Farming for a Better Climate

Working towards net zero carbon at Millburn Farm

Millburn Farm is a beef and sheep unit based in Harray in the West Mainland of Orkney run by the Sandison Family. It is 1.3 miles off the A986, with the land in three distinct blocks. One block of land is at the main steading, the second block of land is around 0.5 miles away and the third block of land is 8 miles away from the main steading off the A965. Steven and Lorraine, with help from their children Carmen, Callie and Glen, are first generation farmers who started farming in 2003. Since 2003 they have managed to expand the farm to 380acres (154ha), all owner-occupied.

The farm runs around 100 simmental and saler cross suckler cows, with the offspring sold as weaned calves. All replacement heifers are home-bred. The unit also supports 160 breeding sheep, with the lambs sold store in September and also grows some spring barley.

Carbon footprinting

Steven has completed several annual carbon audits on Millburn as part of the Beef Efficiency Scheme, his first carbon audit indicated the herd was producing 34.67kg CO_2e/kg dwt in 2017, through attention to detail and increased efficiency measures such as making best use of manures produced on the farm, this has now dropped to 30.26kg CO_2e/kg dwt. Completing a carbon footprint gave another way for the farm to look at business performance and point towards areas where there may be scope to reduce emissions and improve efficiencies.

Overall Millburn is working hard to run an efficient herd, keep CO_2e down as much as possible and produce a good quality product which buyers and ultimately the public appreciate.

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 or find us on Facebook and follow us on Twitter @SACFarm4Climate

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Knowing what you have got

Despite Steven having a deep hatred for school, he was always interested in cattle and in particular record-keeping. This is probably one of the main reasons he was picked to be Orkney's first Monitor Farm in 2012. After the Monitor Farm project concluded he has awarded a Nuffield Farming Scholarship to ascertain the answer to two questions - what is a realistic number of calves to wean from 100 cows, and how do you achieve that?

The scholarship proved to Steven that benchmarking and record keeping are vital to move your business forward and were essential components to making the farm as effective as possible. His aims are to have a simple system which makes the most of grass while being efficient and as profitable as possible.

Steven's suckler cow herd statistics compared well and in some cases exceed the national averages and national targets. What Steven did find was how difficult it was to obtain national data and that how keeping your own records to monitor your own performance was essential to run a business efficiently and to improve your business going forward.

Ways to improve efficiency - a tighter calving period

One detail in Steven's system is that of his very strict calving period. This short, compact calving has several advantages, it results in reduced labour, a reduced risk of disease spreading from older to younger calves and increased weaning weights with even batches of calves to sell. It also increases the number of heifers that reach a suitable weight for bulling and able to calf at two years of age. By adhering to a compact calving, the Sandison's are able to maximise the potential from grass, as the grass starts to grow, Steven's herd are calved and ready to go out to graze. This reduces the farm's costs and takes advantages of the grass growth cycle, meaning less additional feed has to be bought in.

Supporting biodiversity

The business lies on the boundary of the West Mainland Moorlands SSSI, designated for its importance for Hen Harrier, Short Eared Owl and Red Throated Diver. The farm is also within the Knowes of Trotty Local Nature Conservation Site (LNCS). This wetland LNCS is important for species such as Marsh Marigold (right), Rib Wort Plantain, Birds Foot Trefoil, Rush, Iris and Bogbean. The LNCS is especially important for Lapwing (right), Snipe Curlew, Redshank, Skylark, Twite and Hen Harrier.

The business has an Agri-Environment Climate Scheme, concentrating on management options to benefit wader birds found in the LNCS such as Curlew, Redshank, Oystercatcher, Lapwing and Snipe.