



Fraxinus americana White Ash¹

Edward F. Gilman and Dennis G. Watson²

INTRODUCTION

White Ash is resistant to heat, although it is native to moist locations, including river bottoms and well-drained upland sites (Fig. 1). It grows 50 to 80 feet tall and wide. The trees produce a good seed-set every two to three years and they germinate in the landscape creating a nuisance and perhaps look a bit messy. The seeds are used by many birds and can be produced in countless numbers. The tree grows rapidly and is almost pyramidal when young, but gradually slows down and develops a more spreading round or oval shape. White Ash prefers a sunny exposure where it develops a showy yellow fall color. Fall color can be striking or dull, depending on the tree and environmental conditions.

GENERAL INFORMATION

Scientific name: *Fraxinus americana*

Pronunciation: FRACK-sih-nus
uh-mair-ih-KAY-nuh

Common name(s): White Ash

Family: *Oleaceae*

USDA hardiness zones: 3 through 9A (Fig. 2)

Origin: native to North America

Uses: wide tree lawns (>6 feet wide); recommended for buffer strips around parking lots or for median strip plantings in the highway; shade tree; residential street tree; no proven urban tolerance

Availability: generally available in many areas within its hardiness range

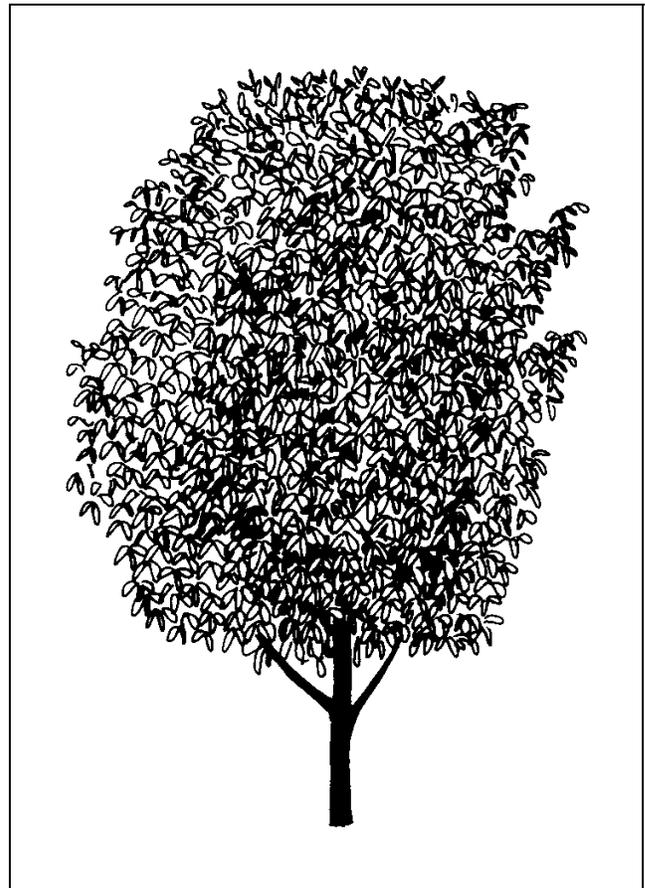


Figure 1. Young White Ash.

DESCRIPTION

Height: 50 to 80 feet

Spread: 40 to 60 feet

Crown uniformity: symmetrical canopy with a regular (or smooth) outline, and individuals have more

1. This document is adapted from Fact Sheet ST-261, a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: November 1993.
2. Edward F. Gilman, associate professor, Environmental Horticulture Department; Dennis G. Watson, associate professor, Agricultural Engineering Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.



Figure 2. Shaded area represents potential planting range.

or less identical crown forms

Crown shape: oval; round; pyramidal

Crown density: moderate

Growth rate: fast

Texture: medium

Foliage

Leaf arrangement: opposite/subopposite (Fig. 3)

Leaf type: odd pinnately compound

Leaflet margin: entire; serrulate

Leaflet shape: lanceolate; ovate

Leaflet venation: pinnate

Leaf type and persistence: deciduous

Leaflet blade length: 2 to 4 inches

Leaf color: green

Fall color: purple; yellow

Fall characteristic: showy

Flower

Flower color: green

Flower characteristics: inconspicuous and not showy; spring flowering

Fruit

Fruit shape: elongated

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: tan

Fruit characteristics: attracts birds; fruit, twigs, or foliage cause significant litter; showy

Trunk and Branches

Trunk/bark/branches: grow mostly upright and will not droop; not particularly showy; should be grown with a single leader; no thorns

Pruning requirement: requires pruning to develop strong structure

Breakage: susceptible to breakage either at the crotch due to poor collar formation, or the wood itself is weak and tends to break

