

## Black cottonwood, *Populus trichocarpa*



Picture Source: *Dendrology at Virginia Tech Webpage*, (<http://www.cnr.vt.edu/dendro/dendrology/main.htm>)

### Range



*Figure: native range of black cottonwood Figure From: (1)*

The range of black cottonwood extends northeast from Kodiak Island along Cook Inlet to latitude 62° 30' N., then southeast in southeast Alaska and British Columbia to the forested areas of Washington and Oregon, to the mountains in southern California and northern Baja California (lat. 31° N.). It is also found inland, generally on the west side of the Rocky Mountains, in British Columbia, western Alberta, western Montana, and northern Idaho. Scattered small populations have been noted in southeastern Alberta, eastern Montana, western North Dakota, western Wyoming, Utah, and Nevada.(1)

### Climate, Elevation

Populations of black cottonwood grow in climates varying from relatively and to humid, but best growth is attained in the humid coastal forests of the Pacific Northwest (23). Annual precipitation ranges from 250 mm (10 in) to more than 3050 mm (120 in). Only about one-third of the annual precipitation occurs during the

growing season, and in mountainous and inland areas much of the dormant-season precipitation falls as snow. The frost-free period ranges from about 70 days in the interior areas to more than 260 days in southern California. Maximum temperatures range from 16° to 47° C (60° to 117° F); minimum temperatures, from 0° to -47° C (32° to -53° F). (1) Elevation ranges from Sea level to 2,700m. (2)

### Local occurrence (where, how common)

Black cottonwood often forms extensive stands on alluvial sites at low elevations along the Pacific coast. (1)

### Habitat preferences

The growth of black cottonwood is best at low elevations on deep, moist alluvial soils. (1)

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

Very intolerant to shade.

### Associated species

Overstory: red alder (*Alnus rubra*), Douglas-fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), western redcedar (*Thuja plicata*), Sitka spruce (*Picea sitchensis*), grand fir (*Abies grandis*), bigleaf maple (*Acer macrophyllum*), Oregon ash (*Fraxinus latifolia*), black hawthorn (*Crataegus douglasii*), and several birch (*Betula* spp.) and cherry (*Prunus* spp.), western white pine (*Pinus monticola*), ponderosa pine (*P. ponderosa*), white fir (*Abies concolor*), western larch (*Larix occidentalis*), subalpine fir (*A. lasiocarpa*), white spruce (*Picea glauca*), Engelmann spruce (*P. engelmannii*), and quaking aspen (*Populus tremuloides*).

Shrub: Vine maple (*Acer circinatum*), red-osier dogwood (*Cornus stolonifera*) and other *Cornus* spp., beaked hazel (*Corylus cornuta*), Nootka rose (*Rosa nutkana*), thimbleberry (*Rubus parviflorus*), salmonberry (*R. spectabilis*), elder (*Sambucus* spp.), bearberry honeysuckle (*Lonicera involucrata*), spirea (*Spiraea* spp.), and common snowberry (*Symphoricarpos albus*).

Herbaceous: swordfern (*Polystichum munitum*), lady fern (*Athyrium filix-femina*), horsetail (*Equisetum* spp.), stinging nettle (*Urtica dioica*), hedge nettle (*Stachys* spp.), false solomons-seal (*Smilacina stellata*), Canada violet (*Viola canadensis*), jewelweed (*Impatiens* spp.), enchanters nightshade (*Circaea alpina*), golden-saxifrage (*Chrysosplenium* spp.), buttercup (*Ranunculus* spp.), bittercress (*Cardamine* spp.), angelica (*Angelica* spp.), loosestrife (*Lysimachia* spp.), bedstraw (*Galium* spp.), and iris (*Iris* spp.). (1)

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

Seed. Or stem cutting.

### Collection restrictions or guidelines

Seed mature from late May to mid-July. A good time to collect is when a small number of the capsules are beginning to open.(2)

### Seed germination (needs dormancy breaking?)

Seed germination may happen very rapidly after ripen.

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

Longevity of black cottonwood seed under natural conditions may be as short as 2 weeks to a month. But with proper drying and cold storage, viability and capacity to germinate can be maintained for at least 1 year.(1)

### Recommended seed storage conditions

Air dry for four days at a 5-8% moisture content and then store at 5 °C (Schreiner 1974).

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

Can reproduce sexually or asexually. By seeds or stem cuttings.

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

Moist seedbeds are essential for high germination , and seedling survival depends on continuously favorable conditions during the first month .

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

Seeds, stem cuttings.

### Recommended planting density

1.8 by 1.8 in (6 by 6 ft).

### Care requirements after installed (water weekly, water once, never water, etc.)

Require moist soil bed.

### Normal rate of growth or spread; lifespan

17 cm (6.7 in) in d.b.h. and 14.8 m (48.5 ft) in height at 9 years, normally with 35-75 years growth remaining. Typical lifespan is about 80-120 years. (3) Max. 200 years. (1)

### Sources cited

(1) Burns, R.M. and B.H. Honkala. 1990. *Silvics of North America, Vol. 2, Hardwood*. Washington DC: U.S.D.A. Forest Service Agriculture Handbook 654. [http://www.na.fs.fed.us/spfo/pubs/silvics\\_manual/table\\_of\\_contents.htm](http://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm)

(2) Rose, R., C. Chachulski and D. Haase. 1996. *Propagation of Pacific Northwest Native Plants: A Manual, Volume Two, First Edition*. Nursery Technology Cooperative, Oregon State University, Corvallis, Oregon. 211p.

(3) <http://southcove.net/cottonwoods/nwoodlandsreport.htm>

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