



# *Ailanthus altissima* Tree-of-Heaven<sup>1</sup>

Edward F. Gilman and Dennis G. Watson<sup>2</sup>

## INTRODUCTION

This non-native deciduous tree will rapidly grow to 70 to 100 feet in height and produces an open canopy of stout branches covered with one to three-foot-long, pinnately compound, dark green leaves (Fig. 1). Broken stems smell of rancid peanut butter, and males reportedly smell worse than female trees. The leaves turn only slightly yellow in fall before dropping. The small, green, male and female flowers are produced on separate trees and appear in dense, terminal clusters. The 1.5-inch-long, yellow to red/brown, winged fruits which follow the blossoms will persist on the tree in dense clusters throughout the fall and into the winter months, and are quite attractive. They can create a crunchy mess when they fall to the ground. Seeds sprout easily and seedlings usually invade surrounding land.

## GENERAL INFORMATION

**Scientific name:** *Ailanthus altissima*  
**Pronunciation:** ay-LANTH-us al-TISS-sim-muh  
**Common name(s):** Tree-of-Heaven  
**Family:** *Simaroubaceae*  
**USDA hardiness zones:** 5 through 8A (Fig. 2)  
**Origin:** not native to North America  
**Uses:** reclamation plant  
**Availability:** grown in small quantities by a small number of nurseries

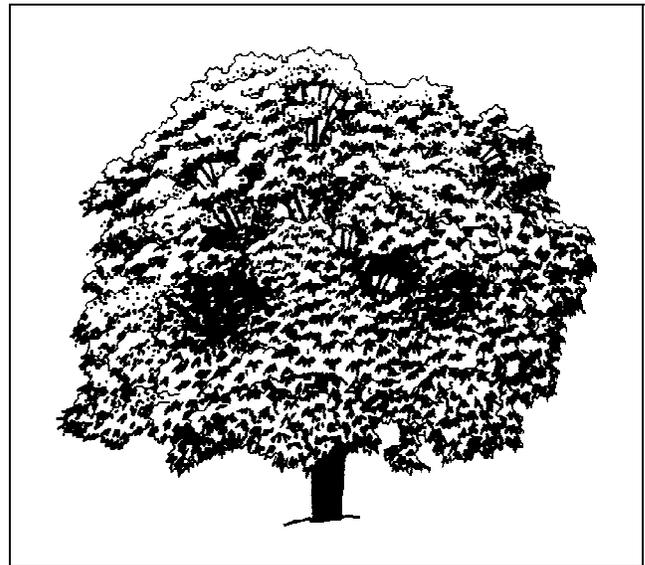


Figure 1. Mature Tree-of-Heaven.

## DESCRIPTION

**Height:** 60 to 75 feet  
**Spread:** 35 to 50 feet  
**Crown uniformity:** irregular outline or silhouette  
**Crown shape:** upright  
**Crown density:** open  
**Growth rate:** fast  
**Texture:** coarse

## Foliage

**Leaf arrangement:** alternate (Fig. 3)  
**Leaf type:** even pinnately compound  
**Leaflet margin:** ciliate  
**Leaflet shape:** ovate