Current year twig color: brown; gray

Current year twig thickness: thick

Wood specific gravity: 0.60

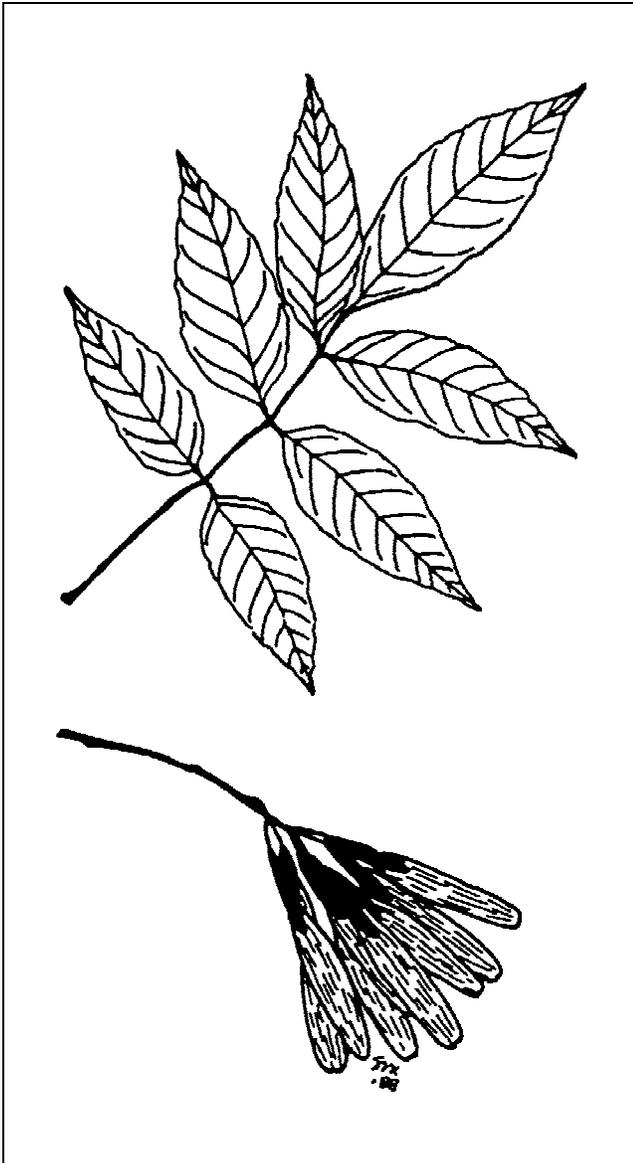


Figure 3. Foliage of White Ash.

Culture

Light requirement: tree grows in part shade/part sun; tree grows in full sun

Soil tolerances: clay; loam; sand; acidic; alkaline; extended flooding; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: high

Soil salt tolerance: good

Other

Roots: surface roots can lift sidewalks or interfere with mowing

Winter interest: no special winter interest

Outstanding tree: not particularly outstanding

Invasive potential: little, if any, potential at this time

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: susceptible

Pest resistance: very sensitive to one or more pests or diseases which can affect tree health or aesthetics

USE AND MANAGEMENT

The tree is easy to transplant although it can be coarse-rooted, producing troublesome surface roots. A good tree for large open areas but much too large for home landscapes unless you want lots of shade. The potential disease and insect problems limit use to parks and other areas where the tree will not be missed if it dies. Extensive use as a street tree in some areas could be risky because of potential insect and disease problems, especially borers, and a sensitivity to drought. Ash decline is one of its major problems and is probably caused by a complex of conditions, including a mycoplasma-like organism.

White Ash which have not been properly pruned can break apart in wind storms, but it has better branch structure than seedling Green Ash. Be sure to space branches along the trunk and remove those which are vigorously growing upright with narrow branch crotches. Ash is prone to develop double and multiple leaders (trunks) which must be removed for proper tree development. Major branches often develop opposite each other, and one should be removed to develop good structure.

Ash does not tolerate soil compaction or construction injury due to an extensive root system. It appreciates good soil and is probably not a good choice for poor, urban soils. It is not tolerant of heavy clay.

The following cultivars were selected for being seedless and for the better purplish fall color: 'Autumn Applause'; 'Autumn Purple'. 'Rosehill' has better branch arrangement. *Fraxinus texensis* may be the best Ash of Texas but it is largely untested in urban areas. *Fraxinus velutina* has been widely planted in the Dallas area and performs well, but has weak branch crotches.

Pests

Borers are common on Ash and they can kill trees. The most common borers infesting Ash are Ash borer, lilac borer and carpenterworm. Ash borer bores into the trunk at or near the soil line causing tree dieback. Lilac borer causes swellings on the trunk and limbs where the insect enters the tree. The carpenterworm

larvae bore into the heartwood but come to the outside of the tree to push out frass and sawdust. Heavily infested trees can be severely weakened. Keep trees as healthy as possible by fertilizing regularly and watering during dry weather.

Aphids are often seen but are usually not serious.

In late summer, fall webworm covers branches with webbing. The nests in branches close to the ground can be pruned out when first noticed. *Bacillus thuringiensis* may control fall webworm.

The Ash flower-gall looks like a disease but is actually a mite problem. The mites feed on the flowers causing abnormal growth. The galls dry out and persist on the tree into winter.

Diseases

A rust disease causes distorted leaves and swollen twigs. Small, yellow, cup-like structures, producing yellow spores, appear on the infected areas. Controls are usually not needed.

A number of fungi cause leaf spots on Ash. The disease is worse in wet years and is partially controlled by gathering and disposing of diseased, fallen leaves.

Anthrachnose is also called leaf scorch and leaf spot. Infected parts of the leaves turn brown, especially along the margins. Infected leaves fall prematurely. Rake up and destroy infected leaves. Chemical controls are not practical or economical on most large trees.

Canker diseases cause branch dieback and death of the tree when the trunk is infected. Try to keep trees healthy with regular fertilization.

Powdery mildew makes a white coating on the leaves.

Ash ring spot virus causes chlorotic red and yellowish spots or rings on the leaves. Infected trees may be stunted and dieback, but often the problem is minor.

Verticillium wilt causes branches of infected trees to wilt and die, eventually the entire tree may die. Keep trees healthy and fertilize infected trees to suppress disease symptoms.