

# Willow

## The Tree

A variety of willow species and with different stem forms and leaf shapes are common in the UK. The tiny dwarf willow only grows a few centimetres high, goat willow presents as a shrub that colonises open land, and white willow grows in moist grounds as a “weeping” tree of up to 30 m height. White willow leaves are elongated (lanceolate), silvery green and hairy. White willow bark contains salicin, the substance that inspired Aspirin, and has been used in folk medicine. Some willow species have the ability to grow a new tree from any part of the stem or branches. These are used for live willow structures, willow spiling, that is used to stabilize riverbanks.

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Typical diameters

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Height up to 10 m

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Age up to 300 years

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5% of UK broadleaved forest

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Typical yield class 5

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White willow *Salix alba*

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Crack willow *S. fragilis*

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Other species



White willow

Picture by Aturnipal, Wikimedia Commons

## The Timber

Willow produces a light and soft timber that has traditionally been used in tools and bows. Thin stems from pollarding willows can be used for weaving baskets and fences or for spiling. Nowadays, the timber has little commercial importance, and no strength grading options exist.



White willow shoes  
Picture by User Rasbak, Wikimedia Commons

Sapwood cream white to yellow  
Heartwood reddish, usually demarcated  
Uniform appearance with no visible growth rings  
Fine to medium texture

Diffuse porous or semi-ring porous with slightly larger earlywood pores  
Pores in no specific arrangement  
Rays barely visible  
Parenchyma marginal, banded

### What do we know about home-grown willow?

Strength	Low compared to other UK hardwoods, comparable to Sitka spruce
Stiffness	Low compared to other UK hard- and softwoods
Density (at 12% mc)	370 kg/m <sup>3</sup>
Hardness	Medium-low to low (depending on species); comparable to softwoods like larch or Sitka spruce
Machinability	Poor Planing can yield fuzzy surfaces Tends to distortion during drying
Durability	Not durable

### Why is this information so vague?

*Little is known about the properties of home-grown hardwoods. Some research was carried out by Lavers, starting in the 1950s and carrying on until 2002, but a limited number of trees was used in this research. Also, the testing was done on small clear specimens, and data for full-sized specimens with defects is rarely available. Nonetheless, we can use this data to compare between species, between timbers from the UK and Europe (or other countries) and between new data and historic results.*

### References & Further Reading

[The Wood Database](#)

[European Atlas of Forest Tree Species, White willow](#)

[Woodland Trust, White willow](#)

Lavers, 2002, The Strength Properties of Timber