

# Farming for a Better Climate



## Kirkton and Auchtertyre

Kirkton and Auchtertyre are SRUC's research farms in the West Highlands. They host scientists and staff from SRUC's Hill and Mountain Research Centre (HMRC) who manage projects using the livestock, land and vegetation on the farm.

The farms rise from the cultivated flood plain of the River Fillan, climbing high above the West Highland rail line, to a series of mountain tops at the head of the catchment.

The livestock enterprise, like much of the highlands of Scotland, is concentrated on hill sheep, with currently more than 1,600 sheep (ewes, hoggs and gimmers).

Most recently, new native woodlands, extensive lowland and hill paths, Strathfillan Wigwams and a farm shop have been established to diversify the opportunities on the farms.



Name	Tony Waterhouse
Farm	Kirkton and Auchtertyre Farms
Locality	Crianlarich
Farm Type	Sheep
Size	2,200 ha

This case study looks at practical steps Kirkton and Auchtertyre farms are taking to adapt to a changing climate.

## How is climate change affecting the farm?

We only need to look at previous weather records on the farm to see that we are already experiencing more extreme weather events. For example, 2011 was the wettest year since rainfall figures were first recorded in 1991, while 2010 was the driest year on record. 2011 was also a very stormy year, with severe gale to storm force winds causing damage in February, May and December.

We are already experiencing changes in our climate. For example our poly tunnels have been destroyed twice; first by high winds and again by heavy snow fall. A major flash flood in June 2012 associated with an intense thunderstorm, caused some £30,000 worth of damage to hill roads, fences and water gates, tearing up the farm yard and flooding the farm offices. The unpredictable nature of current weather patterns affecting Kirkton and Auchtertyre mean that we are looking at ways to minimise the impact of unforeseen climate events.

## Case Study

Find out what other farmers are doing to improve profitability and adapt to a changing climate in our series of case studies.

There are five sets of Practical Guides covering :

Use energy and fuels efficiently

Develop 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

Find further information, including links to other Practical Guides and Case Studies, at



[www.farmingforabetterclimate.org](http://www.farmingforabetterclimate.org)

Funded by the Scottish Government as part of their Climate Change Advisory Activity

## Websites

[www.farmingforabetterclimate.org](http://www.farmingforabetterclimate.org)

[www.farmingfutures.org.uk](http://www.farmingfutures.org.uk)

[www.scotland.gov.uk](http://www.scotland.gov.uk)

[www.adaptationscotland.org.uk](http://www.adaptationscotland.org.uk)

[www.sruc.ac.uk](http://www.sruc.ac.uk)



# Kirkton and Auctertyre

## Minimising fence repairs

We have chosen not to go for full deer fencing surrounding woodlands up the hill; instead we have a stock fence and an electric offset wire to keep deer out of planted areas. This was partly due to costs involved in replacing deer fences which are at greater risk of heavy snow damage and quick melts 'dragging' fences; current fences seem to be standing up well to this. Landslides, linked to extreme rainfall events, are also a big risk to fencing, especially if it cuts across fence lines. Currently this destruction of fences occurs on average every second year or so.



## Managing floodplains

High rainfall means flooding is becoming more frequent. We haven't increased our flood banks to keep water out of the meadows, but we have been forced to put in an 'exit' channel to let the fields drain quicker – floods were taking 3-5 days or more to clear from important fields. This time has now been reduced to around a day. In terms of these fields operating as a flood plain, the burn can still flood the farm fields, but the exit channel has helped water to clear the flooded fields sooner.

## Sheep management

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We can make good quality baled silage for sheep but only in about 3 years out of 5. Winter feeding practices present problems, as it becomes harder to spread out the feeding points using tractors with heavy bales. Sheep tend to use the wet silage a bit differently from hay, hanging around at feeding sites and grazing less widely. Fewer feeding sites, more tracking with tractors and poaching by sheep all combine to increase ground damage at feeding sites. Welfare has also been a key consideration, as sheep were getting too dirty and wet (the dirt making fleeces trap water). We have now reverted to bought in hay, but shifted from small bales (as used before the silage years) to big bales. For future sheep feeding, we are planning a snacker pulled by a small 4x4 buggy to dispense concentrates and reduce poaching risks.

## Sheep health

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Maintaining animal health is always the top consideration; we've worked at both worm and fluke detection and control. It's widely accepted that there are now greater risks from these pasture linked diseases, and they are less predictable in terms of their seasonal occurrence. Our policy is based on vigilance and surveillance, rather than relying on seasonal or date-based health plans. We now have a programme of faecal sampling and linked treatment that can deal with the ups and downs in weather patterns.

## Breed choice

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As a Research Farm, we are able to consider which breeds may be more adaptable to our changing climate. We have run an upland breed – the Lleyn, alongside our Blackface ewes for the past 5 years. Comparisons are on-going, but the Lleyn clearly benefit from the generally milder and shorter winters, yet cope pretty well in hard cold weather. Good animal health and nutrition coupled with generally milder winters and potentially earlier springs have given us greater flexibility in breed choice.

## Next steps

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Focusing on animal health and winter ewe nutrition has given us more capacity to handle new challenges created by the predicted range in weather, giving us a greater tactical capacity to cope.

Strategically, a breed shift, a focused programme of fluke and worm monitoring, a move from silage back to bought in hay, better machinery and an investment in a snow plough attachment for the tractor has made Kirkton and Auctertyre more robust in terms of dealing with unexpected weather events as predicted under climate change.