

Glensaugh has provided an environment for agricultural and land use research since 1943. During this time commercial hill farming has continued as a background activity to the research programme. The underpinning farming activity is growing grass which feeds:

- 400 Blackface ewes;
- 400 crossbred ewes;
- 50 Luing suckler cows;
- 100 red deer hinds.

Glensaugh is a managed natural environment which lies in a transition zone across the Highland Boundary Fault; its geology is reflected in the management zones of the farm's 1,000 hectares:

acid moorland	700 Hectares
improved pasture and arable land	70 Hectares
inter-zonal improved land	170 Hectares
woodland	70 Hectares

Inputs are carefully targeted: all our livestock are managed to produce high quality output, but our enterprises vary in terms of management intensity from our high input/ high output lowground sheep to our low input deer herd and Scottish Blackface flock. Glensaugh works well as a primary production unit but is too disadvantaged to make winter finishing economically viable.

NATURAL ADVANTAGES

Glensaugh is typical of farms in upland Scotland. Its main natural advantages are:

- extensive land area allowing low stocking densities;
- isolated from neighbouring livestock farms;
- useful core area of fertile improved grassland, subdivided for rotational grazing;
- proximity to arable farming area and local markets;
- space to grow timber/ self-sufficiency in wood fuel.

Our principal enterprise is sheepmeat production. The majority of our output (in terms of lambs reared of around 175%) comes from our lowground flock of mule ewes which lamb in April with most offspring being finished off grass before the onset of winter. This flock uses both the improved and inter-zonal grazing land.

The Blackface flock, which is well adapted to its natural environment, is managed on an extensive basis with only small inputs of conserved and bought-in feed. The output from this flock is 115% in terms of lambs reared. 25% of the lambs are retained as flock replacements while most of the remainder are sold as stores in September with only a few being finished on farm. Flock recording identifies superior breeding ewes and allows poorer ewes to be crossed with a hybrid ram; some of their offspring are retained as crossbred breeding ewes.

The suckler cow enterprise achieves a respectable output of about 94% in terms of calves reared, but makes only a small gross margin. Small well adapted cows rear calves to weights in excess of 300kg, but make heavy demands on labour and infrastructure and require to be fed (straw and silage) throughout the winter. Replacements Luing heifers are sourced from within the herd.

The red deer herd also achieves output of about 94% and it has a positive gross margin. The deer are well adapted to a marginal environment like Glensaugh. Stag calves are sold as stores for finishing and hind calves are either retained for breeding or finished at Glensaugh.

ENVIRONMENTAL CHALLENGES

Glensaugh has a poor winter climate. In spite of its low altitude it lacks shelter from the north and west and is shaded by Strathfinella Hill, resulting in a long period of low or no growth, prolonging the winter feeding period. This restricts the carrying capacity of the farm because core livestock numbers are dictated by our ability to conserve winter feed.

The capability of our land is also affected by shallow nutrient deficient soils, which we can modify, but at a cost to the business. A successful rabbit control programme has paid a useful dividend.

ECONOMIC CHALLENGES

Livestock production systems require large inputs of labour and capital. In extensive sheep systems the principal input is labour while the suckler cows make demands on both. UK farming has been substituting mechanical energy for human labour for many decades, but the scope to do this on upland and hill farms is limited.

Given the technical efficiency of our systems one would expect them to be profitable. Upland agriculture is struggling to pay its way mainly because:

- commodity prices are too low;
- our systems are labour intensive and labour costs are high
- our systems are unsuited to mechanisation; we cannot take advantage of cheap energy.

Glensaugh requires a steady input of resources to keep land and infrastructure in a productive state. Periodic liming, occasional topping up potassium and phosphate, and limited use of nitrate fertiliser keep our intensively managed core grassland area productive. Buildings, fences, tracks, drains and water supplies require regular maintenance.

ENERGY AND ENVIRONMENTAL PROJECTS

In 2010 we commissioned a 50 kW Atlantic Orient Canada AOC 15/ 50 wind turbine, the power from which is sold directly into the grid. The turbine has fallen short of its designer's expectations and this year a new generator will be installed on the existing pole.

In 2011 we commissioned a 70 kW Ekopal RM20 biomass boiler (from Poland) which burns metre length cordwood to heat Glensaugh Lodge and adjoining buildings in a mini district heating scheme. It has displaced the burning of about 7,000 litres of LPG per annum.

In 2014 we installed a 50kW array of solar panels on the roof of the Animal House. This has met our expectations, but generation is seasonal.

Industrial scale wind generation and green hydrogen production is at the planning stage.

New woodland planting is well supported by the SRDP: we have restocked former woodland areas cleared by emergency wartime felling and planted some virgin ground. A further 100 Ha of woodland (pine, oak, spruce) will be planted in 2022. Smaller woodlands have been planted mainly for shelter, while all areas will be managed commercially. Low grade timber is sold for fuel wood, but new woodland is being managed with a higher value market in mind.

TOURISM AND RECREATION

High quality holiday letting accommodation is available at Glensaugh Lodge. Visitors to Glensaugh are encouraged to explore the property and enjoy its landscape (informal walks and marked trails). Loch Saugh is an attractive feature and is stocked with brown trout.

THE FUTURE

It is ironic that in a financial sense agriculture performs so poorly at a time when societal wealth is so great. Government schemes have supported hill farming since 1948 but the sector is now under-resourced in both capital and manpower terms. While individual farmers tend to be resilient and take a long term view, the lack of young people entering the industry combined with the dispersal of many hill flocks has significantly weakened the hill sector.

All of our agricultural systems are dependent to a degree on the availability of cheap energy. If resources like natural gas become scarce, the relative values of energy and labour could change. Would this make labour intensive livestock systems less disadvantaged than they are at present? Will consumers continue to pay a premium for quality meat products? Can grass fed lamb be sold at a premium or will it always have to compete in the bulk commodity market. Will we be rewarded for farming systems which fit well into the natural environment?

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<http://www.hutton.ac.uk/about/facilities/glensaugh>