

Touch Wood

During his residency at CCANW, craftsman Sean Hellman has cut sections of the different trees grown at Haldon to reveal the qualities of the wood within. Grain patterns vary, depending on the way timber is sawn.

Cross cut

Shows the end grain of the log and the growth rings. This is called the 'transverse surface'.

Longitudinal cut

Creates the timber boards we most often use and is a series of parallel cuts are made down the length of the log. The wood is less stable and the grain will vary.

Quartersawn

The log is first cut into quarters and then a series of parallel cuts are made perpendicular to the tree's rings. The type of board produced is preferred by furniture makers as the wood is very stable and creates a relatively consistent grain.

Knots in wood are the junction between the branch and the trunk of the tree. Knots create weakness in timber and therefore young plantation trees have their branches removed. This is called 'brashing'.

Hardwood and Softwood

The terms 'hardwood' and 'softwood' refer to the botanical origins of timber and not its density or hardness.

Hardwoods come from broadleaved trees, such as oak, ash and beech. They are usually deciduous, dropping their leaves in winter although some, like holly, are evergreen. There are about a hundred times more hardwood species than softwoods.

Softwoods come from coniferous trees, such as fir, spruce, and pine which produce cones and needle-like leaves. They are suited to cold climes and do not shed their needles. Generally, softwoods also grow faster than hardwoods.

All photographs taken by Sean Hellman in Haldon Forest



Sitka Spruce

Picea sitchensis

Maximum height:

50–70m

Maximum diameter:

0.9 to 1.8m

Dry weight:

430kg/m³

Original location:

Pacific coast of North America from California to western Canada

Sitka is by far the largest species of spruce, and the third tallest tree species in the world (after Coast Redwood and Coast Douglas Fir).

It has a very fast growth rate compared to some other trees. This means it can yield high volumes of timber in a comparatively short time and is therefore the mainstay of the forest industry in Britain.

It is a versatile timber and can be harvested as a smaller tree as its fibre length and white colour are useful for paper making, particularly newsprint. It is also used in the making of musical instruments and can be spliced to produce special laminates for use in making homebuilt aircraft and gliders.

Strength varies considerably depending on location and growing conditions so grading is important. It is also used in the manufacture of different types of board, shipbuilding and the making of pallets and packing cases.

Traditionally, the roots have been used for hats, baskets, ropes, fishing lines, and twine. The inner bark and young shoots have been used as a source of glue, vitamin C and medicines, and for waterproofing.



Birch

Betula pendula

Maximum height:
30m

Maximum diameter:
40cm

Dry weight:
Around 660kg/m³

Original location:
Northern Europe

Silver Birch is a fast-growing 'pioneer' tree, meaning it self-seeds and readily colonises open ground. They are slender, hardy and suitable for cold climates. Their typical lifespan is between 60-90 years, although some can live up to 150 years.

The major use of birch is in plywood and for upholstery framing, interior joinery and furniture making. It is an excellent wood for turnery and is suitable for brooms, brushes, bobbins and dowels.

Selected logs are sliced for decorative veneers. The fine twigs are selected for besom brooms and in the construction of steeplechase fences. Traditionally, it has been used for roofing, bark canoes, pots and containers and makes excellent tinder.

For centuries, a wine has been made from its sap. A small hole is bored in the trunk and the sap collected through a tube before the tree leafs in spring. If the hole is not plugged after collection, the tree can bleed to death.

The silver birch is often known as the 'Lady of the woods', a tree of enchantment associated with spring and purification.



Douglas Fir

Pseudotsuga menziesii

Maximum height:
91m

Maximum diameter:
90cm–1.8m

Dry weight:
530 kg/m³

Original location:
Western North America:
British Columbia to
California

The Douglas Fir is a softwood but not a true fir. Named after the Scottish botanist, David Douglas, the tree was first introduced into cultivation in 1826.

The bole or trunk is clear of branches for about two thirds of its height, making it a valuable timber which has a high percentage of knot-free wood.

With its weight bearing strength, Douglas Fir wood is used for structural applications and elsewhere in the construction industry. It is also an important source of plywood, used for interior and exterior joinery, dock and harbour work, ship building, mining timber, railway sleepers, and cooperage for vats and tanks. Selected logs are cut for veneers.

Traditionally it has also been used for fuel, fishing hooks, snowshoes, and fish traps. The boughs have been used for floor coverings, and the seeds and sugar from the twigs/needles eaten.

