



Invasive Species Management Plans for Florida

Chinese Tallow

Sapium sebiferum (L.) Euphorbiaceae

INTRODUCTION

In China, Chinese tallow (*Sapium sebiferum*) is cultivated for seed oil. During the 1700's, Chinese tallow was introduced to the United States primarily for use as an ornamental tree. It was also introduced for making soap from the seed oil. Not only has Chinese tallow become naturalized in the southern coastal plain from South Carolina south to Texas, it has become naturalized in over half of the counties in Florida. Displacement of native species through vigorous growth and spread are characteristics that helped place Chinese tallow on FLEPPC's List of Invasive species and the State of Florida Noxious Weed List.

Natural areas including Paynes Prairie State Preserve south and east of Gainesville, and state protected lands throughout Florida are being inundated with Chinese tallow. Chinese tallow can be seen in landscapes around the state and until very recently, could be purchased in garden centers or nurseries, aiding its spread throughout Florida.

DESCRIPTION

Characteristics that make Chinese tallow a popular ornamental are its fast growth rate, attractive fall color, and its ability to resist damage from pests. It is a small to medium-sized tree that grows to about 20 feet tall, but some specimens can reach 40-50 feet. It is freely branching with leaves arranged alternately on branches. The leaves have acuminate tips and entire margins, with broadly ovate leaf blades and rounded bases. The flowers of Chinese tallow are attractive to bees and other insects and are borne in spikes roughly 8 inches long. The fruit is a three-lobed capsule (0.5 inches) and seeds are covered with vegetable tallow, a white waxy coating. Fruit ripens from August to November.

Chinese tallow trees are deciduous with a strong, deep taproot. This enables young trees to withstand periods of drought. Seeds are spread by many species of birds, and moving water can also serve as a mechanism for seed dispersal.

IMPACTS

Chinese tallow can invade a variety of habitats ranging from swampy to saline waters, and from full sun to shade situations. It is often found growing along roadsides, coastal areas, and streams. Larger specimens can produce up to 100,000 seeds that may be eaten and dispersed by birds, facilitating the spread of tallow. Regrowth often occurs from cut stumps or roots. Native species are crowded out once Chinese tallow becomes established. The leaves and fruit are toxic to cattle and cause nausea and vomiting in humans.

MANAGEMENT

Preventative: Prevention is an important control tactic for Chinese tallow. Florida landowners should NOT distribute Chinese tallow-trees or seeds (as well as other invasive exotics). Florida residents with Chinese tallow are encouraged to remove them. Removal of seedlings is also important.

Cultural: Homeowners can help mitigate the problem of Chinese tallow trees in Florida's natural areas by removing them from their property. Seedlings should be continually pulled by hand before they reach seed-bearing maturity. Native or noninvasive non-native trees can be planted in areas previously occupied by Chinese tallow. Tree species recommended that are similar in size to Chinese tallow include blackgum, maples, dogwood, and crepe myrtles.

Mechanical: Mature trees should be cut down with a chain saw. The final cut should be made as close to the ground as possible and as level as possible. This will make an herbicide application easier as well as prevent resprouting from the cut. Seedling trees can be mowed or disked when small. Burning is also very effective for both small and larger trees.

Biological: There are no known biological control agents available for the control of Chinese tallow.

Chemical: Foliar applications are effective on smaller trees but cut-stump or basal bark treatments are commonly utilized. For foliar applications, fall treatments before seed shed is the optimum timing – this coincides with downward translocation of carbohydrates. However, basal bark or cut stump treatments can be performed at any time of the year. Control can be achieved with the use of triclopyr-ester applied in an oil

diluent. For basal bark applications, apply an herbicide/oil mixture directly to the bark around the circumference of the tree up to 15 inches above the ground. For trees with stems less than 6 inches in basal diameter, a solution of 5% triclopyr with oil can be used. For trees over 6 inches in basal diameter a 15-20% triclopyr and oil solution should be used. To control resprouting of freshly cut stumps, a 20% solution of triclopyr is very effective. The root collar area, sides of the stump, and the outer portion of the cut surface should be sprayed until thoroughly wet, but not to the point of runoff. No more than 1/2 hour should elapse between cutting and applying herbicide. Do not attempt a cut stump or basal bark treatment during seed production (August to early September). This can increase the chance of spreading viable seed.

REFERENCES AND USEFUL LINKS:

Institute of Pacific Islands Forestry, Pacific Island Ecosystems at Risk:
<http://www.hear.org/pier/index.html>

University of Florida Center for Aquatic and Invasive Plants:
<http://aquat1.ifas.ufl.edu/welcome.html>

University of Florida's Cooperative Extension Electronic Data Information Source:
<http://edis.ifas.ufl.edu/index.html>

Langeland, K.A. and K. Craddock Burks. 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. IFAS Publication SP 257. University of Florida, Gainesville. 165 pp.

Langeland, K.A. 2003. Natural Area Weeds: Chinese Tallow (*Sapium sebiferum* L.). Publication SS-AGR-45. Agronomy Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. <http://edis.ifas.ufl.edu>.

City of Tallahassee, Florida: <http://talgov.com/citytlh/index.html>

Mature Plant

- Small tree – 20 to 50 feet in height
- Main trunk, but highly branched
- Multiple shoots when cut or damaged



Leaves

- Alternately arranged
- Acuminate tips, rounded leaf bases and entire margins
- Exude a milky sap when removed from branch



Flowers and Fruit

- Flowering occurs from July to Aug
- Borne in spikes – 8 inches long
- Fruit are a 3-lobed capsule
- Split open, seeds covered with white tallow



Seed

- Large trees may produce over 100,000 seeds
- Seed dormancy not well understood
- Dispersal occurs through water and may occur through bird ingestion and excretion

