

Farm Woodland Forum – Field Visit 2022 Annual Meeting

The delegates toured the New Zealand-style dairy farm at Hendre Llwyn y Maen and the permaculture-inspired farm at Henbant. The first of these farms has received consultancy advice from Farming Connect, an organisation set up as one of four schemes in the Welsh Government's Rural Communities – Rural Development Programme 2014-2020 to support the development of a more professional, profitable and resilient land-based sector. It provides knowledge transfer, innovation and advisory services.

Agroforestry at Hendre Llwyn y Maen, Elwy Valley (with Geraint Jones, Farming Connect)

This is a farm of 180 ha, with 24 ha of woodland present, at an altitude of about 300 m. There is a strong emphasis on connectivity between the woodland and shelterbelts.



Shelterbelt connected to larger area of farm woodland behind at Hendre Llwyn y Maen (photo: Jo Smith)

The farm concentrated on milk production up to 1995, with a herd of approximately 120 cows. This gave a strong emphasis on grass production, although tree-planting for pheasants occurred. The cows were replaced by sheep (approximately 2000 head), which in turn were replaced by Jersey x Friesian cross dairy cows (approximately 500). The emphasis on grass production has remained, with the paddocks being sown with ryegrass although some white clover has been introduced. These paddocks are rotationally grazed. The lactation cycle of the cows is such that they are dry in winter, and all are transported to other farms for overwintering and then come back to the farm for calving.

Despite the farm being on a hillside, the fields have been arranged so that the trackways out of them towards the milking parlour are mostly on a level and the cattle can move to milking with little difficulty. Some aggregate has been laid in places, to prevent the tracks becoming too muddy in wet weather.

The trees have been planted since 1970, and with the game shooting in mind. This has been achieved (with only one exception) with no grant support. This has given the farmer free reign to plant what he requires, without the restrictions imposed by grant-awarding bodies. Some corner areas of fields have been planted, and wide shelterbelts have been put to windward on many fields. The plantings started with conifers in exposed areas, but increasingly broadleaved species are now planted. The conifers will be pruned at the top to make them bulk up.

Tree-planting is ongoing, with some planting occurring every year. It was assumed that it would take 5 years for soil carbon stocks to increase when the sheep were replaced by cattle, but in fact the soil carbon stocks became healthy much more quickly than this.

The structure of the shelterbelts is important, so woody species of different sizes have been planted. These species include willow and apple, as these are popular with livestock. The shelterbelts are several trees deep, giving real protection from the extreme weather coming down from Snowdonia. A noticeable browse line is present on the field side of the fenced-off wooded areas.



Farm Woodland Forum delegates by one of the broad-leaved shelterbelts, and which has been browsed by cattle (photo: Jo Smith)

There are places on the farm where western gorse occurs, and this provides shelter for livestock. In one area, trees have been planted in strips in the gorse, giving some protection to the developing saplings.

The key to the success of the farm is the diversification to provide different income streams. The game shooting is successful, and the dairy business is also profitable. From the perspective of Farming Connect, good communication with the farmer is the key to helping promote new ideas.



Open hillside with shelterbelts round paddocks, and some areas of western gorse behind the delegates (photo: Jo Smith)

Henybant, Clynnogfawr, Caernarfon (with Matt Swarbrick)

Henbant is a 32 ha market garden and beef farm run on permaculture principles. It is at an elevation of 80-100 m, just to the west of Snowdonia National Park. Nearly a quarter of the farm is natural woodland, a quarter is good pasture, a quarter is rough pasture and the rest is a mixture of conifer plantation and scrubland.

The farm runs many different enterprises (market garden, with produce sold through a veg-box scheme, pasture-fed beef, lamb, pigs, eggs, campsite, education/event space), with the emphasis on regeneration rather than sustainability.

Cows are grazed on a rotational basis, being moved daily. Fruit trees, a mixture of dwarf and large varieties grown for fruit and juice, have been planted in the pasture, and the cattle are kept away from the trees by electric fencing.



Cattle grazing in the agroforestry area at Henbant (photo: Jo Smith)

The cattle are followed by a flock of 300 hens that produce free range eggs, and which are moved between areas with a movable coop. Denser, portable fencing keeps the hens out, but the presence of the cattle and hens close to the trees lowers weed competition. In the past the sheep were also grazed in the pasture, but they were difficult to keep away from the trees. Sheep may be re-introduced when the trees are larger.



Hens amongst the fruit trees at Henbant (photo: Jo Smith)

Fruit trees have also been planted in the market garden area, giving a silvo-horticultural agroforestry system.

Trees have also been planted on banks, from historical maps of the farm, with planting occurring through silage bales which are spread out. The fruit trees in the pasture were mulched when planted, but have had no additional protection. Some of the established woodland is grazed on a savannah principle, and it is intended to extend this woodland grazing to the conifer plantation. This has been damaged in recent high winds, and may in effect be turned into a silvo-pastoral agroforestry area, as elsewhere on the farm.



Delegates being shown the market garden area at Henbant (photo: Jo Smith)

The agricultural/horticultural produce (vegetables, beef and eggs) contributes about 25% of the farm income. The rest comes from camping and events, and this additional income has allowed for the introduction of agroforestry. The farm relies on interns and volunteers, so it is not certain that it would scale up to be a business model for larger farms. The agricultural/horticultural income is achieved by selling direct to the consumer; it would not work as a wholesale enterprise. It is thought that 50% of the customers purchase the vegetables because they are grown locally, 50% because they are interested in regenerative agriculture and agroforestry.

David Pilbeam, Christian Gossel, June 2022