**Betula papyrifera**  
*Paper Birch*¹

Edward F. Gilman and Dennis G. Watson²

**INTRODUCTION**

A native to northern areas that is grown for its beautiful white bark (Fig. 1). An additional ornamental trait is the yellow fall leaf color. The tree is best adapted to wet and moist sites -- watch out for pests if grown in an unsuitable site. The tree will grow to 50 feet or more and spread about half that amount. Paper birch has excellent cold tolerance and will grow in USDA hardiness zone 2. It is rarely successful in zones warmer than USDA hardiness zone six. In landscapes it may be grown as a single stemmed tree or in a multi-stemmed clump.

**GENERAL INFORMATION**

- **Scientific name:** *Betula papyrifera*  
- **Pronunciation:** BET-yoo-luh pap-ih-RIFF-er-uh  
- **Common name(s):** Paper Birch, Canoe Birch  
- **Family:** Betulaceae  
- **USDA hardiness zones:** 3 through 6 (Fig. 2)  
- **Origin:** native to North America  
- **Uses:** specimen  
- **Availability:** somewhat available, may have to go out of the region to find the tree

**DESCRIPTION**

- **Height:** 45 to 60 feet  
- **Spread:** 20 to 35 feet  
- **Crown uniformity:** irregular outline or silhouette  
- **Crown shape:** oval  
- **Crown density:** moderate  
- **Growth rate:** medium  
- **Texture:** fine  

**Foliage**

- **Leaf arrangement:** alternate (Fig. 3)  
- **Leaf type:** simple  
- **Leaf margin:** double serrate  
- **Leaf shape:** ovate  
- **Leaf venation:** pinnate

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Leaf type and persistence: deciduous  
Leaf blade length: 2 to 4 inches  
Leaf color: green  
Fall color: yellow  
Fall characteristic: showy

Flower  
Flower color: brown; green  
Flower characteristics: showy; spring flowering

Fruit  
Fruit shape: elongated  
Fruit length: 1 to 3 inches  
Fruit covering: dry or hard  
Fruit color: brown  
Fruit characteristics: attracts birds; inconspicuous and not showy; no significant litter problem

Trunk and Branches  
Trunk/bark/branches: grow mostly upright and will not droop; should be grown with a single leader; very showy trunk; no thorns  
Pruning requirement: requires pruning to develop strong structure  
Breakage: resistant  
Current year twig color: brown; reddish  
Current year twig thickness: thin  
Wood specific gravity: 0.55

Culture  
Light requirement: tree grows in part shade/part sun; tree grows in full sun  
Soil tolerances: clay; loam; sand; slightly alkaline; acidic; occasionally wet; well-drained  
Drought tolerance: moderate  
Aerosol salt tolerance: moderate  
Soil salt tolerance: good

Other  
Roots: surface roots are usually not a problem  
Winter interest: tree has winter interest due to unusual form, nice persistent fruits, showy winter trunk, or winter flowers  
Outstanding tree: not particularly outstanding  
Invasive potential: seeds itself into the landscape

Figure 2. Shaded area represents potential planting range.
Verticillium wilt susceptibility: not known to be susceptible
Pest resistance: very sensitive to one or more pests or diseases which can affect tree health or aesthetics

USE AND MANAGEMENT

Pests

A light aphid infestation may not be serious but heavy infestations cause distorted and stunted growth and produce large amounts of honeydew. The honeydew serves as a substrate for sooty mold.

Birch skeletonizer feeding causes leaf browning. The skeletonizer larva is yellowish-green and one quarter-inch-long.

Birch leaf miner is a common insect pest of birch. A small white worm eats out the middle of the leaf which turns brown. Severe attacks of birch leaf miner predispose trees to bronze birch borer infestation. The insect shows up in mid May but timing can vary from one year to the next, and will vary according to your location in the country. The first of two generations per year is the most damaging.

The most serious pest of landscape birches is bronze birch borer. Stressed trees are most susceptible to borer attacks. The insect bores in the sapwood, beginning in the top third of the tree, causing death of the tree crown. The tunnels are slightly raised and faintly rust colored. Emergence holes in the trunk are shaped like capital D’s. Keep the trees healthy by controlling other insects, fertilizing, and watering as needed. Chemical control is applied to the trunk and main branches. Timing of the first spray will vary from year to year depending on weather conditions. A commercial sprayer may be needed to apply the spray adequately.

Diseases

Several fungi cause canker diseases on birch. These diseases infect and kill sapwood causing sunken areas on the trunk and larger branches. There is no chemical control for canker diseases. Preventive measures include keeping the tree healthy and avoiding wounding. Regular fertilization will keep birches vigorous and more resistant to cankers. Water in dry weather to prevent water stress.

Dieback is characterized by a slow death of the branches. The tree crown accumulates dead branches. Injury caused by bronze birch borer is similar but far more prevalent. Prevent dieback by maintaining tree vigor with water and fertilizer. When the disease does occur prune out dead branches and increase tree vigor.

Several fungi also cause leaf spots which, when severe, can cause defoliation.