

Hedge coppicing, woodfuel and biochar event, Racedown Farm, Dorset.

On 26 February 2018, Ross Dickinson and his family invited us to their farm in west Dorset, close to the Devon border, to demonstrate the practicality of converting flailed hedges to ones that generate income from the sale of coppice products. I found it a hugely informative and interesting event.

It started with Ross taking us through the farm's firewood log business. They sell about 175 tonnes of logs a year. £30-40% of this comes from hedges. The wood is all sourced from Racedown Farm (400 acres) or from an additional 600 acres of land owned by neighbouring farmers from which Ross buys in cordwood. Much of this wood from neighbouring farmers is from hedges with 60-70 years growth, so the wood is very saleable. By buying this wood, Ross provides his neighbours both with an incentive to rejuvenate their hedges (by coppicing) and with an income.

An appreciable proportion of the logs is sold in plastic livestock feed bags through an honesty box (a margarine tub), the remainder is delivered to customers in the back of a pickup (3/4 tonne a load). All deliveries are made within a 4 mile radius, so this is a truly local business. Such is the demand for firewood that Ross has never had to advertise. This is especially remarkable since there are no towns within the 4 mile circle.

Ross has recently found a ready market for 'ugly' logs (thinner, unsplit and often misshapen, logs) for use with camp fires, and for the mini-logs or 'cobs', produced by the branch logger the farm now owns, for the mini-woodstoves used in glamping. Ugly logs that remain unsold are used on the farm, which has eight wood stoves to keep running. In addition to cobs, Ross has started to use the branch logger to produce bags of fine branches and twigs taken from hedges for use as kindling. He reckons that it will be possible to sell about one quarter of the brash coming from hedge coppicing in this way.

Our next stop was to Thane Farm, now part of Racedown Farm, where Ross started coppicing hedges some 40 years ago on a 15-20 year rotation. He is now coppicing some of these hedges for the third time. The result is remarkably thick bushy hedges, with frequent standards, of high wildlife value. Many have been allowed to expand outward over the years and these are of particular biodiversity merit. When the time comes to manage them, the marginal growth is flailed back to allow access to the coppice stools. Old fence lines can, however, at times make this process difficult.



Thick hedge re-growth following coppicing, Thane Farm.

Ben Scriven and his partner Leila, from Tamarisk Farm near Bridport, www.tamariskfarm.co.uk, very ably and eloquently demonstrated how to make biochar from hedge brash. The kiln they use is a simple flat bottom cone, about a metre in diameter at the base and two at the top, standing perhaps a metre high. A fire is lit in the bottom, and then the brash is hand fed in to the top at a rate which allows a build up of charcoal in the bottom of the cone. When the cone is full, further combustion is stopped by dousing with water. Ben explained that biochar is just another name for charcoal that is intended for use not for heating but as a soil amendment. It acts as both a water and nutrient sponge (in part through encouraging micro-organisms), releasing these back to plants as they need them. In freely draining soils in arid areas it can result in huge increases in soil fertility. Even in our wet climate and with the heavy soils we are accustomed to in the West Country, it is likely to increase productivity of arable land significantly. However, its main use is likely to be in the horticulture trade or in vegetable plots. A further advantage of using biochar is that it is a very stable product and is likely to remain locked up in the soil for decades if not centuries, so mitigating climate change. An important point is that the biochar needs to be combined with a nutrient source such as compost before it is used, otherwise it will simply suck the nutrients out of the growing medium. This and more were all covered in a leaflet Ben had written. He recommends the video at <https://www.youtube.com/watch?v=fVblosrM1Ts&t=1512s>



Ben Scriven and Ellen making biochar from hedge brash, Thane Farm

Ben has not yet determined whether making biochar from hedge brash can be profitable. However, potentially it can be since a cubic metre can be produced in a day, valued at between £500 and £1,000. He suggested that with hedges it may be more cost effective simply to use a tractor to pile up all the brash into one heap and then light a fire at the top (to minimise loss of carbon). If ingress of air at the base can be restricted, for example by using a ring feeder, efficiency will be improved. Plentiful water will be needed to extinguish the fire and prevent all the charcoal turning to ash. Personally, I found myself convinced that biochar is well worth while exploring as a good end use of the finer branches and twigs arising from hedge coppicing or laying, which otherwise cannot be sold and are simply burnt in bonfires.

We returned to Racedown Farm, two miles down the road, to see a hedge which Ross and his son Euan have just finished coppicing. Here they are carrying out a careful experiment to determine the economics of producing firewood from coppicing. The hedge is 214m long with much sycamore and ash. The coppicing was done by chain saw and manual dragging. Cordwood for logs (including ugly ones) had been cut out of felled stems and neatly stacked by the hedge, probably weighing 15 tonnes in all. A branch logger had been used to produce 99 net bags of cobs. About a quarter of the remaining brash had then been run through the branch logger to provide 263 bags of kindling. Each

stage of the process has been carefully recorded in terms of man hours, and the value, saleability and profit margins for each product will in due course be determined. Ross and Ben are exploring making biochar from the remaining brash.



Ross Dickinson by experimental coppice hedge, Racedown Farm.



Cordwood for firewood logs and net bags with mini-logs (cobs) from branch logger.

We retired out of the freezing conditions to the comfort of the local village hall just next to Racedown Farm which Ross had thoughtfully booked and where we ate delicious homemade cakes and drank warming tea – many thanks to Ross’ wife Madge and his daughter Leila.

Ross explained that he expects to have full results from the coppiced hedge by August. He is keen to find out whether or not new rural jobs can be created from formerly flailed hedges managed on a coppice rotation for woodfuel. The early indications are promising, even without any support payments (such as from Countryside Stewardship). An important part of the calculations is the savings which farmers can achieve by not trimming their hedges every year for the duration of the coppice cycle.

The future of our hedges may well depend on demonstrating to farmers that they can generate an income and new jobs from hedges in addition to the wider benefits to agriculture, wildlife and society that they provide. Ross is leading the way not just locally but nationally in exploring this in the context of a working farm with a commercial log business. Very many thanks to him and his family for an inspirational day.

Robert Wolton
Devon Hedge Group