



**Chinaberry**

*Melia azedarach* L.

Mahogany family (Meliaceae)

**NATIVE RANGE**

Temperate and tropical Asia (China, Japan, India, Sri Lanka, Indonesia, Papua New Guinea) and Australia, and the Solomon Islands

**DESCRIPTION**

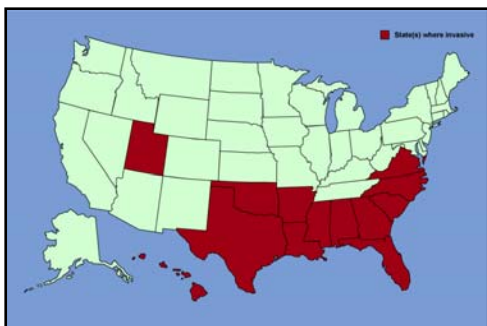
Chinaberry, also called pride-of-India, umbrella-tree, and Persian lilac, is a fast-growing tree that can grow to 50 feet tall. Its twigs are slightly purple with light-brown spots (lenticels). The leaves are large (up to 2 ft. long), blue-green, with long stalks (petioles), and doubly compound (i.e., divided twice into smaller leaflets). Individual leaflets are toothed and pointed. The leaves turn golden-yellow in the fall. Flowers are small but showy, appearing in clusters at the end of branches in early spring. Each flower has five narrow pink petals surrounding a central purple-red tube. Fruits are round yellow berries, which mature into brown leathery seed capsules.



Chinaberry may be confused with a native shrub, common elderberry (*Sambucus canadensis*). When in flower or fruit the two species may be distinguished by the color of those features; elderberry exhibits white flowers and dark-purple berries.

**ECOLOGICAL THREAT**

This fast-growing tree can form dense thickets that crowd out native vegetation. Chinaberry fruit is poisonous to humans and small mammals. Leaves and roots release compounds that inhibit the germination and growth of other plant species (allelopathy).



**DISTRIBUTUION IN THE UNITED STATES**

According to the Plant Conservation Alliance’s WeedUS Database, Chinaberry has been reported to be invasive in natural areas in Alabama, Arkansas, Florida, Georgia, Hawaii, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, Utah, Virginia, and Puerto Rico and the Virgin Islands. The USDA Plants Database shows it as occurring across the southern half of the United States from California to Virginia and New York State.

**HABITAT IN THE UNITED STATES**

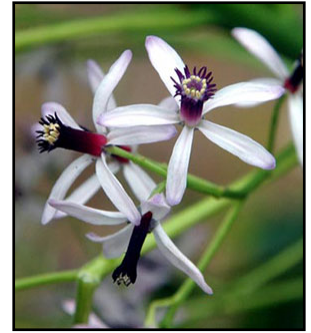
Chinaberry grows under a variety of conditions, but is most invasive in riparian and disturbed areas. Specimens are frequently found on rural home sites, both abandoned and occupied, throughout the southeast. The species is common in the horticultural market. In the SC piedmont, Chinaberry commonly invades open pine stands in the absence of fire, particularly following the treatment of other non-native invasive plant species such as kudzu.

**BACKGROUND**

Chinaberry was introduced into the continental United States at Charleston, South Carolina, during the last quarter of the 18<sup>th</sup> century. Extracts from the leaves and bark have been used medicinally.

## BIOLOGY AND SPREAD

Chinaberry trees are prolific seed-producers. Seeds are spread widely by birds and water. Birds disperse seeds to new locations, often far from the parent plant. Seeds falling from trees along riparian areas may be carried downstream. Seeds can survive drying out and can still germinate after several years.



## MANAGEMENT OPTIONS

### *Biological*

There are no known biological control agents available for this plant.

### *Chemical*

The most effective method for controlling Chinaberry is with herbicides. Herbicides can be applied to leaves, bark, and cut stumps, and can be injected into larger trees (see "hack and squirt"). Because initial treatment may miss individual plants and some treated plants may resprout, multiple treatments are usually necessary to successfully eradicate Chinaberry.

#### *Foliar application*

Application of triclopyr (Garlon® 3A or Garlon® 4 at 2%) and imazapyr (Arsenal® AC at 1%) to leaves can kill seedlings, but may not kill root systems of larger trees. Application is most effective in the summer and fall. Care must be taken since adjacent, desirable plants may also be killed (especially with imazapyr).

#### *Basal application*

Applications of triclopyr (Garlon® 4 at 20%) in an oil carrier to the bark of smaller trees and saplings are effective at killing chinaberry.

#### *Cut stump application*

For cut stump applications, trees can be cut down or girdled followed by herbicide application directly to the cut stem. Herbicide should be applied immediately (within 5 minutes) after the stump is cut. Effective herbicides include imazapyr (Arsenal® AC), picloram (Pathway®), and triclopyr (Pathfinder II® and Garlon® 3A). This method is especially useful for larger trees and works best in late summer or fall. Do not use this method in the spring, because the upward sap flow to young leaves can push the herbicide out of the plant.



#### *Hack and Squirt (Injection)*

The herbicides Habitat® (approved for wetlands) or Arsenal® in a 50% water-herbicide solution will probably kill Chinaberry. This technique involves using a sharpened hand axe to make a downward angled cut into the trunk and squirting the mixture immediately into the cut. This method also works well on tallowtree but has not yet been tested on Chinaberry.

#### *Manual*

Manual control of Chinaberry is generally considered to be effective only during the initial stages of invasion. Seedlings can be hand-pulled or dug up, but any root fragments left behind will resprout.

### *Mechanical*

Trees can be cut down using a chain saw but because they typically resprout after being cut, this is a less desirable alternative. However, cutting followed by treatment with herbicide can be quite effective (see Chemical above).

**USE PESTICIDES WISELY:** Always read the entire pesticide label carefully, follow all mixing and application instructions and wear all recommended personal protective gear and clothing. Contact your state department of agriculture for any additional pesticide use requirements, restrictions or recommendations.

**NOTICE:** Mention of pesticide products on this page does not constitute endorsement of any material.

## CONTACTS

For more information on the management of Chinaberry, please contact:

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- Charlotte Reemts, The Nature Conservancy, Fort Hood, TX; creemts(at)tnc.org

## SUGGESTED ALTERNATIVE PLANTS

Many native species are excellent ornamental alternatives to Chinaberry. Native plum species (*Prunus* spp.) provide spring interest and attract wildlife. Native maples (*Acer* spp.) provide similar fall interest. Elderberry (*Sambucus canadensis*) or Devils-walking stick (*Aralia spinosa*) may be good substitutes if smaller plants with large compound leaves are desired. Check with your local native plant society for specific suggestions for your area.

## OTHER LINKS

- Photos at invasive.org <http://www.invasive.org/search/action.cfm?q=Melia+azedarach>
- University of California, Berkeley CalPhotos [http://calphotos.berkeley.edu/cgi/img\\_query?query\\_src=photos\\_index&where-taxon=Melia+azedarach](http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&where-taxon=Melia+azedarach)
- University of Florida Center for Aquatic and Invasive Species <http://plants.ifas.ufl.edu/parks/chinaberry.html>
- University of South Florida Atlas of Vascular Plants <http://www.plantatlas.usf.edu/main.asp?plantID=1691>
- U.S. Department of Agriculture Plants Database. <http://plants.usda.gov/java/profile?symbol=MEAZ>

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## PHOTOGRAPHS

Charlotte Reemts, The Nature Conservancy, Fort Hood, TX (foliage)

Chris Evans, River to River CWMA, Bugwood.org (flowers)

Cheryl McCormick, University of Florida, Bugwood.org (fruits)

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