

## Tree-of-Heaven

*Ailanthus altissima*

Quassia Family (Simaroubaceae)

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**What does it look like?** The tree-of-heaven, native to central China, is a deciduous tree, often 15 ft. to 60 ft. tall, with smooth gray bark. Leaves are compound, 1 in. to 1 ½ in. long with 11 to 25 leaflets per leaf. Leaflets are entire, with 2 to 4 teeth near the base of each leaflet. Leaves have a disagreeable odor when bruised.

**What habitats are threatened by this plant?** In the eastern U.S., the frequency of ailanthus increases as one approaches urban centers. It is found in neglected areas along railroad tracks, highways, embankments, vacant lots and even growing out of sidewalk cracks. It's most often found in disturbed areas, but can be found in small numbers in undisturbed sites. Ailanthus does well in very poor soils, with dry soils more suited for its growth than wet. It also has a high degree of shade tolerance.

**How does it spread?** Ailanthus reproduces both sexually and asexually. Asexual reproduction is by vegetative sprouting from stumps or root portions. Flowering occurs as late as June, and seeds ripen from September to October. An individual tree can produce 325,000 seeds per year, which are easily wind-dispersed, yielding up to 7,000 seedlings. Seedlings establish rapidly by producing a well-formed taproot in less than 3 months. In more compacted soils, seedlings put forth long, rope-like lateral roots to exploit a greater soil volume. In full sun, ailanthus grows fast, averaging 3 ft. in height per year for at least the first four years.

**How did it get to the U.S.?** Ailanthus was introduced by a Philadelphia gardener in 1784. Due to its tolerance of unfavorable conditions, ailanthus was common in eastern nurseries by 1840. During the gold rush, Chinese miners also brought ailanthus seeds with them to California because of its medicinal and cultural importance. For at least 100 years, this tree has been widely planted in urban areas because of its ability to tolerate pollution.

**How can it be controlled?** Avoid planting ailanthus. Control existing plantings by manual removal of young seedlings, best done after a rain when the soil is loose. Remove as much of the root system as possible because it can re-sprout from roots left in the ground. If the plant has developed a taproot, hand-removal may be difficult. Girdling of the base of the tree, followed by painting the girdled area with a glyphosate herbicide such as Roundup to prevent re-sprouting from below the girdle, has been effective. (Follow label directions when applying any herbicide.) This method only should be used where no hazard will be created when the tree falls.

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