

Farming for a Better Climate



Ardoch of Gallery

Ardoch of Gallery near Montrose in Angus is owned and farmed by Willie Officer in partnership with his parents. There are two full time staff.

The arable unit covers 131.6 hectares and grows oilseed rape, winter wheat, spring barley and seed potatoes. A further 70ha is rented within 10 miles of the farm for both seed and ware potatoes. In recent years, Willie has diversified into bulbs, with 8ha of daffodils. A new potato/bulb store was completed in 2013 with support from SRDP funding.

Willie contract farms at nearby Clearbank (50ha) and West Mains of Rossie (160ha), growing salad potatoes and malting barley.

The business carries out specialist potato contracting operations from planting through to harvest on approx.

100ha for Farmcare (formerly the Co-operative Farm group). Willie also undertakes winter roads maintenance work for Angus Council.

This case study looks at some of the things Willie and his family are considering to increase both efficiency and profitability at Ardoch of Gallery, whilst improving farm resilience in a changing climate.



Name	Willie Officer
Farm	Ardoch of Gallery
Locality	Angus
Farm type	Arable
Size	131.6 ha

How might climate change affect Ardoch of Gallery?

In common with most farms, it will be the unpredictability and extremes of weather that could add an extra level of complexity to the day to day activities for us here at Ardoch of Gallery.

Changing rainfall patterns can have a big impact on us, depending on the intensity and time of year; too dry and we need to rely on irrigation for the potatoes; too wet and that gives us problems for field work, especially at harvest. Prolonged use of potato/bulb stores alongside the grain dryer also adds to energy costs and further reduces profits.

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

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

Websites

www.farmingforabetterclimate.org

www.adaptationscotland.org.uk

www.agrecalc.com



Ardoch of Gallery

Nutrient use

Ardoch of Gallery is in a Nitrate Vulnerable Zone (NVZ). We already carry out GPS soil testing and draw up a nutrient budget on a field by field basis.

Based on the soil testing results, we work with a contractor who uses variable rate application for lime. We would like to expand this to P & K, targeting applications within fields as required.

With yield mapping on the combine, this will be another way we can look at our efficiencies and adjust our management accordingly.

Benefit from findings at Ardoch of Gallery

Along with meetings at Ardoch of Gallery, we will also go to other farm businesses to see what practical steps they are taking to improve farm efficiency.

As part of the discussion group you will be able to share profitable ideas with other farmers and industry specialists, and tailor the programme of meetings and visits.

For more information visit www.farmingforabetterclimate.org



Cutting energy costs

We would be keen to cut the farm fuel bill; we keep a record of fuel used in the tractor, but we are going to see if we can attribute this to different jobs, for example bed tilling for potatoes or establishment of oilseed rape using min till techniques. Once we can breakdown what a job costs we can look any additional scope for savings.

Between the bulbs and the potatoes, the new shed is in use for around 9 months of the year, meaning a significant demand for electricity to maintain optimum storage conditions. Although we are expecting our electricity bill to double due to the new shed, we are being more efficient with energy use through measures such as insulation and variable speed motors on fans. By installing a few extra electricity meters, we will be able to see exactly which activities account for most energy use and if there are any other steps to consider to cut electricity bills.



Benefitting from renewables

We are already investigating how renewables could cut our electricity bills at Ardoch of Gallery. With no suitable watercourse, micro-hydro is not an option, but wind and solar to support regular electricity demand would work well here.

We already have plans for a 100kW turbine which will give us access to free electricity, but installation is currently on hold due to grid connection. Electricity from Solar PV (photovoltaics) is something else we will look to investigate.

‘Storing carbon’

All farms can ‘lock up’ carbon within farm crops and soils; we are interested to see if this can financially benefit the farm business.

With around 2.5ha of hardwoods planted in the early 1990’s, we will be looking at ways to maximise any income from the farm woodland.

Like many arable units, we don’t have regular access to livestock manures so need to consider other ways to enhance soil organic matter (OM). We are chopping and ploughing-in more wheat straw, building OM content which will help to maintain and improve soil health.

Currently most fields are ploughed, but we do direct drill for oilseed rape which has been very successful.