



Farm Woodlands



Eucalyptus plantation and sawmill diversification in Cornwall

Treworder Barton Farm, Wadebridge, Cornwall, owned by Hugh Davis, won the RFS Excellence in Forestry Climate Change Silver Award in 2014 for a new 7.9 ha plantation of five species of eucalyptus.

In the four years since the plantation was created, Hugh Davis has also invested in a separate business, Wildwood, to produce kiln dried firewood.

Eucalyptus Plantation - does it add up?

Treworder Farm is an arable farm on south west facing slopes close to the coast in an area of high levels of rainfall. In 2014, with advice from Bryan Elliott from Eucalyptus Renewables and with support from the Forestry Commission's Woodland Creation Grant the following were planted:

Species	%
<i>E.nitens</i>	50
<i>E.denticulata</i>	38
<i>E.cordata</i>	4
<i>E.johnstonii</i>	4
<i>E.rodwayii</i>	4

To spread age class structure and diversify risk *E.glaucescens* was planted in 2016 along with more of each of the above species. Each species was chosen for characteristics regarding potential growth, frost hardiness and site suitability. The estimated annual volume increment is around 28m³ for these species.

Climate Change is likely to mean warmer, damper and wetter conditions in coming decades - the conditions Eucalyptus trees thrive in. Unlike traditional broadleaf and softwood plantations which will not mature for decades or even centuries, the final crop is expected after just 16 years, although one or two of the five species planted might reach optimum harvest earlier.

Minimal maintenance and on going costs

The Forestry Commission's Woodland Creation Grant (more generous than the current Countryside Stewardship Grant) covered 80% of the planting costs with an ongoing of £300 pay



Weed control was required for the first two years but with the trees growing year round at approx 2.5 metres a year, they now suppress weeds themselves. No fertiliser sprays or insecticide sprays are required.

With the current rate of growth, Hugh is expecting to carry out a thinning operation at 5-7 years to produce some firewood logs and chippings.

By Year 16 he will have a main crop of Eucalyptus firewood and chip grade logs along with sawlogs worth an anticipated £135,000 (at 2017 market prices).

The timber harvesting operations are not time, or even year sensitive, consequently, financial and maximum yield factors are the dominating factors in that decision-making process. The timber harvesting operation can also be flexible to accommodate weather and ground conditions, reducing some of the risks associated with harvesting more mainstream arable crops.

Income streams

Hugh Davis came to farming from an investment background. For arable farms to be profitable, he says, they are increasingly having to become larger or to diversify and at 81ha (200 acres) he looked for opportunities to diversify at Treworder.

Being encouraged by the rise in biomass boilers and demand for wood fuel and sawlogs, he saw an opportunity to create a wood fuel and woodfibre hub in Cornwall.

The Woodland Creation Grant and the Single Farm Payment System ensure there is still an income from the land - although less in the early years than it would have been had Hugh farmed the land for growing maize and or corn on the land (depending on market prices).

There will be some return on the first thinnings at around 5-7 years, and again on second thinnings at 10-12 years but the real return will come at year 15-16 when the crop is mature and harvested. For Hugh, deferring income will be made up for by the final crop. He believes the final income will be equal or above the prices he would have got on fluctuating corn markets - with fewer risks from weather events and fewer inputs.

Are there downsides?

This is a monocrop growing on land that would have been used for a monocrop of a more traditional variety - maize or corn.

Once established, management interventions are minimal but Eucalyptus does impact on soil nitrate resources. Some restoration/rebalancing of soil may be required in the second or third rotation.

Eucalyptus will draw moisture to fuel their growth - which could impact on adjacent crops – through an efficient carbon sequestration process. The timing of silvicultural thinning is critical to allow the trees to achieve their growth potential.

Hugh's biggest regret is that he did not plant more!

Creating Wildwood



One of Hugh's aims in creating Wildwood was to become a woodfuel and timber hub for north Cornwall, supplying quality saw logs, kiln dried fuel logs and chippings to supply the rising numbers of biomass boilers.

Many farms have areas of farm woodland - often neglected for many years - but with some value for fuel logs and chippings in buoyant market. Hugh and Bryan have been working with local farmers and land owners to encourage woodland management and new plantings.

LEADER Grant

A LEADER grant in 2016 helped Hugh to set up the Wildwood partnership.



Working with other farmers and land owners in the region, Wildwood is already producing premium kiln dried wood fuel logs, chippings and other wood products and plans to expand over the next 5 years.

Markets

The Renewable Heat Incentive (RHI) has created a demand for chips/pellet/fuel for biomass boilers for the next 10-20 years - a virtually guaranteed market!

In addition, the popularity of wood stoves has meant that demand for the kiln dried logs has been exceptional - outstripping supply. Wildwood is expected to grow over the next five years and will process the early thinnings from Hugh's eucalyptus plantation.

It is also proving a valuable local educational resource for local schools, with children learning about the chain from tree to wood products.

Changing mindsets

Farm woodlands are often much loved but neglected - enjoyed for their aesthetics and biodiversity but left unmanaged and ignored until timber prices increase.

Managing woodlands early - pruning, thinning, replanting - will help to maximise their growth, returns and improve a woodland's biodiversity and its potential natural capital capacities such as flood alleviation.

Planting new woodlands is a positive step towards maximising farm opportunities and creating future income through resource diversification.

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