another effective way to minimise the release of carbon.



Improving productivity

By introducing measures to improve efficiency, Scott has increased productivity which delivers both environmental and economic benefits for his farm business and helps to reduce the carbon footprint per litre of milk produced.

Useful resources:

- Farming for a Better Climate - [Farmingforabetterclimate.org](https://www.farmingforabetterclimate.org) or find us on Facebook and follow us on Twitter @SACFarm4Climate
- First Milk - www.firstmilk.co.uk/
- Kit-kat - www.nestle.com
- Dairy sector and climate change www.gov.scot/publications/dairy-sector-climate-change-group-report/
- Valuing Your Soils - Practical Guidance for Scottish Farmers www.farmingandwaterscotland.org/soil-nutrients/valuing-your-soils/
- NFU Scotland - www.nfus.org.uk/policy/environment-and-land-use/climate-change.aspx
- Quality Meat Scotland - www.qmScotland.co.uk/sites/default/files/cop26_toolkit_2.pdf
- Red Tractor Assurance Scheme - <https://redtractor.org.uk>