

Beech

(*Fagus sylvatica* L.)

Distribution & Provenance

Beech is a European species with a natural range extending from southern Norway to northern Spain and from the south of England to the Black Sea. In much of this area it is the most common of broadleaved species. The species has become naturalised in Ireland having been introduced on numerous occasions since the 1500's. In Ireland, recommended beech provenances are Belgian, north west European or registered Irish stock.



Natural distribution of beech

Silviculture & Management in Ireland

Beech grows well under a wide range of soil conditions but does best where topsoil has a neutral or slightly acid pH (pH 6.0 – 7.5). For optimal growth it requires moist, free draining soils of moderate depth but will grow nevertheless on a range of site types. It is intolerant of late spring frosts and although tolerant of exposure, prefers a sheltered site where it can grow straight and tall. Beech is one of the most shade tolerant species and as a result is successful at establishing itself as an under-storey and growing on to become the climax woodland species.

In Ireland, pure beech stands are currently established at a stocking rate of 6,600 stems per hectare (1.0 metre x 1.5 metre spacing). However, it is more common to plant beech in mixture with a coniferous species such as Scots pine or European larch at a lower rate of stocking. It also grows well with group mixtures of sycamore. Beech does not compete well with grass and other vegetation and weed control is essential as long as competition persists. This is followed by a period of formative shaping and removal of aggressive "wolves" and forked and deformed stems. This continues until the stems are up to eight metres in height, at which time approximately 1,000 good potential final crop trees, representing one third of all stems, should remain. At a top height of between 12 and 15 metres a heavy crown thinning is carried out reducing the stocking to 1,500 stems per hectare, 150 of which are selected to grow on as final crop trees. These 150 are favoured in all further crown thinnings until they reach a diameter at breast height of between 40 and 60 centimetres, at which time they can be considered for final felling.

Next to sycamore, beech is most susceptible to grey squirrel damage which can be very serious in areas where the grey squirrel population is high. Young trees are also subject to damage from deer browsing and stripping. Late spring and early autumn frost damage can cause forking.



Mature, free standing beech



Beech sprig showing leaves, buds and nuts

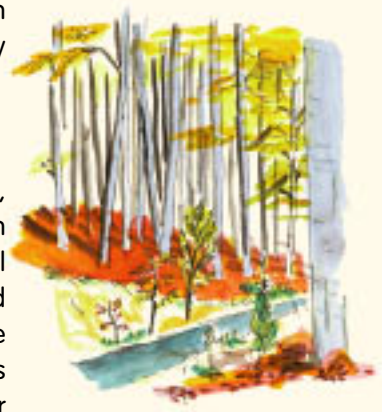
BEECH (*Fagus sylvatica* L.)
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Non Timber Benefits

Beech is one of the best known and prominent broadleaved species in the Irish landscape. Its annual leaf litter is high in tannins and is consequently slow to decay and produces a distinctive covering of the woodland floor. In early summer, mature beech stands can be transformed into bluebell woods. Its shade tolerance makes beech a common species to be found as a regenerating understorey in both broadleaved and mixed woodland. Its regenerative ability contributes greatly to the biodiversity value of woodlands.

Position in Irish Forestry

Following its introduction to Ireland in the late 16th century, beech became a popular species on estates, both aesthetically and commercially. Many old estates are still characterised today by mature beech, found marking field boundaries and old avenues and also in woodlands. State planting of beech occurred in the 1930's, 40's and 50's and Coillte, the Irish Forestry Board, now manage over 4,000 hectares of beech woods. Most beech planting is now carried out by the private sector and currently there are approximately 100 hectares planted with beech annually. Irish nurseries produce and sell approximately 500,000 beech transplants annually.



A beech wood

Uses & Markets

Beech timber is the most common of European hardwoods. When radially cut it is easily recognisable with its short wide rays appearing as flecks throughout the wood. It has a light brown colour with no clear distinction between heartwood and sapwood. The timber is not naturally durable and as a result it is generally used indoors. It is an easily worked timber and finishes excellently with most hand and machine tools. Beech is used in a wide range of products such as furniture, particularly chairs, cabinets, toys and flooring e.g. parquet. High quality blemish free logs can be peeled to produce beech veneer which is used in facing plywood and medium density fibreboard (MDF). Beech, when steam treated, can be used in the manufacture of bentwood furniture. It is used widely for turnery and wood turners prize "spalted" beech which exhibits black line patterns resulting from initial stages of fungal attack. In central Europe, beech thinnings, branches and tops are used extensively for firewood and charcoal production.

The tallest Beech recorded in Ireland is located at Hilton House, Scotstown Co. Monaghan and measures 39 metres in height.



Beech is used in furniture making

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Further Information

Further information on growing beech can be obtained from your local Forest Service Inspector or any Professional Forester.