

TORLOISK FARM MANAGEMENT

Presenter

Torloisk Farm

Description

In Scotland, climate change and the resulting change in weather patterns have already notably affected the growing season and increased the life cycle and activity of many plant and animal parasites/pests. Colder springs in the West are causing a shortening of the growing season and warmer winters allow livestock parasites to thrive all year round.

The increase in extreme weather patterns has caused grass production and crop harvest issues as a result of dry or wet spells being more concentrated and storm activities having notably increased. The much higher rainfall rates in many parts of Scotland is causing limited field access to machinery as well as livestock poaching, leading to a narrow harvest window and animals having to be housed for longer periods between autumn and spring. This adds further pressures in form of a greater need to purchase external inputs such as feeding and bedding, and potentially increased animal health issues associated with housed livestock.

The main focus on the farm to adapt to climate change is to selectively breed for animals suited to specific environment and climate and which are therefore more capable of dealing with the challenges thanks to their superior genetic potential, as well as to adjust health management and feeding regime in response to changing weather patterns in order to ensure that animal health and welfare is not compromised.

The main focus of Torloisk farm to try to mitigate the effects of climate change is to work with traditional breeds best suited to the farm type and able to thrive on minimum external inputs in order to be as self-sufficient as possible and keep any purchased inputs to a minimum. This helps to significantly reduce GHG emissions associated with the manufacturing and processing of these inputs and the associated travel incurred for the delivery of those goods to the farm. Another focus is to increase and improve efficiencies via genetic trait improvement to produce more output per unit of input, and to manage the grassland in such a way that it does not require high levels of fertiliser input and is able to sequester carbon.

Practices implemented on the farm:

- 1) Genetic trait selection and performance recording (adaptation and mitigation);
- 2) Adjusting health management (adaptation);
- 3) Grassland management (adaptation and mitigation);
- 4) Changing the feeding management (adaptation).



Results

- Genetic trait selection and performance recording (adaptation and mitigation): the selective breeding and detailed performance recording has led to better animal health and welfare by reducing incidences of ill-thrift and poor animal health, better overall performance of the farm's stock, and better use of both on-farm resources and external inputs. It has had a significant financial impact by reducing costs and increasing income, and the improved efficiency of the system thanks to these measures has reduced the impact on the environment and carbon footprint. Working with animals that are perfectly suited to the environment in the region/area also means that they deliver important environmental benefits by maintaining and enhancing local plant and animal habitats, therefore allowing local species to thrive and biodiversity to be encouraged.
- Adjusting health management (adaptation): the adjusted health management has ensured that animal health and welfare are maintained throughout the year despite the increased parasitic activity. The increased need for purchased animal health products to protect livestock from parasites has led to higher financial costs to the business and the resulting emissions associated with the manufacturing and delivery of the products has led to a higher impact on the environment.
- Grassland management (adaptation and mitigation): the better grassland management overall has led to better grass production on the farm from less fertiliser inputs which has led to a higher profitability to the business and less emissions associated with fertiliser manufacturing and delivery, therefore delivering benefits to the environment. The more natural grassland management has also been of particular importance to a range of important and endangered plant and animal species which can thrive on these areas. The natural and traditional appearance of the landscape as a result is of wider benefit both socially and economically by attracting tourism to the area.
- Changing the feeding management (adaptation): the adjusted feeding management has ensured that animal health and welfare are maintained throughout the year despite the more challenging growing conditions. The increased need for purchased feeding where the growing season is poor has led to higher financial costs to the business and the resulting emissions associated with the growing, processing and delivery of the feeding has led to a higher impact on the environment.

Climate smartness

It is important to highlight that this project was designed to respond to possible climate change impacts on livestock systems and create a highly productive and efficient process on the use of available resources. Practices focused on food management are highly related to mitigation, as they help reduce the amount of methane and nitrous oxide emissions, two of the most important greenhouse gases. On the other hand, the practices on genetic selection and sanitary management are more focused on climate adaptation. All these actions, in a certain way, contribute to increase the system's productivity, which is reflected in a higher income for producers. The project addresses the CSA approach and its three pillars: adaptation, mitigation and productivity. Additionally, it is important that the project focuses on supporting the strengthening of weather information flows so that farmers have access to that information. Moreover, their empowerment regarding the use of such information is highly relevant to the process, in order to ensure that producers can continue implementing CSA practices based on the identification of the aspects to be strengthened in their productive systems and adjusted to their socioeconomic and environmental conditions.

