

# Western yew (Tw) - *Taxus brevifolia*

Tree Species > Western yew



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# BC Distribution of Western yew (Tw)

Range of Western yew



The red, fleshy, edible, structure partially surrounding the very poisonous seed of the Pacific yew is the aril.

# Geographic Range and Ecological Amplitudes

## Description

Pacific yew varies in size from a shrub to small-sized (<20 m tall) evergreen gymnosperm, with an irregular crown, long branches, twisted and fluted stem, and scaly bark at maturity. The wood is hard and heavy, and resistant to decay. The bark contains a drug ? taxol ? that was being used in cancer research and treatment. Demand for yew bark increased dramatically until it was possible to synthesize taxol chemically.

## Geographic Range

Geographic element:  
Western North American/Pacific and Cordilleran

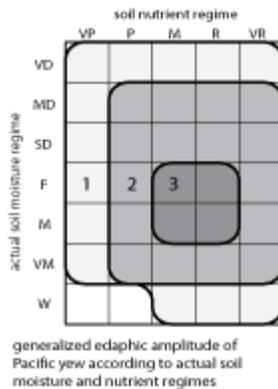
Distribution in Western North America:  
(north), central, and south in the Pacific region; central and south in the Cordilleran region

## Ecological Amplitudes

**Climatic amplitude:**  
subalpine boreal - cool temperate - cool mesothermal

**Orographic amplitude:**  
submontane - montane - (subalpine)

Occurrence in biogeoclimatic zones:  
(lower MH), (lower ESSF), (MS), IDF, **ICH**, CDF, **CWH**



**Edaphic Amplitude**  
Range of soil moisture regimes:  
(very dry) - moderately dry - slightly dry - **fresh - moist** - very moist - (wet)

Range of soil nutrient regimes:  
(very poor) - poor - **medium** - rich - very rich

## Tolerance and Damaging Agents

### Root System Characteristics

Pacific yew develops a deep and wide spreading root system. Roots are associated with vesicular-arbuscular mycorrhizae.

### Tolerances

| tolerance to                   | tolerance class | comments   |
|--------------------------------|-----------------|--|
| low light                      | H               | considered as our most shade-tolerant gymnosperm |
| frost                          | M               |  |
| heat                           | M               | frequent on warm and dry sites (e.g., in CDF)    |
| water deficit                  | M               | frequent on dry and warm sites (e.g., in CDF)    |
| water surplus                  | H               | infrequent on wet sites                          |
| nutrient (mainly N) deficiency | H               | infrequent in acid, poor soils                   |

### Associated tree species and successional role

In British Columbia, Pacific yew grows scattered in isolated clumps of one or several individuals (very rarely it forms a pure stand) in the understory of conifers, such as Pacific silver fir, Grand firs, Red alder, Western larch, Ponderosa pine, Black cottonwood, Common douglas, Western redcedar, and Western hemlock. Pacific yew is present in early, mid-, and late stages of secondary succession.

### Silvical Characteristics

| characteristic              | interpretive comments class |  |
|-----------------------------|-----------------------------|--|
| reproduction capacity       | M                           | a prolific seed producer, but the frequency of seed crops is unknown |
| seed dissemination capacity | H                           | seed is dispersed mainly by birds, rodents, and squirrels            |

|   |    |  |
|---|----|--|
| potential for natural regeneration in low light       | H  | high, if considering vegetative reproduction             |
| potential for natural regeneration in the open        | H  | except in situations where it is protection-requiring    |
| potential initial growth rate (<5 years)              | M  | about 20 cm/yr in planted seedlings                      |
| response of advance regeneration to release           | na | not determined   |
| self-pruning capacity in dense stands                 | na | dense stands are non-existent                            |
| crown spatial requirements                            | H  | long branches and wide, umbrella-shaped, live-crown      |
| light conditions beneath closed-canopy, mature stands | na | closed-canopy stands are non-existent                    |
| potential productivity                                | na | non-crop species; site index functions are not available |
| longevity   | ?  | not determined   |

## Genetics and Notes

### Genetics

Pacific yew was originally classified as a variety of European yew — *Taxus baccata*. Where different species of yew grow near each other, interspecific hybrids frequently occur, lending support to the view that there is but one species of the seven currently recognized *Taxus* species.

### Notes

Although not a timber species, Pacific yew has several special uses — the most important one for medicinal purposes. It would be feasible to grow Pacific yew for bark production under intensive silviculture management on suitable sites. More detailed silvics information is given by:

Bolsinger, C.L. and A.E. Jaramillo. 1990. *Taxus brevifolia*. Pp. 573-579 in R.M. Burns and B.H. Honkala (technical coordinators) *Silvics of North America*, Vol. 1. Agri. Handbook 654, USDA For. Serv., Washington, D.C.