1. This document is adapted from Fact Sheet ST-67, a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: November 1993.
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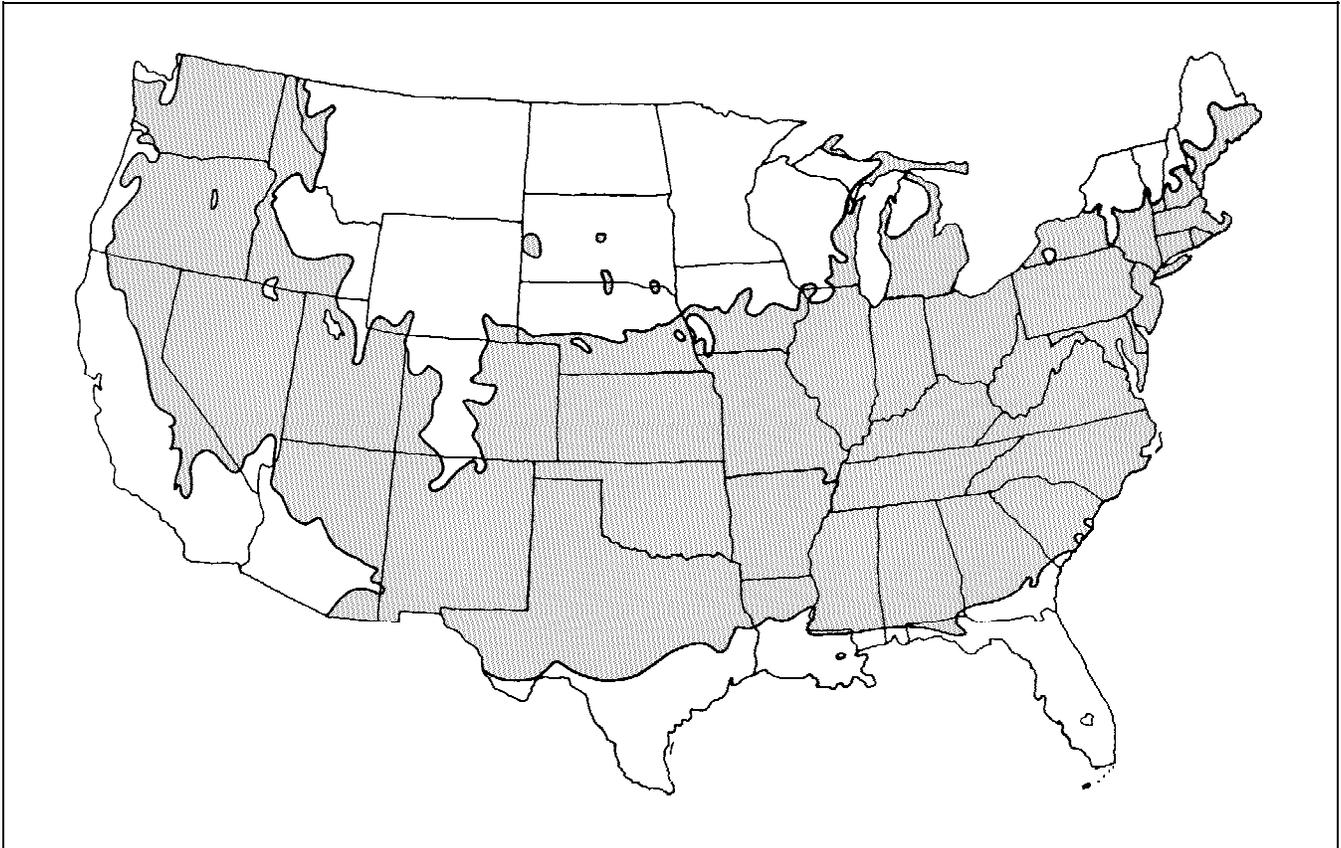


Figure 2. Shaded area represents potential planting range.

**Leaflet venation:** pinnate

**Leaf type and persistence:** deciduous

**Leaflet blade length:** 4 to 8 inches; 2 to 4 inches

**Leaf color:** green

**Fall color:** no fall color change

**Fall characteristic:** not showy

### Flower

**Flower color:** green

**Flower characteristics:** showy; spring flowering

### Fruit

**Fruit shape:** elongated

**Fruit length:** 1 to 3 inches

**Fruit covering:** dry or hard

**Fruit color:** orange; yellow

**Fruit characteristics:** does not attract wildlife; fruit, twigs, or foliage cause significant litter; persistent on the tree; showy

### Trunk and Branches

**Trunk/bark/branches:** bark is thin and easily damaged from mechanical impact; 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; reddish

**Current year twig thickness:** stout

### Culture

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

**Soil tolerances:** clay; loam; sand; acidic; occasionally wet; alkaline; well-drained

**Drought tolerance:** high

**Aerosol salt tolerance:** moderate

**Soil salt tolerance:** good

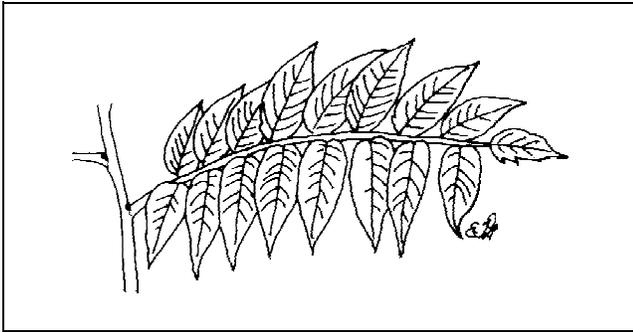


Figure 3. Foliage of Tree-of-Heaven.

### Other

**Roots:** surface roots can lift sidewalks or interfere with mowing

**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:** No entries found.

**Ozone sensitivity:** sensitive or moderately tolerant

**Verticillium wilt susceptibility:** susceptible

**Pest resistance:** long-term health usually not affected by pests

### USE AND MANAGEMENT

Tree-of-Heaven performs best in full sun on well-drained, moist soil but this is a tree that will survive almost anywhere, under any cultural conditions - smoke, dust, hot, cold, wet, or dry. It has been known to appear in cracks of pavement or even trash piles, and it will survive where no other trees will grow. Spreading rapidly by seed and suckers, Tree-of-Heaven is viewed by many as a pest- and weed-tree. But if well cared for, this tree can persist for a long time. Large specimens are known to grow trunks up to five feet in diameter.

Propagation is by seed and suckers.

### Pests

No pests are of major concern.

### Diseases

No diseases are of major concern, except for verticillium wilt.