

Paper Birch



Paper Birch (*Betula papyrifera*)

General Description

A native medium to tall tree which is loosely pyramidal when young, developing an irregular oval crown when mature. Drought stress followed by borer attack often causes decline. The largest tree in North Dakota is 61 feet tall with a canopy spread of 40 feet.

Leaves and Buds

Bud Arrangement - No terminal bud, lateral buds are alternate.

Bud Color - Lustrous, brown-black in color, scales on buds are downy on the edges.

Bud Size - Lateral buds are ovate, pointed, and 1/4 inch long.

Leaf Type and Shape - Simple, ovate to narrow-ovate.

Leaf Margins - Coarsely and doubly-serrate, sharp pointed, rounded at the base, and have 3 to 7 lateral veins.

Leaf Surface - Leathery smooth texture above, hairy on the veins below or nearly smooth.

Leaf Length - 2 to 3 inches.

Leaf Width - 1 to 2½ inches.

Leaf Color - Dark green on top, duller green below; bright yellow fall color.

Flowers and Fruits

Flower Type - Male catkins, 2 to 4 inches long hanging in groups of 1 to 3, female about 1 inch long, borne erect.

Flower Color - Flowers are greenish to brownish.

Fruit Type - Heart-shaped, winged nutlets attached to tiny oval seeds.

Fruit Color - Brownish.

Form

Growth Habit - Larger limbs grow upward and smaller branches are more horizontal and flexible. Pyramidal when young, irregular oval to rounded at maturity.

Texture - Medium-fine, summer; fine, winter.

Crown Height - 30 to 55 feet.

Crown Width - 20 to 40 feet.

Bark Color - Smooth bark, marked with horizontal lenticels, is reddish-brown when young, turning papery white with age.

Root System - Roots are shallow and superficial.

Environmental Requirements

Soils

Soil Texture - Does best on loamy or sandy soils along rivers, lakes or ravines.

Soil pH - 5.0 to 7.5.

Windbreak Suitability Group - 1, 1K, 3.

Cold Hardiness

USDA Zone 2.

Water

Does best on well-drained, moist sites. Does not tolerate drought. Similar to aspen in water needs.

Light

Full sun.

Uses

Conservation/Windbreaks

Small to medium tree for farmstead windbreaks on protected sites or along riparian areas.

Wildlife

Used as food by over 30 types of birds and mammals.

Agroforestry Products

Wood - Firewood, tooth picks, spoons, carving and wood pulp. Sap is used to treat leather. Oil extract used to repel insects.

Food - Birch wine is made from the sugary sap.

Medicinal - Used for gout, rheumatism, dropsy, colds, coughs and other pulmonary ailments. It has also been used as a laxative, burn and wound treatment and in cancer research.

Urban/Recreational

Used as a landscape tree in yards and parks.

Cultivated Varieties

None.

Related Species

Asian White Birch (*Betula platyphylla*)

European White Birch (*B. pendula*) - Bronze birch borer susceptible.

Gray Birch (*B. populifolia*)

River Birch (*B. nigra*) - Resistant to bronze birch borers, but many sources are questionable in hardiness and adaptation in North Dakota.

Pests

Bronze birch borer is a major pest that can be a problem when trees are stressed by either drought or water-logging. Native birches are less susceptible to the borer than European birches. Extracts of *Betula* species are toxic to insect pests.