The Douglas Fir has distinctive three-forked bracts between the scales on the cones. A Californian Native American myth explains that each of the three-ended bracts represent a tail and two tiny legs of the mice who hid inside the scales of the tree's cones for safety during forest fires.



Scots Pine

Pinus sylvestris

Maximum height:
39–42m

Maximum diameter:
60–90cm

Dry weight:
510kg/m³

Original location:
Northern Europe and Asia,
Spain and Asia minor

This is our only native pine tree in Britain, with the Caledonian forest as its last natural stronghold. Scots Pine is the most widely distributed conifer in the world and can live up to an age of 250–300 years.

The best grades are for furniture, interior joinery, turnery and vehicle bodies. Other grades are used for construction and carcassing. When treated, it is used extensively for railway sleepers, telegraph poles, piles and pit props. Logs are cut for veneers and plywood and are also used in the wood pulp industry for kraft paper.

In the past, Scots Pine were used to make tar, resin, turpentine and charcoal and also for ships' masts. They were also used for windbreaks and for waymarks along drove roads. If grown beside an inn, they were a sign of welcome to drovers.

Pine has been used as a treatment for lung and respiratory problems and has uses as a disinfectant, antiseptic, expectorant, stimulant and a tonic.



Hybrid Larch

Larix x eurolepis

Maximum height:
30–40m

Maximum diameter:
1m

Dry weight:
480kg/m³ to 610kg/m³

Original location:
Central Europe and Japan

Larch is a softwood and, unusually, it is also deciduous so drops its needles in the autumn.

There are ten species world-wide of which two species have been introduced into Britain on a large scale, the Japanese Larch (*Larix kaempferi*) and the European Larch (*Larix decidua*). The Japanese Larch has been extensively planted in forests whilst the European Larch is mainly to be seen in woodlands of over 60 years of age, and in parks and gardens.

At the turn of the century, a chance cross-pollination occurred of Japanese and European Larch on the Duke of Atholl's estate in Scotland. This hybrid continues to be cultivated on British forestry plantations by planting seeds of each parent in alternate rows. The hybrid offspring show hybrid vigour, growing faster than the parent and surviving poorer conditions.

The wood is tough and durable and used for general construction work. Small larch poles are widely used for rustic fencing.

Larch is used outside for props, stakes, poles and piles. The heartwood is durable and is also used for boat planking, bridge construction, railway sleepers and exterior joinery which has contact with the ground.



Oak

Quercus robur

Maximum height:
35m

Maximum diameter:
1.2–1.8m
(sometimes up to 3m)

Dry weight:
720-750kg/m³

Original location:
Europe and Asia Minor

This iconic English tree is regarded as the king of trees, with over 200 species in the genus *Quercus*. The oldest English oaks are considered to be the most important individual oaks of the species *Quercus robur* (*pedunculata*) and *Quercus petraea* (*sessile*) remaining on earth.

Oaks grow in a northern temperate climate. They are hardwoods and therefore deciduous, most shedding their leaves in the autumn. They live for around 500 years and specimens can be found up to 1200 years old. Most oaks do not produce acorns until they are over 50 years old.

Oak is one of the world's most popular timbers, used in furniture, building frames, and panelling. English oak is used for boat building, harbour work, high class interior and exterior joinery and flooring and also for cooperage for whisky, sherry and brandy casks.

The bark has been used as an astringent, antiseptic and tonic and to tan leather. Wine has been made from the leaves for centuries.

Around the world, myths and legends have described the strengths and protective qualities of oak, and many customs are associated with it.



Corsican Pine

Pinus nigra var maritime

Maximum height:
26m

Maximum diameter:
1m

Dry weight:
500kg/m³

Original location:
Native only to the island
of Corsica

Corsican Pine was introduced to Britain in 1759. It is a variety of Austrian Pine (*Pinus nigra*), but is considered a better timber tree, because of its thinner branches and its straight trunk.

Corsican Pine has been particularly useful for planting in drier areas of the country, including sandy soils. It is not a major species in forestry as it requires low summer rainfall and higher levels of sunshine. It constitutes only 2% of the commercial plantation area.

Corsican Pine dominates the Thetford Forest in East Anglia, which is the largest man-made pine forest in Britain. It tolerates pollution better than most conifers and will grow in coastal sand dunes buffeted by salty winds.

The timber is not naturally durable and is considered inferior to Scots Pine. However, it is a fast growing tree and the wood takes preservatives well.

Nowadays its main uses are for general building work, telegraph poles and plywood. In the past it has been used extensively for railway sleepers and pit props.

