



## Southeast Exotic Pest Plant Council Invasive Plant Manual

**Common Name:** Chinese Yam, Cinnamon vine, Air potato

**Scientific Name:** *Dioscorea oppositifolia* L.

Chinese yam is a deciduous perennial vine native to China. It is a member of the Dioscoreaceae or Yam family. The genus *Dioscorea* has economic value as a food plant and is used as a traditional Chinese medicine.

**Height:** Chinese yam is a creeping and climbing vine that may reach up to 5 meters in height given support from trees and shrubs. The vines twine from left to right.

**Leaves:** The leaves are acute to acuminate with a cordate (heart-shaped) base. The leaves can be alternate or opposite in arrangement on the stem. Typically, leaves are 4 to 8 cm long and up to 4 cm wide with 7 to 9 veins. The margins, petioles and stems are purplish to red in color.

**Flowers:** The small yellowish-white flowers arise from the axils of the leaves. The perianth is bell-shaped and the staminate (male) flowers are in bundles, spikes or panicles at the end of the branches. Flowers may have a spicy fragrance similar to cinnamon. Arrangement may be panicle or spicate.

**Bulbils:** Bulbils or small aerial tubers (0.7 to 3 cm long) are produced in the axils of the leaves.

**Seeds:** The seeds are borne in a three-angle membranous capsule.

### Life History

Chinese yam is a deciduous perennial vine that reproduces primarily vegetatively through aerial tubers or bulbils. Although the production of seeds has been seen, sexual reproduction has not been verified in the United States. The bulbils form on the axils of the leaves in late summer and fall. The mature bulbils fall from the plant and are spread primarily by gravity. Animals may also play a role in dispersal. Since the bulbils float and Chinese yam is commonly found in alluvial soils, water may play a role longer-range dispersal. The aerial tubers are covered with adventitious buds and damaged or partially eaten tubers can produce new plants. The large tuberous root of Chinese yam is capable of resprouting if



Photo by James H. Miller



Photo by Jack Ranney



Photo by Jack Ranney

it is fractured or damaged.

### Origin and Distribution

Chinese yam is native to China. It was introduced to the United States as an ornamental or edible food crop in the 1800's. Since that time, it has been identified in most of the Eastern United States from Texas to Florida and Vermont to Kansas.

### Similar Species

The native wild yam (*Dioscorea villosa*) may resemble Chinese yam. Main distinguishing characteristics of wild yam include vines that twine right to left, pubescence present on the upper leaf surfaces, and the absence of aerial tubers. Greenbrier (*Smilax* sp.) has a similar leaf shape to Chinese yam but lacks the bulbils, has thorns (on some but not all species), and has blue to purple berries. Morning glory (*Ipomoea* sp.) and bindweed (*Convolvulus arvensis*) have a cordate leaf shape but lack the aerial tubers.

### Habitat

Chinese yam is found in rich alluvial soils along streams, seasonal creeks and rivers. It can tolerate semi-xeric sites with rocky soils. It grows in full sun and can tolerate all but the deepest shade. *D. oppositifolia* can be found along roadways, waste places, old home sites, and disturbed areas.

### Management Recommendations

#### Mechanical Control

**Mowing/Cutting:** This method is appropriate for small initial populations or environmentally sensitive areas where herbicides cannot be used. Mowing or cutting will control the spread of Chinese yam, but will not eradicate it unless it is continued for several growing seasons or until the root reserves are exhausted. Stems should be cut at least once per growing season as close to ground level as possible. Treatment should be completed prior to bulbil production typically in July.

**Grubbing:** This method is appropriate for small initial populations or environmentally sensitive areas where herbicides cannot be used. Using a pulaski or similar digging tool, remove the entire plant, including all roots and bulbils (if present). Juvenile plants can be hand pulled depending on soil conditions and root development. Any portions of the root system not removed will potentially resprout.

**Mulching:** Mulching is an effective control on small infestations or in areas where herbicides cannot be used. Cover the entire infestation with several inches of mulch. This may include wood chips, grass clippings, hay or similar degradable plant material. Shredded or chipped wood may be the best option since hay and grass may potentially carry weed seeds. Covering the area with cardboard may improve the effectiveness and longevity of this method. The mulch should stay in place for at least two growing season and may need to be augmented several times.

#### Herbicidal Control

**Foliar Spray Method:** Use this method to control large populations. The most effective time to treat plants is after the leaves are fully expanded but before the aerial tubers are ripe.

**Glyphosate:** Apply a 4% solution of glyphosate and water plus 0.5%-1% non-ionic surfactant to thoroughly wet all foliage. Do not apply so heavily that herbicide will drip off leaves. Glyphosate is a non-selective systemic herbicide that may kill non-target partially sprayed plants. Ambient air temperature should be above 65°F.

**Triclopyr:** If native grasses are intermingled with the Chinese yam, triclopyr is preferred since it is selective to broadleaved plants. Apply a 4% solution of triclopyr and water to thoroughly wet all foliage. Do not apply so heavily that herbicide will drip off leaves. A 0.5%-1% non-ionic surfactant is recommended in order to penetrate the leaf cuticle, and ambient air temperature should be above 65° F.

### Bibliography

Gleason, H.A. and A. Cronquist. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. The New York Botanical Garden, Bronx. 1991.

Johnson, Kristine. National Park Service: Great Smoky Mountains National Park. Personal Communication. Dec. 12, 2002.

Kartesz, J.T. A Synonymized Checklist and Atlas with Biological Attributes for the Vascular Flora of the United States, Canada, and Greenland. First Edition. In: Kartesz, J.T., and C.A. Meacham. Synthesis of the North American Flora, Version 1.0. North Carolina Botanical Garden, Chapel Hill, NC. 1999.

Radford, A.E., H.E. Ahles, and C. Ritchie Bell. Manual of the Flora of the Carolinas. The University of North Carolina Press, Chapel Hill, NC. 1968.

Soehn, Dana. National Park Service: Great Smoky Mountains National Park. Personal Communication. Dec. 18, 2002.

Tu, Mandy. Element Stewardship Abstract for *Dioscorea oppositifolia* L. Chinese Yam, cinnamon vine. The Nature Conservancy. Nov. 25, 2002.  
<<http://tncweeds.ucdavis.edu/esadocs/diosoppo.html>>.

USDA, NRCS. 2002. The PLANTS Database, Version 3.5 <<http://plants.usda.gov>>. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

[ [Home](#) ] [ [Contents](#) ]



Invasive.org is a joint project of  
The Bugwood Network, USDA Forest Service & USDA APHIS PPQ.  
The University of Georgia - Warnell School of Forest Resources and  
College of Agricultural and Environmental Sciences - Dept. of Entomology  
Last updated on Wednesday, November 05, 2003 at 01:20 PM  
Questions and/or comments to the [Bugwood Webmaster](#)