

# Hybrid Poplar



# Hybrid Poplar (*Populus* hybrids)

## General Description

Many hybrid clones between *Populus* species have been planted in the Northern Great Plains. Most hybrids grow very fast but often lack the cold and drought hardiness of the native cottonwood. The most common parent species of these hybrids are Cottonwood (*Populus deltoides*) and Black Poplar (*Populus nigra*). These hybrids are referred to as the *P. x euramericana* hybrids. Other species that have been crossed with Cottonwood include Balsam Poplar, Japanese Poplar and Russian Poplar.

### Leaves and Buds

Bud arrangement - Alternate.

Bud Color - Varies between hybrids.

Bud Size - Varies between hybrids.

Leaf Type and Shape - Simple leaves, deltoid to lanceolate, petioles are generally flattened.

Leaf Margins - Coarsely-dentate to entire.

Leaf Surface - Glabrous, to lightly pubescent beneath.

Leaf Length - 2 to 5 inches.

Leaf Width - 2 to 5 inches.

Leaf Color - Green to dark green; yellow fall color.

### Flowers and Fruits

Flower Type - Unisexual catkins; dioecious.

Flower Color - Tiny brownish-red flowers early in spring.

Fruit Type - Dehiscent capsule.

Fruit Color - Light brown, seeds in a mass of "cotton". Many clones are vegetatively propagated male plants and produce no seeds or "cotton."

### Form

Growth Habit - Upright-spreading branches but not as spreading as cottonwood. Many clones exhibit pyramidal or columnar forms.

Texture - Medium-coarse to coarse, both summer and winter, depending upon hybrid.

Crown Height - 40 to 60 feet.

Crown Width - 20 to 35 feet.

Bark Color - Gray-green when young, turning ash-gray and forming darker gray, furrowed bark at maturity.

Root System - Shallow and wide-spreading, equal to or greater than the height of the tree.

## Environmental Requirements

### Soils

Soil Texture - Clay loams to sandy loams.

Soil pH - 5.5 to 7.5. Less tolerant of high pH or salinity than is cottonwood.

Windbreak Suitability Groups - 1, 2.

### Cold Hardiness

USDA Zone 3.

### Water

Requires a moist site. Will not tolerate drought on upland sites. Less tolerant of moisture stress than is cottonwood. High water table required on coarse-textured soils.

Light

Requires full sun.

## Uses

### Conservation/Windbreaks

Narrow-crowned, fast-growing tree in field and farmstead windbreaks, and riparian plantings.

### Wildlife

Cover and snow protection. Buds provide a source of food to birds. Twigs and young branches make good browse. Young trees are used for food by deer, rabbits, mice and beaver.

### Agroforestry Products

Wood - Firewood, energy production biomass, pulp.

Filter Strips - Roots, stems and leaves are effective nutrient sinks.

Medicinal - *Populus* species are a source of salicin, used for fevers and headaches.

### Urban/Recreational

Used in windbreaks, riparian areas, as visual screens and to provide quick tree cover.

## Cultivated Varieties

Assiniboine Poplar (*Populus x 'Assiniboine'*) - Male, semi-upright, very hardy, disease resistant, fairly susceptible to lime-induced chlorosis.

Canam Poplar (*P. x 'Canam'*) - Female seedling of *P. x 'Walker'*, rapid growth, disease resistant.

Carolina Poplar (*P. x euramericana*) - A common hybrid, similar to the cultivars 'Imperial' and 'Robusta' with similar hardiness limitations.

Charkowiensis Incrassata Poplar (*P. x 'Charkowiensis Incrassata'*) - Male, semi-erect poplar performing well in NDSU trials. Merits evaluation for shelter plantings. Good disease resistance.

Imperial Poplar (*P. x euramericana 'Imperial'*) - Excellent male poplar in growth and disease resistance, but may dieback under certain winter and/or drought stress conditions.

Manitou Poplar (*P. x 'Manitou'*) - Male, fairly broad poplar, resistant to Septoria canker and poplar bud gall mite.

Northwest Poplar (*P. x jackii 'Northwest'*) - Very winter hardy and commonly planted, but very subject to Melampsora rust.

Prairie Sky Poplar (*P. x euramericana 'Prairie Sky'*) - Hardy, male, single-trunked poplar, rapid growth, fairly good disease resistance.

Robusta Poplar (*P. x euramericana 'Robusta'*) - Similar to 'Imperial' and suffers similar winter dieback problems, disease resistant.

Tower Poplar (*P. x canescens 'Tower'*) - Rapid-growing, narrow erect poplar which merits trial in shelter plantings but it does sucker.

Walker Poplar (*P. x 'Walker'*) - Female, narrow erect, single-trunked, hardy, fairly disease resistant.

## Related Species

Balsam Poplar (*P. balsamifera*)

Cottonwood (*P. deltoides*)

Quaking Aspen (*P. tremuloides*)

White Poplar (*P. alba*)

## Pests

Common diseases include Melampsora leaf rust, Septoria leaf spot and canker, Cytospora canker, wetwood, and stem decay. Common insect pests include poplar borer, aphids, poplar bud gall mite, poplar vagabond aphid and poplar leaf beetles. 'Walker', 'Assiniboine', and 'Canam' were selected for stem canker resistance. None are completely resistant. Extracts of various *Populus* species are effective against certain insect pests.