



Testing and comparing sources and stands of Irish ash, beech and oak

PROJECT TEAM

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BACKGROUND

Ash (*Fraxinus excelsior*) is one of the most commonly planted broadleaves. The stem quality of many ash stands is variable, but whether this is due to genetic differences in seed source or other biotic factors is not known. Currently most of the ash originates from hedgerow or parkland trees, because there are few ash seed stands, and ash plantations may not consist of local material. (A seed orchard of phenotypically selected individuals has recently been established but is not yet in production.)

Beech (*Fagus sylvatica*), although not a native species, has been planted in Ireland since the 1600s at least and plays a role in broadleaf forestry in Ireland. In the past, seed price rather than suitability to Irish climatic conditions determined the source of most imported seed, which resulted in low survival and poor quality stands.

Oak (*Quercus petraea* and *Q. robur*) are important native species that occupy a significant proportion of the planting programme. While it is Forest Service policy to use home-collected seed, there are good and bad native sources. For this reason it is necessary to identify good seed sources, but also to identify those to be avoided.

OBJECTIVES

- to establish a series of trials comparing the growth and stem form of a range of ash seed sources, including Irish roadside trees, Irish seed stands and several continental seed sources.
- to establish a series of beech field trials comparing the growth and stem form of selected home-grown seed sources with continental seed sources.
- to establish a series of field trials to test the productivity and quality of a range of both registered Irish oak seed stands and 'source identified' Irish seed sources.

PROGRESS

Ash seed was obtained from 18 sources including eleven from Ireland (two each from Denmark, Germany and the UK and one from the Netherlands). Seed was stratified and sown in March 2008 in containers in a heated glasshouse. In July plants were moved outside. Due to close spacing in the containers, some plants overtopped others resulting in a wide range of plant sizes at the end of the growing season. One trial was planted at Camolin forest, Co Wexford, and the second at the Manch estate in Co Cork.

Beech seed from 17 sources, including 12 home-collected as well as one source each from the Netherlands, Denmark, Belgium, Germany and the UK was sown in containers in a heated glasshouse in March 2007. Plants were removed from the containers and lined out in a nursery bed due to difficulties with sites combined with the lateness of the season. In December 2008 trials were established at Camolin, Co Wexford, and at the Manch estate, Co Cork.

Seed from 11 registered Irish oak seed stands and 10 'source identified' stands were sown in containers in a heated glasshouse in the spring of 2008. Plants were moved out of the glasshouse in July and hardened-off. As with the ash material, the close spacing of the cells in the trays resulted in the more vigorous plants overtopping the other individuals, resulting in a wide range of plant sizes. In December 2008 trials were established at Camolin, Co Wexford, and at the Manch estate, Co Cork.

ACTIVITIES PLANNED

Survival and height assessments will be carried out at all trials in early 2010 and a project report will be prepared. A project plan covering the future management of the trials will be prepared.



Trials at the Manch estate, Co Cork.