

*Pseudotsuga menziesii* (Douglas –Fir)



Picture from: <http://my.execpc.com/~mcphoto/smgal/34.html>



Range

North from central British Columbia, all the way south to central Mexico. East to western Montana and Wyoming.

### Climate, elevation

A well precipitated winter with dry months of July and August. Mostly a mild, continental climate. Elevation is generally between 550-2,440 m. The highest altitude it has been found growing is at Mount Graham in southeastern Arizona where it is 3260 m.

### Local occurrence (where, how common)

Big variety of occurrences. Dry lower elevation sites to moist mountainous sites. Bunchgrass communities to sub alpine forests. Most commonly found on low-middle elevation forests on all types of slopes, aspects, landforms, and soils.

### Habitat preferences

Well-aerated and deep soils.

### Plant strategy type/successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)

Shade tolerant in dry low-middle elevation forests. It is shade intolerant in wetter forests. It is both a climax and seral species by replacing some species but also being replaced by other species. It is resistant to fire due to its thick, corky bark. Has naturally survived due to changes in fire regime, climate variation, and selective logging.

### Associated species

*Alnus rubra*, *Pinus ponderosa*, *Pinus strobiformis*, *Abies lasiocarpa* var. *arizonica*, *Abies concolor*, *Picea pungens*, *Populus* spp., *Acer circinatum*, *Gaultheria shallon*, *Rhododendron macrophyllum*, *Berberis nervosa*, *Vaccinium parvifolium*, *Rubus spectabilis*, *Symphoricarpos albus*, *Spirea betulifolia*, *Physocarpus malvaceus*, *Pachistima myrsinites*

### May be collected as: (seed, layered, divisions, etc.)

Seeds

### Collection restrictions or guidelines

Seeds dispersal begins around mid August and two-thirds of the seed crop will be dropped by October.

### Seed germination (needs dormancy breaking?)

Light exposure and stratification will affect seed germination. The seeds will germinate naturally on the ground after falling from the tree.

### Seed life (can be stored, short shelf-life, long shelf-life)

Germination generally occurs 150 days after seed fall, but will remain viable for 1-2 years.

### Recommended seed storage conditions

Low temperature and moisture conditions, approximately 5-8% moisture and 7-10° C.

### Propagation recommendations (plant seeds, vegetative parts, cuttings, etc.)

Planting seeds and growing them in a nursery is the most common and successful way of propagation. Cuttings have been tried, but have been unsuccessful. Tissue culture is emerging and that propagation method is being research at this time.

### Soil or medium requirements (inoculum necessary?)

A moist mineral soil with a little (~1 inch) organic material.

### Installation form (form, potential for successful outcomes, cost)

Seeds, seedlings grown in a nursery.

### Recommended planting density

In nature, they start with about 2500 trees per hectare.

### Care requirements after installed (water weekly, water once etc.)

Water enough to keep the soil from drying out and continue until the root system of the tree has been established.

### Normal rate of growth or spread; lifespan

Slow growing for the first year due to dormancy from late summer to the following spring. Very slow growing past 200 years old. The oldest known tree was located in Mt. Vernon at 1400 years old, until it was cut down.

### Sources cited

- 1.) [http://www.fs.fed.us/database/feis/plants/tree/psemeng/botanical\\_and\\_ecological\\_characteristics.html](http://www.fs.fed.us/database/feis/plants/tree/psemeng/botanical_and_ecological_characteristics.html).
- 2.) [http://www.na.fs.fed.us/spfo/pubs/silvics\\_manual/Volume\\_1/pseudotsuga/menziesii.htm](http://www.na.fs.fed.us/spfo/pubs/silvics_manual/Volume_1/pseudotsuga/menziesii.htm).
- 3.) <http://my.execpc.com/~mcphoto/smgal/34.html>.
- 4.) Pojar, Jim, Mackinnon, Andy. Plants of the Pacific Northwest Coast. Canada: Lone Pine, 1994.

### Data compiled by

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