

Tallow Tree - *Triadica sebifera*

Identification

Tallow tree, also called popcorn tree, is a deciduous tree reaching 60 feet in height and 3 feet in diameter. The alternate leaves, which turn yellow or red in the fall, are heart-shaped with a long pointed tip (Figure 33, 34). The bark is light gray to tan, becoming fissured with age. The sap is a milky white color. The noticeable male flowers are yellowish and occur on long, dangling spikes (Figure 35). Three-lobed fruit are found in clusters at the end of branches. The fruit turn from green to black and split to reveal three waxy popcorn-like seeds (Figure 36).

Habitat and Distribution

Tallow tree is a native of China and was first introduced into America in South Carolina during the 1700s. The USDA recommended planting this tree for seed oil from 1920 to about 1940. It is currently still being sold as an ornamental. Tallow tree invades wet areas such as stream banks, ditches, wetlands, coastal prairies, and swamps, but can also invade drier upland sites such as forests, fields, pastures, and pine plantations (Figure 37). It can tolerate salty soils, flooding, and shady environments. Tallow tree readily invades disturbed areas but does not require disturbance to invade, and can invade high-quality mature forests. It is currently found throughout the southeastern United States in the Coastal Plain and lower Piedmont regions, from Texas to North Carolina. It has also been found in California.

Impact

Tallow tree is a serious threat because of its ability to invade high quality, undisturbed forests. Seed is dispersed both by birds and by water. It can displace native vegetation by forming dense monocultural stands. Tallow tree can also alter soil conditions due to the high amount of tannins present in the leaf litter. It has alleopathic properties which help it exclude other vegetations from infested sites. Open areas, such as fields and wet meadows, are quickly dominated, altering water and light regimes. It is a major threat to coastal prairies and forests on both the Gulf and Atlantic coasts. Forest regeneration in infested areas is difficult due to the quick dispersal and rapid growth of tallow tree.



Figure 33



Figure 34



Figure 35



Figure 36

Response to Disturbance

Promoted by high light environments
 Promoted by soil disturbance
 Discouraged by fire
 Re-sprouts vigorously after being cut
 Establishes well after disturbance

Reproduction

Primary means – seed
 Can mature within three years
 Seed production – 100,000/plant
 Moderate seed bank (some survival possible
 up to 7 years)
 Does not self pollinate
 Wind pollinated

Seed Dispersal

Bird and water dispersed seeds

Growth Habits

Tree
 Shade tolerant
 Full sun tolerant
 Flood tolerant
 Salt tolerant
 Can grow in varied habitat types
 Not cold hardy
 Able to invade undisturbed habitats

Response to Prescribed Fire

Dormant season burning may be an effective
 control option
 Not a fire hazard
 Re-growth after fire possible



Figure 37

Control Recommendations

Large trees. Make stem injections using Arsenal AC, Garlon 3A, or Pathfinder II in dilutions and cut spacings specified on the herbicide label (anytime except March and April). For felled trees, apply herbicides to stem and stump tops immediately after cutting (at least a 10-percent solution for Garlon 3A). For treatment of extensive infestations in forest situations, apply Velpar L to the soil surface within 3 feet of the stem (one squirt of spot gun per 1-inch stem diameter) or in a grid pattern at spacings specified on the herbicide label.

Saplings. Apply Garlon 4 as a 20-percent solution in commercially available basal oil, vegetable oil, or crop oil (2.5 quarts per 3-gallon mix) with a penetrant (check with herbicide distributor) to young bark as a basal spray.

Seedlings and saplings. Thoroughly wet all leaves with one of the following herbicides in water with a surfactant (July to October): Arsenal AC as a 1-percent solution (4 ounces per 3-gallon mix), Krenite S as a 20-percent solution (2 quarts per 3-gallon mix), or Garlon 4 as a 2-percent solution (8 ounces per 3-gallon mix).

(See Herbicide Quick Reference page 40-42)