# Sitka spruce
## (Picea sitchensis (Bong.) Carr.)

Sitka Spruce (Picea sitchensis (Bong.) Carr.)
Sprús Sitceách

### Distribution & Provenance

The natural home of Sitka spruce is a narrow belt of the Pacific north west coast of North America. It grows along this coast from Alaska in the north down through British Columbia, Washington and Oregon to California. It grows at low elevations, hugging the coastline and islands and only venturing inland along river valleys. Research and experience has proven that Sitka spruce from the middle of this natural range, from British Columbian (including Queen Charlotte Island) and Washington provenances, are best suited for timber production purposes in Ireland. Sitka spruce was first introduced to Europe in 1831 and was first planted in Ireland (Co. Wicklow) shortly afterwards.

**Natural distribution of Sitka spruce**

### Silviculture & Management in Ireland

Sitka spruce is the predominant species used in Irish forestry. It is relatively easily established and will grow productively under a wide range of conditions but best on moist to wet mineral sites. It is tolerant of exposure which makes it possible to plant Sitka spruce in Ireland at elevations of up to 450 metres. The wide ranging site types suited to growing Sitka spruce vary from very fertile mineral soils to impoverished peaty and podsolic conditions. Fertiliser application may be required for the latter where afforestation or reforestation is taking place. Unmodified peat sites are no longer recommended for afforestation. Sitka spruce is a light demanding species which means that it will not grow well in the shade or as an under-storey.

The management of Sitka spruce in Ireland will always depend upon the specific site conditions. In general terms Sitka spruce sites are cultivated by either mounding or ripping. It is planted at a stocking of 2,500 stems per hectare which is equivalent to 2 metre x 2 metre spacing. Plantations are fenced against livestock trespass and competitive weeds are controlled where necessary. The productivity of the crop will influence the age at which thinning and final felling should take place. In general terms thinning commences anytime between the ages of 15 and 22 and every four or five years from then on until final felling which is generally between the ages of 35 and 45. Pruning at an early age, most practically in conjunction with first thinning, will ensure a better quality final crop which will help to add value to the timber.

Sitka spruce is susceptible to late spring frost which burns new growth and can result in poor stem form and loss of production. It is therefore not suited to sites where such frosts occur regularly. Other risks to Sitka spruce crops include livestock trespass and fire, and windblow on unstable sites.


**Free standing Sitka spruce**


**Sitka spruce needles and cone**



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### Non Timber Benefits

Sitka spruce grows well in Ireland because it is suited to our soils and climate. As proof of its 'ecological fit' the species flowers, produces seed and is able to regenerate naturally. The species has thus adapted to the Irish environment rapidly and many native animals, insects and birds now inhabit Sitka spruce woodlands.

As one of our fastest growing tree species, Sitka spruce has an important role to play in Carbon Sequestration. This is the process by which Carbon Dioxide in the atmosphere, a contributor to global warming, is 'fixed' by trees and stored in the timber and foliage. Over a rotation Sitka spruce can fix over 200 tonnes of Carbon per hectare.

Sitka spruce is planted in mixture with other conifers such as larch, Norway spruce and Douglas fir. These mixtures and pockets of birch or alder are used to increase crop biodiversity and as a tool to enhance the visual appearance of Sitka spruce woodlands in the landscape.


**Sitka spruce woodland**

### Position in Irish Forestry

Sitka spruce is the predominant species used in Irish forestry. It has proven itself as one of the most productive coniferous species grown in Ireland and as such has become the industry's mainstay in terms of timber processing and end markets. Since 1983, 110,000 hectares of Sitka spruce have been planted in Ireland. 75,000 hectares of this has been planted by the private sector.

The tallest Sitka spruce recorded in Ireland is located in Curraghmore Estate, Portlaw, Co. Waterford and measures 55 metres in height

### Uses & Markets

Sitka spruce produces a pale timber which is generally traded as "white deal". Because of its long fibres and pale colour it is suitable for use in fibreboard, strand board and chip board. Sitka spruce timber is relatively light in weight while maintaining good strength properties. For this reason it was used as the prime source of wood for American, British and French aeroplanes in World Wars I and II.

The Irish forest industry currently uses Sitka spruce for a variety of end uses including building timber, fencing material (stakes), pallet manufacture, Medium Density Fibreboard (MDF) and Oriented Strand Board (OSB).

Although not considered a joinery timber, recent research in planing techniques indicates that Sitka spruce can take a high quality finish. Over 1.4 million cubic metres of Sitka spruce logs are produced annually from Irish forests.


**Sitka spruce timber is used in building construction**

### Further Information

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

NDP NATIONAL DEVELOPMENT PLAN
Roinn na Mara agus Acmhainní Nádúrtha
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Forest Service