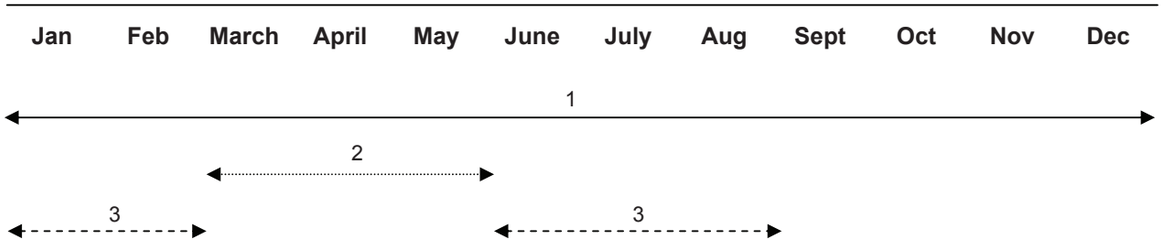
Foliage

Flowers

Fruit



Management Techniques

1. (All Year) Cutting. Frequently cut the plants near the ground. This must be repeated a few times a year, for several years. If this is done too infrequently, the plant will vigorously re-sprout and the roots will spread.
2. (Spring) Hand pulling. Seedlings can be pulled by hand when the soil is moist. The entire plant, including all of the roots, must be pulled and removed from the area. Check for re-sprouting.
3. (Late Winter or Summer) Herbicides. Choose ONE of the following techniques.
   - A. Stump treatment. Herbicides may be applied to stems immediately after they have been cut. Choose ONE of the following chemicals:
     - a. 20% triclopyr plus 80% oil solution (selective for broadleaf plants)
     - b. 20% glyphosate solution (**Important Note: Glyphosate is non-selective, avoid contacting non-target plants)
   - B. Foliar treatment (can NOT be done in the winter). A foliar treatment can be effective if trees are small enough to adequately spray the foliage. Choose ONE of the following chemicals:
     - a. 2% triclopyr plus a non-ionic surfactant solution (selective for broadleaf plants)
     - b. 2% glyphosate solution (**Important Note: Glyphosate is non-selective, avoid contacting non-target plants)
   - C. Basal bark treatment. Can be done with a 20% triclopyr plus 80% oil solution.

****** For best results, monitor for re-sprouting after each technique******

For More Information Visit:

http://www.HawkeyeCWMA.org

ALWAYS READ AND FOLLOW PESTICIDE LABELS.

Proper training for prescribed fires is highly recommended.

Basic training can be found online at http://training.nwcg.gov/courses/s130.html and http://training.nwcg.gov/courses/s190.html

Related Websites:

http://www.iowadnr.com/forestry/invasive.html
http://plants.usda.gov
www.invasivespecies.gov
www.nps.gov/plants/alien

Credits:

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The **Hawkeye Cooperative Weed Management Area (HCWMA)** is a collective group of county, state, and federal agencies, nonprofit organizations and community associations who have come together to **combat the invasive species problem in Eastern Iowa**. The HCWMA serves Benton, Cedar, Iowa, Johnson, Jones, Linn, and Louisa Counties and is open to all interested parties. The Term CWMA, or Cooperative Weed Management Area, refers to a local organization that integrates invasive species management resources across jurisdictional boundaries in order to benefit entire regions.

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All Hawkeye CWMA members (agencies, organizations, and individuals) are equal opportunity providers and employers.

Tree of Heaven

Ailanthus altissima

A Serious Threat
To
Iowa's Woodlands

What is Tree of Heaven?

- A fast growing deciduous tree
- Native to eastern and central China
- Introduced to the United States in the late 1700's, and was available in most nurseries by the 1850's.
- Was planted in urban landscapes because of it's tolerance for polluted air and soil.
- Now found mostly in disturbed areas and openings in forests.

What is the threat to Iowa?

- Quickly spreads into natural areas.
- Can grow up to 4 feet a year.
- Forms dense stands that shade out native vegetation.
- Changes the chemistry of the soil, which creates undesirable conditions for native vegetation.
- Each plant can produce up to 350,000 seeds per year.

What does Tree of Heaven Look Like?

Identifying traits: A deciduous tree that can grow up to 80 feet tall. Leaves are large and pinnately compound. The pink fruit develops in clusters and can last throughout the winter.

Leaves:

Leaves are pinnately compound, alternate, and have 11 to 30 large lance-shaped leaflets. Tops of leaves are pale green and undersides are dark green. Crushed leaves smells like rancid peanut.

Two leaflets of a leaf

Bark:

The bark is gray to brown in color, becoming nearly black once mature. Bark is thin and the trunk is no more than 2 feet in diameter. The wood is weak and rots easily. Large, V-shaped leaf scars are left on branches in the winter.

Roots:

Aggressively spreading rhizomes are one of the forms of reproduction. Can damage sewers and foundations.

Flowers:

Small, yellow-green flowers grow in clusters at the ends of upper branches in late spring. Male and female flowers are on separate plants. Male flowers have an offensive odor.

Fruit:

Fruit are only produced by the female plants and develop in the fall, remaining throughout the winter. Fruit are papery, flat, winged, pink to tan, and grow in clusters. Each fruit contains one seed in the middle.

Seed:

Up to 350,000 easily germinated seeds are produced by each plant every year. Spread by wind, animals, and water.

Native Alternatives:

Before selecting trees to plant in your landscape evaluate the growing conditions of the site (i.e. soil, drainage, sunlight, space, etc.) and attempt to select tree species that will be adaptable to the available growing conditions.

Sugar Maple (*Acer saccharum*)-

Sugar Maples are a valuable tree for providing wildlife habitat and food. They can grow up to 100 feet tall. They are often planted in landscape settings for their brilliant yellow, orange, and red fall colors. They are presently the only tree that is used for commercial syrup production, because their sap has twice the sugar of other Maple species.

Northern Red Oak (*Quercus rubra*)-

This native deciduous tree can grow up to 90 feet tall. It is a valuable landscaping plant for it's: beautiful fall colors, abundant wildlife food, quick growth, and tolerance for urban conditions. Red Oaks grow best in full sun and dry soils. It is a durable and long-lived tree, and often planted in restoration areas.

Similar Trees

Ash:

The trunks of Ash trees are long, straight and free of branches for most of it's length. They form dense, round crowns when mature. Bark is thick, dark gray, and contains a uniform diamond pattern. Leaves are opposite, compound, and contain only 5-9 leaflets. Leaves are dark green above and whitish below, the opposite of Tree of Heaven leaves. Ash trees can grow up to 70 feet tall.

Black Walnut:

The bark of the Black Walnut is nearly black with deep, narrow furrows. Leaf scars are shield-shaped and large. Leaves are up to 2 feet long, alternate, compound, and contain 12-24 leaflets. Leaves are fragrant when crushed. Green, cone-like flowers appear in April to June. Yellow-green fruits mature in September to October, and each contain a single nut. The inside of stems are chambered.