

Chinese Tallowtree



Figure 1. Young Chinese tallowtree and leaf (inset).



Figure 2. Chinese tallowtree with yellow inflorescences.



Figure 3. White fruit on Chinese tallowtree.

Chinese tallowtree [*Triadica sebifera* (L.) Small] [Syn. *Sapium sebiferum* (L.) Roxb.; *Stillingia sebifera* Michx.] is a deciduous to evergreen tree native to China, Japan, and Korea. It was introduced to the United States in the mid- to late 1700s as a seed oil crop. In under 100 years after its introduction, it naturalized along the coast of South Carolina and Georgia. It escaped from cultivation in at least nine southern states. This invasive plant tolerates saline to freshwater flooding, shade to full sun, acidic to alkaline soils, and wet to dry soils. It establishes dense, solid stands that crowd out native plant species. Characterized by rapid growth and prolific seed production, it is an extremely competitive invasive plant.

Tallowtree is commonly grown in the United States as an ornamental because of its yellow flowers, red fall foliage, and unusual white fruit, which gave it the name “popcorn tree.” However, Chinese tallowtree is a noxious weed in several states, including Mississippi; it is not, however, considered a federal noxious weed. Once introduced into a landscape and mature enough to produce seeds, it quickly spreads into surrounding landscapes. If allowed to perpetuate, control is difficult and expensive.

Description

Vegetative Growth

Chinese tallowtree generally grows between 30 and 40 feet tall, but it can reach over 50 feet. In the southeastern United

States, it is deciduous. Leaves are simple, alternate, and smooth (Figure 1). The foliage is bright green in summer but often turns fiery red in the fall.

Flowering

Chinese tallowtree is monoecious, with drooping, yellow tassels of insect-pollinated flowers in the spring (Figure 2) followed by white fruit in the fall (Figure 3). The white fruit can persist throughout the winter and is poisonous. Seed production can be heavy, averaging around 100,000 seeds per tree.

Dispersal

Despite being poisonous, fruit is spread by birds and other wildlife. Water also disseminates fruit, as evidenced by seedlings germinating on floodplains. Chinese tallowtree is still cultivated throughout the south, and human dispersal can facilitate invasions in and around residential areas.

Habitat

Chinese tallowtree is an early successional species and often emerges to dominate forested areas and right-of-way clearings. It reduces the number and variety of native species in a location, altering the ecosystem’s structure and function. In southern Texas, herbaceous coastal prairies were transformed into closed-canopy tallowtree forests within 10 years. Although

they can be damaged by early hard freezes, Chinese tallowtrees tolerate a wide range of environmental conditions.

Distribution

Chinese tallowtree has spread rapidly in the United States. It is widely planted in the southern United States as an ornamental and as a pollen crop for honey production. The full extent of its cold-hardiness is not known, but it seems to be progressing northward.

Control Methods

Chemical

See Table 1 for recommended chemical treatments. These products can be applied in a variety of methods that include foliar, frill, basal bark, cut stump, and soil applications. Frill (also known as hack-and-squirt) requires a hatchet, machete, or ax to create an opening in the bark every 2 inches around the trunk; the herbicide is applied in these openings. Basal bark applications are made by spraying the lower 18–24 inches of the entire plant trunk with a bark-penetrating adjuvant. These treatments are most effective on trunks less than 4 inches in diameter and when treated just before bud break. Cut stump applications are made after the tree has been felled; the woody tissue just inside the bark of the remaining stump is treated to prevent resprouting. All foliar and basal bark applications also require a nonionic surfactant at 32–64 ounces per 100 gallons of spray solution. Imazapyr and hexazinone are absorbed by tree roots, so applications made within two times the dripline of desirable trees may cause injury or death. When spraying Chinese tallowtrees near water, use herbicide formulations and adjuvants that are labeled for aquatic applications.

Mechanical

Hand removal may be possible for small infestations, although tallowtree stems break easily. Seedlings can be pulled in wet soils if roots are not very deep.

Cultural

Since Chinese tallowtrees tolerate a wide range of environmental conditions and soil types, cultural control is not practical. However, selecting alternative landscape ornamentals will help prevent further infestations.

Table 1. Chemical control for Chinese tallowtree.

Herbicide	Formulation	Method (rate)
Fosamine	4 lb/gal	Foliar (192 to 768 oz/A or 30% solution)
Glyphosate	3 lb ae/gal	Foliar (1% solution)
		Cut stump (undiluted)
Hexazinone	2 lb/gal	Soil (256 to 512 oz/A)
		Foliar or soil (32 to 96 az/A or 2%)
Imazapyr	2 lb ae/gal	Frill or cut stump (64 oz + 32 oz water)
Imazapyr + Metsulfuron	72%	Foliar (25 oz/A)
Triclopyr	4 lb ae/gal	Foliar (2% solution)
		Basal (20% + bark penetrator)
		Frill (20% solution)
		Cut stump (undiluted)

References

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By John D. Byrd Jr., PhD, Extension/Research Professor, Plant and Soil Sciences; Victor Maddox, PhD, Senior Research Associate, Plant and Soil Sciences; and Randy Westbrook, PhD, former Invasive Species Specialist, U.S. Geological Survey.



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