



**Exotic Wisterias**

**Chinese Wisteria** - *Wisteria sinensis* (Sims) DC.

**Japanese Wisteria** - *Wisteria floribunda* (Willd.) DC.

Pea family (Fabaceae)

**NATIVE RANGE**

China and Japan

**DESCRIPTION**

Chinese and Japanese wisteria are exotic, showy, woody ornamental vines. These vigorous vines can climb trees, apparently limited only by the height of the tree, and have been observed to reach 65 feet. Unlike American wisteria (*Wisteria frutescens*), native to the southeastern U.S., which flowers June through August, and produces a non-hairy seed pod 2-4 inches long, both exotic wisterias flower in the springtime (April-May) and produce a velvety seed pod. The fuzzy brown seed pods are 4-6 inches long, narrowed toward the base, with constrictions between the seeds. Stems of the exotic wisterias can grow to 15 inches in diameter in older plants. White-barked Japanese wisteria vines twine clockwise around the host plant and Chinese wisteria twines counter-clockwise. The compound leaves, consisting of 7-13 (Chinese) or 13-19 (Japanese) smaller leaf units, called leaflets, are about 1 foot long and alternate along the stem. Fragrant, violet to blue-violet flowers, ½ to 1 inch long, occur in showy, pendulous clusters that hang gracefully from the twining stems.



**ECOLOGICAL THREAT**

Exotic wisterias impair and overtake native shrubs and trees through strangling or shading. Climbing wisteria vines can kill sizable trees, opening the forest canopy and increasing sunlight to the forest floor, which in turn favors its aggressive growth. Chinese and Japanese wisterias are hardy and aggressive, capable of forming thickets so dense that little else grows.



**DISTRIBUTION IN THE UNITED STATES**

Japanese and Chinese wisteria are found extensively throughout the eastern states. The maps are of *Wisteria sinensis* (left) and *Wisteria floribunda* (right).

**HABITAT IN THE UNITED STATES**

The ideal habitat for exotic wisterias is in full sun, but established vines will persist and reproduce in partial shade. Vines often climb surrounding vegetation and structures toward sunlight. Wisteria tolerates a variety of soil and moisture regimes but prefers loamy, deep, well drained soils. Infestations are commonly found along forest edges, roadsides, ditches, and rights-of-way.

**BACKGROUND**

Chinese wisteria was brought to the U.S. from China in 1816 and Japanese wisteria was introduced from Japan around 1830. Both were brought in as ornamentals. They have been grown extensively in the southern U.S. as decorative additions to porches, gazebos, walls, and gardens. Most infestations in natural areas are a result of escapes from landscape plantings.

**BIOLOGY & SPREAD**

Exotic wisterias are long-lived, some vines surviving 50 years or more. Vegetative reproduction is their primary means of expansion. Numerous stolons, or above-ground stems, develop roots and shoots at short intervals. Abundant seeds may

also be produced if conditions are favorable, but flower buds are susceptible to winter kill. In riparian habitats, seeds may be carried downstream in water for great distances.

## MANAGEMENT OPTIONS

The only practical methods currently available for control of exotic wisterias are mechanical and chemical. Cut climbing or trailing vines as close to the root collar as possible. This technique, while labor intensive, is feasible for small populations, as a pretreatment for large impenetrable infestations, or for areas where herbicide use is not desirable. Wisteria will continue to resprout after cutting until its root stores are exhausted. For this reason, cutting should begin early in the growing season and, if possible, sprouts cut every few weeks until autumn. Cutting will stop the growth of existing vines and prevent seed production. However, cut vines left coiled around trunks may eventually girdle trees and shrubs as they continue to grow and increase in girth. For this reason, the vines should be removed entirely or at least cut periodically along their length.

### *Manual*

Grubbing, removal of entire plants from the roots up, is appropriate for small initial populations or environmentally sensitive areas where herbicides cannot be used. Using a pulaski, weed wrench or similar digging tool, remove the entire plant, including all roots and runners. Juvenile plants can be hand pulled depending on soil conditions and root development. Any portions of the root system not removed may resprout. All plant parts (including mature fruit) should be bagged and disposed of in a trash dumpster to prevent reestablishment.

### *Chemical*

#### *Cut stump application*

Cut stump treatment, using a systemic herbicide, is effective in areas where vines are established within or around desirable native plants or where they have grown into the canopy. This treatment is effective as long as the ground is not frozen. Cut the stem as close to ground level as possible. Immediately apply a 25% solution of glyphosate (e.g., Roundup®) or triclopyr (e.g., Garlon®) and water to the cross section of the stem. Retreatment with a foliar application of glyphosate may be necessary for any sprouts.

#### *Foliar application*

Use foliar spray herbicide treatments to control large infestations of exotic wisterias. It may be necessary to precede foliar applications with stump treatments to reduce the risk of damaging non-target species. Apply a 2% concentration of glyphosate (e.g. Roundup®) or triclopyr (e.g. Garlon®) and water, plus a 0.5% non-ionic surfactant to thoroughly wet all foliage. Chlorpyralid (e.g. Transline®) is effective at a concentration of 0.5% and is selective to plants in the aster, buckwheat, and pea families. Caution should be taken with chlorpyralid as groundwater pollution through leaching can be a problem with certain soil types. Do not apply spray so heavily that herbicide drips off the leaves. Glyphosate is a non-selective systemic herbicide that may kill non-target plants that are only partially contacted by spray. Triclopyr is selective to broadleaved species and is a better choice if native grasses are present. Ambient air temperature should be above 65°F for all foliar treatments.



**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.

## CONTACT

For more information on the management of exotic wisterias, please contact:

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## Plant Conservation Alliance's Alien Plant Working Group

Seeds Cone Wild: Alien Plant Invaders of Natural Areas

<http://www.nps.gov/plants/alien/>

## **SUGGESTED ALTERNATIVE PLANTS**

There are a variety of creeping or climbing vines native to the eastern U.S. that are good alternatives to the invasive exotic wisterias. Some examples include American wisteria (*Wisteria frutescens*), trumpet creeper (*Campsis radicans*), trumpet honeysuckle (*Lonicera sempervirens*), Dutchman's pipe (*Aristolochia macrophylla*), and crossvine (*Bignonia capreolata*). Contact your local native plant society for information on sources of these and other native plants.

## **OTHER LINKS**

- <http://www.invasive.org/search/action.cfm?q=Wisteria>

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