

FORESTRY

October 2020

Hardwood Focus 2020

Edited by
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Broadleaf species make up almost 29% of our stocked forest area, with much of our private broadleaf forest planted in the last 20 years. As our young broadleaf resource develops further, there is now a need for the development of market outlets for this new resource.

There are several very good reasons for doing so: to reduce our reliance on imported hardwoods; encourage best practice; increase forest profitability and therefore sustainability; support the rural economy; lock carbon for the long term into valuable hardwood products; and, develop (bio-)diverse and productive broadleaf forests. Teagasc research into potential end uses is ongoing.

Could valuable markets be sought for the increasing sizes and volume of 'small-diameter' hardwood logs? Are there opportunities to add value to thinning from our developing young broadleaf plantations and new native woodlands?



Exploring markets for small-diameter broadleaves

Date: Thursday, October 15

Time: 11.30am-12.30pm

Registration: www.teagasc.ie/hardwoodfocus

If you wish to attend this webinar, **you need to register in advance**. Once registered, you will receive an email with your personal link to the webinar. Clicking that link on Thursday October 15 at 11.30am will bring you straight into our webinar.

PLEASE NOTE: places are limited.

These are some of the questions that this webinar aims to discuss. To complement July's

Virtual Talking Timber, this webinar will focus entirely on broadleaf forests.

This webinar is part of the Hardwood Focus initiative. Broadleaf forest owners in Limerick started a discussion group in 2018 with Teagasc facilitation, Department of Agriculture, Food and the Marine (DAFM) support and Galway-Mayo Institute of Technology (GMIT) collaboration.

These forest owners are members of the Limerick Tipperary Woodland Owners (LTWO) group.

Participants in the group are actively managing their broadleaf woodlands. Many have already carried out one or more thinning operations.

They are now looking to explore markets to add value (beyond that of firewood).

With the assistance of Teagasc and DAFM

Table 1: Webinar programme.

11.30	Short video featuring a broadleaf woodland owner
11.40	New broadleaf woodlands in Ireland and the Hardwood Focus initiative <i>Jonathan Spazzi, Teagasc</i>
11.50	Small-diameter hardwood research and linking with hardwood users <i>Sean Garvey, GMIT Letterfrack</i>
12.00	Commercial hardwood production in the UK: history and outlook <i>Dermot Doyne, Whitney Sawmills, UK</i>
12.10	Q and A session

support, the group has engaged with a range of activities. These include a study tour to Wales in 2019 to meet hardwood producers and development agencies, and log testing in 2020 in collaboration with GMIT. Experiences from this programme will be presented and discussed during the webinar by expert panellists (see agenda in **Table 1**).

Seasonal management tips

Stocking density and replanting requirements

A late frost in May this year caused a lot of damage to foliage on young trees. Frost damage can affect trees to varying degrees, depending on the size of the tree and the timing of the frost, for example:

- damage to lower branches – trees recover and don't need any attention;
- damage to top bud but tree survives – tree may send up multiple shoots, which may require shaping; and,
- tree is damaged all over and is killed – stocking rate should be calculated using 8m circular plots (e.g., if stocking rate is 2,500 per ha then count 50 trees within plot for 100% stocking). Plan for replanting where necessary.

There are other reasons why trees have to be replaced such as animal browsing, competition from vegetation, etc., so all young forests should be monitored.

Check drainage systems

A well-maintained drainage system is important at every stage of a forest's development. Young trees will not survive if their roots are immersed in water for long periods. Good drainage also helps in the stability of the crop. Drains, silt traps, etc., should be checked regularly, but especially after management interventions such as thinning and road building.

Check firebreaks

Dry weather in early spring is when forests are most at risk from fire, especially in upland areas. This risk can continue during dry periods in spring and summer. Now is a good time to check fire breaks and ensure they are kept free of vegetation/fuel.

