

MANAGING HEDGES FOR FIREWOOD PRODUCTION

Case study: converting a flailed field boundary hedge into an economic crop of firewood



THE WHAT AND WHY

Can hedges increase your farm profitability?

Ross Dickinson, a commercial farmer and wood fuel supplier in Dorset, explains “I changed the management of one of my hedges from trimming it every year to letting it grow and coppicing once every 15 years for firewood production. Taking into account the savings on trimming costs, I was able to return a good profit - enough to keep someone employed”. Ross has been managing many hedges on his farm like this, some for three coppice cycles. His son is now working with him on the family firewood business. Both see a strong future

in managing and cropping hedges for firewood, particularly with rising prices for logs. As they say “What could be better? We are producing an environmentally friendly fuel for a profit just by changing the way we manage our hedges. The loss of production from the fields is negligible. Even better, the condition of the hedges is improving and they are better for wildlife.” Looking ahead, all the signs are that they may benefit too from public support payments designed to replace the Basic Payment Scheme.



Whole-tree hedgerow material left in field to air dry following coppicing. Organic Research Centre, 2015



Most hedge material is processed with a saw bench. Ross Dickinson, 2017

HOW IS THE CHALLENGE ADDRESSED

A coppiced hedge: converting a flailed field boundary hedge into an economic crop of firewood

This case study demonstrates that it is economically viable to move a hedge from annual flailing to a 15 year coppice rotation to produce firewood. The farm is a 400 acre low intensity livestock farm in SW England, with 12 miles of hedges all managed on a 15-20 year coppice cycle, except the roadside hedges which are flailed annually. Half a mile of hedge is coppiced annually. The farm has a small firewood business selling c.175 tonnes logs per year, hedges make up part of this. Hedge coppicing produces logs sold for the firewood business, smaller material is used on-farm or sold as ‘ugly sticks’ at lower price and brash is fed through a branch logger, netted and sold as kindling. All firewood products are stored undercover for 10 months to reduce moisture content

prior to use or sale.

The farmer, Ross Dickinson, is interested in the economics of the process and in 2017 coppiced a trial hedge and recorded in detail the time, costs, outputs and income. The hedge was mixed species, 220m long, 6.5m high, with 15 years growth, on an old hedge bank. The hedge was coppiced by chainsaw, material processed with a log splitter and a branch logger. 220m of hedge produced 21.41 tonnes of saleable or useable material. The overall cost was £3,378 (including labour for hedge preparation, coppicing, processing, burning brash and delivery). The overall income was £4,908 (including sales and savings from not flailing annually). So the profit from 220m of hedge was £1530 with no subsidy payments.



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HIGHLIGHTS

- Firewood production from hedge coppicing can be economically viable.
- There are a range of machinery options for coppicing to suit most farms. In addition, support may be available from environmental stewardship payments.
- Changing farmer's perception of hedges so they are viewed as a useful resource rather than a cost gives hedges a securer future.
- Coppicing can rejuvenate hedges allowing new young growth at the base of the hedge, restoring the structural integrity of old hedges.



The finished case study hedge with standards left on the bank.
Ross Dickinson, 2017

FURTHER INFORMATION

Link to full report: <http://devonhedges.org/wp-content/uploads/2018/11/Converting-a-Hedge-to-Firewood-Production.pdf>

Productive hedges: Guidance on bringing hedges back into the farm business
<https://zenodo.org/record/2641808#.XQDZ6Y97nct>

Guide to Harvesting Woodfuel from Hedges: <http://tinyurl.com/TWECOM-BPG>

Hedgeline website - for the hedgerow management cycle, other useful information and hedge related resources: www.hedgeline.org.uk

Video: Dymax tree shears coppicing hedge at Elm Farm, UK:
<https://www.youtube.com/watch?v=gHLPxH55Om4>

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ADVANTAGES AND DISADVANTAGES

Advantages and disadvantages of hedge coppicing

The case study outlined here shows that it is possible to make a living wage from the sale of firewood products, combined with savings in annual maintenance costs. Hedge coppicing for woodfuel production is widely applicable, the process requires no particular skill set, minimum demand for new capital and can be adapted to different farm circumstances. The farm is relatively exposed with poor soils, so hedge growth is slower than average, and coppice rotation lengths may be able to be shortened in more favourable conditions. It is possible to carry out the work by hand as outlined above or to mechanise the process using tree felling machinery (e.g. an excavator mounted tree shears) and to produce logs or to use a whole tree chipper to produce woodchip for biomass boilers. Length of hedge to be coppiced, ability to access the hedge and available markets are the primary factors determining the choice of method.

When considering taking a hedge out of annual flailing and into a coppice rotation a number of factors should be considered. Select a hedge with a high percentage of viable species, for example Sycamore and Ash, avoid a hedge which bounds high value crops as there will be some shading and possible fallen material and choose one with relatively easy access for abstraction especially on heavy or seasonally waterlogged soils. There will be some loss of usable land of around of two metres each side of the hedge by the end of the fifteen-year cycle.

Coppicing generally improves the health and longevity of farm hedges, produces a local carbon neutral source of energy and can provide rural employment opportunities. The bulk of the work is carried out during winter when trees are dormant, this fits well with the farming calendar and availability of labour. It is also possible to extract firewood when laying a hedge, the amount of material will be lower than when coppicing, but the field boundary is retained immediately post management. The structure of a layed hedge is different from a coppiced hedge and in certain situations hedgelaying may be a preferable management method. Whether coppicing or laying, a range of management methods and different ages of hedge regrowth within a farm or landscape create a wider variety of homes and food resources for wildlife which is beneficial for biodiversity.

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