

# Farming for a Better Climate



## Working towards net zero carbon at Gaindykehead Farm

John Brown and his family have been farming at Gaindykehead Farm near Airdrie in North Lanarkshire for many generations, operating a dairy farm in the 1960's up to 2006 when they decided to cease milk production on their 102 hectare unit and started finishing cattle bought from other farms and crofts around Scotland.



Annually the business buys in around 2,500 beef bred steers and heifers at around 500kg liveweight and finishes them on a ration of potatoes, silage and barley in around 100 days. The farm utilises home grown grass silage and food waste in the form of rejected potatoes from supermarkets and other products such as bread waste to feed their cattle. They also use wood fines from local mills to bed cattle, which is also surplus to other industries needs.

### Making the best use of resources

Gaindykehead is a grassland farm; the type of land isn't suited to the production of crops or vegetables. Grass is grown in a traditional way and is cut twice a year, usually in June and August depending on the weather, and stored as silage to feed to the cattle throughout the year.

Alongside the silage grown on the farm, Gaindykehead also utilise other products to supplement the cattle's diet that have become surplus to requirements and destined for disposal. This includes potatoes that don't meet supermarket specification and other nutritious food wastes, such as bread waste and vegetable off-cuts.

In 2013, an estimated 987,890 tonnes of food and drink in Scotland was wasted. When we waste food, we also waste all the energy and resources that went into producing, processing, transporting and cooking it. On top of this, food waste in landfill can generate additional emissions in the form of methane gas.

Businesses such as Gaindykehead provide a valuable solution for food waste, turning food that would otherwise go to landfill or anaerobic digestion, into a high quality food source in the form of Scotch Beef.

Using non-edible potatoes and vegetable waste is also good for the farm too. Gaindykehead's 2020 carbon audit showed that their cattle perform much better on this diet than average, with cattle gaining 1.17kg/day (industry average is 1.0kg/day of weight gain), leading to the farms carbon emissions being around 63% lower than average.

### Case Study

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- 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

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## A specialist beef finishing business

Specialist finishing businesses such as Gaindykehead, are strategically important to the wider red meat supply chain in Scotland, creating a market for beef store cattle born all over Scotland in places where the landscape is not able to support the full production process. Over 90% of all cattle finished in Scotland come from a finisher unit, supporting the supply chain from local butchers to supermarkets. The finisher unit carries lots of risk, buying, feeding and selling in a very volatile market all year round.

At Gaindykehead, animals are bought from local markets in Stirling, Lanark and Ayr plus others as needed across Scotland. Through actions such as utilising precision technology, integrating non-edible food waste, and improving soil management, beef finisher farms such as this one play an important role in maintaining the social fabric of Scotland, alongside producing food in a climate friendly manner.

## Investing in technology

Gaindykehead has invested in new technology to help them utilise data to manage inputs within the production process.

Using funding from the Agricultural Transformation Programme, a cattle weigh crate and new handling facilities were installed. This enables John and the team to regularly weigh cattle to assess how they are responding to the diet they are on, and whether there are any health and welfare issues that need to be addressed. The handling system allows medicines and any treatment the cattle require to be administered in a safe, calm and stress free way for both animal and farmer. Technology can be used to individually monitor animal performance, so that bespoke treatment plans can be applied.

## Utilising renewables

Gaindykehead make use of all the natural resources on farm, including the weather! Renewable energy was added to the farm in the form of a 100KW wind turbine that generates electricity for another income stream, as well as exporting electricity to the grid. This means that the business runs off clean, non-fossil fuel electricity, further reducing the farms impact on the environment.

## Using nutrients produced on farm

Being a grassland farm, Gaindykehead are very input-lite in nature, and are lowering their inputs further by making best use of the slurry produced on site by the 2,500 cattle that spend time here over the year. The farm has invested in storage to hold slurry over the winter, for application in the spring and summer when the grass is growing and nutrients will be best utilised. Using slurry as a natural fertiliser has reduced the need for bagged fertiliser from 50 tonnes/year down to 10 tonnes or less. Gaindykehead is run as an original example of the circular economy.

Following a Carbon Audit, Gaindykehead has identified further changes to improve soil health. Plans include increasing the number of soil samples taken to better target the use of nutrients using precision technology. Reseeding and having young grass has helped produce quality fodder, and introducing a form of grassland management called 'rotational grazing', where cattle will rotate around smaller areas in the fields, also makes best use of grass on the farm and naturally encourages grass growth.

## Supporting biodiversity

The landscape around Gaindykehead makes it a natural haven for wildlife and nature. Gaindykehead is typical of many farms in Lanarkshire, protecting and improving farm soils and managing grassland, whilst taking care of other semi natural habitats such as hedgerows. A mixture of habitats supports other species, such as brown hare, curlew and lapwing, and insects that are important within the natural food chain.