Trees on the farm and planning to plant



Now is a good time to plan any scale of tree planting. From a single tree to a large forest, all tree planting takes some planning in order to achieve the goal of getting the right tree in the right place. Areas greater than 0.1ha can be considered for grant support. Contact your local forestry advisor to discuss the forestry grant programme and how planting a woodland fits into your overall farming system and interacts with other farm schemes: www.teagasc.ie/forestry.

General guidelines to planting trees around the farm

Where?

- Lanes, around farmyards and roadsides:
 - ▶ choose trees for their colour, size, shape;
 - ▶ distance from building = expected tree height; and,
 - ▶ keep future building extensions in mind.
- Trees in hedgerows/field corners:
 - ▶ plant one or two trees per 20m hedging – don't forget trees that produce flowers/fruit;
 - ▶ avoid planting at regular spacing – too

formal in the countryside; and,

- ▶ avoid planting heavy shading trees within hedgerows, e.g., beech, sycamore.
- Streams and riverbanks:
 - ▶ may be grant aided – consider any environmental designations;
 - ▶ very important for wildlife corridors, water quality; and,
 - ▶ leave some open sections, minimise soil disturbance when planting.
- Parkland:
 - ▶ e.g., oak, beech, horse chestnut, lime and sycamore (long lifespan, attractive shape and colour); and,
 - ▶ use standard trees for immediate impact and fence off (3m for cattle).
- Shelterbelts:
 - ▶ plant directly across the prevailing wind direction; and,
 - ▶ should have multiple rows of mixed trees (some conifers, e.g., scots pine, holly to contribute to winter shelter).

What trees?:

- native trees are better for wildlife;
- plant as many species as possible;
- look around you to see what grows well in your area and avoid planting ornamentals in the countryside.

Exposure tolerance (from high to low):

mountain ash; sycamore; beech; scots pine; oak; birch; wild cherry; chestnut; and, willow.

Tree height:

- ▶ 10m-15m: crab apple, hazel, rowan, wild cherry;
- ▶ 25m-30m: birch, alder, beech, oak, scots pine; and,
- ▶ 40m-50m: sitka spruce, lime.

Research update

Teagasc Athenry is conducting new research commissioned by the Department of Agriculture, Food and the Marine (DAFM) looking at the response of tree species to climate change. The FitForests project is being co-ordinated by Dr Niall Farrelly and will focus on the key species used in Irish forestry to provide up-to-date information on the best provenances and seed origins adapted for future Irish climatic conditions and will also help address the following issues:

Changing environmental conditions associated with climate change are creating uncertainties about the suitability of the current choice of seed origins for Irish forestry. The uncertainties include if the current range of trees are adapted for future conditions and whether populations or individuals exist that may be more adapted to future climatic conditions.

Future climate projections indicate an increase in seasonal temperatures, a decrease in summer rainfall in the east, and an increase in winter storms. The impact of rising temperatures may result in delayed or advanced bud burst, increase the length of the growing season and provide opportunities to expand the range of suitable species and provenances in Ireland. Warmer winters and summers may also present conditions for increased pests and pathogens.

The project

This research will focus on the key species used in Irish forestry. This research aims to ensure that suitable planting material used for the

establishment of new forests is resilient to the impacts of climate change. As forests are an important part of the Irish Government's climate action plan, it is important that future forests are adapted to future conditions, so that they can continue to provide economic and social benefits. Some of the aims of the project include:

- re-evaluate the performance of a range of seed origins from historic and current provenance test data;
- assess whether Irish and foreign improved seed origins for certain species are suitably adapted for future warmer climates;
- investigate the impact of climate parameters on the phenology and physiology of key species of importance to Irish forestry;
- evaluate the effect of temperature and temperature extremes on the timing of phenological events of key species;
- identify the suitability of new and marginal species under an altered climate regime employing bio- and geo-climatic modelling approaches; and,
- determine the effect of drought events on the performance of the key species.

Further information

Dr Niall Farrelly, Teagasc, Mellows Campus, Athenry, Co Galway.

Project partners: The FitForests Project is co-ordinated by Dr Niall Farrelly of Teagasc and is a collaboration between academic researchers from Teagasc, UCD, NUI-Maynooth and Coillte.