



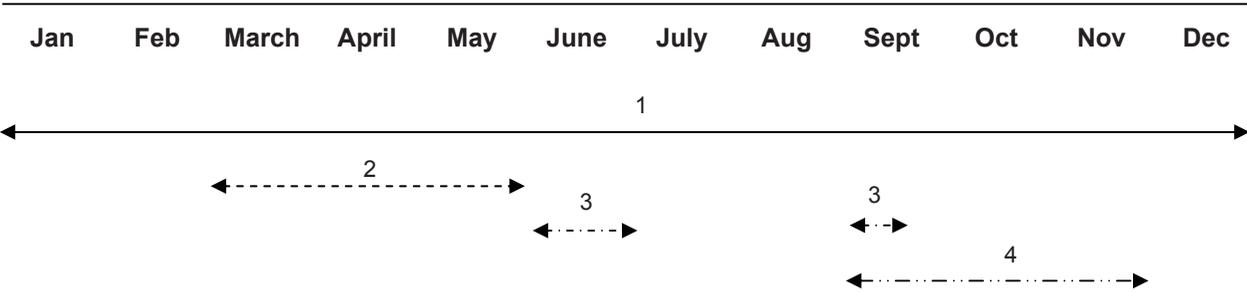
Roots



Leaves



Flowers



Management Techniques

- (All Year) Biological. Flea beetles have proved to help control leafy spurge. Contact your state invasive plant control coordinator or the USDA's Team Leafy Spurge (www.team.ars.usda.gov/index.html) for more information. Goats and sheep also like to feed on leafy spurge, and may help to control infestations.
- (Spring) Hand-pulling or digging young plants. Entire root system must be removed in order to be effective. The number of plants may increase if the entire root system is not removed. Infested sites should be monitored for re-sprouting.
- (June, Early-Mid September) Herbicide. For the best results, apply the appropriate herbicide 2 times a year: once in June when the true flowers appear (not just the bracts), and a second spray in September. Check for re-sprouting every year, for at least 5 years. Choose ONE of the following chemicals:
 - 1.5% imazapic solution plus an adjuvant
 - 25% 2,4-D amine solution
- (Fall) Prescribed burn. Fire reduces the amount of germination and harms the seedlings. However, prescribed burns of leafy spurge usually don't burn hot enough to entirely kill the plant, due to the low level of fuels. This technique should be followed by technique 2 in the fall, technique 1 in the spring, mowing, planting natives, and then mowing again.

**** Early detection is imperative! After the third or fourth year, the plant will become so well established that it is impossible to remove. The root system will have developed and it is resistant to mechanical methods (i.e. mowing). Herbicides can't penetrate to the ends of the roots. Concentrate on monitoring infestations and removing new growth.****

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:

Photographs: USDA APHIS PPQ Archive; Steve Dewey, Utah State University; Richard Old, XID Services, Inc; Chris Evans, River to River CWMA; William M. Ciesla, Forest Health Management International; www.bugwood.org; www.mobot.org

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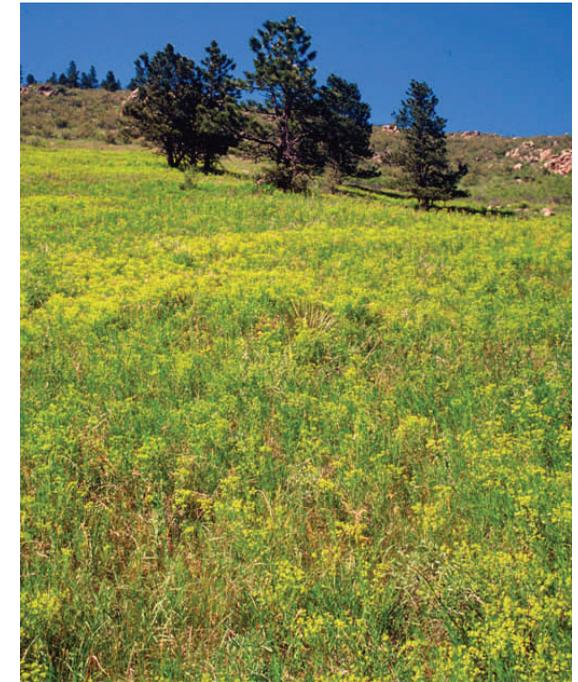
The **Hawkeye Cooperative Weed Management Area (HCWMA)** is a collective group of county, state, and federal agencies, nonprofit organizations and community associations who have come together to **combat the invasive species problem in Eastern Iowa**. The HCWMA serves Benton, Cedar, Iowa, Johnson, Jones, 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.

Leafy Spurge

Euphorbia esula



A SERIOUS THREAT To Iowa's Prairies/Grasslands

What is Leafy Spurge?

- An invasive deep rooted perennial that is listed as a noxious weed in 22 states.
- Was accidentally introduced in the early 1800's from Eurasia.
- Found mostly in sunny fields and dry soils.



What does Leafy Spurge Look Like?

Identifying traits: Can grow between 6 inches and 3 feet tall. Stems are erect, branched at the top, and contain a milky, sticky sap. Leaves are long, narrow, and bluish-green in color. Green, cup-like flowers bloom in June.



Leaves:

Leaves are simple, alternate, long, and narrow. They are blue-green in color and have petioles. Leaves change to red in the fall.



Flowers:

Flowers are small, green, and cup-like. They usually bloom in June, but may continue to bloom into fall. Flowers are surrounded by large, yellow-green, paired, petal-like bracts. Bracts can be found in umbels at the tops of stems, and usually open in May or June.



Seeds:

Smooth, oblong, gray-brown seeds can be found in 3-celled capsules. Capsules explode open in July, sending seeds up to 15 feet away from the plant. Each plant can produce more than 200 seeds, which remain viable in the soil for up to 8 years. Seeds have a high germination rate, and can germinate anytime throughout the growing season. Seeds are spread by wildlife, humans, and water.



Roots:

Roots form a dense network that can reach 15 feet deep and 35 feet laterally. Pink buds on rhizomes can develop into new roots or new plants. If foliage is destroyed, roots will send up new shoots.



What is the threat to Iowa?

- Takes in moisture and nutrients from the soil faster than native plants.
- Shades out native vegetation by emerging earlier in the spring.
- Produces chemicals that interfere with the growth of other plant species.
- Is poisonous to cattle, causing severe eye irritation.
- Can reduce the productivity of grazing land by up to 75% because cattle and horse will not eat it.
- Can produce more than 200 seeds per plant.
- Seeds can remain viable in the soil for up to 8 years.

Native Alternatives:

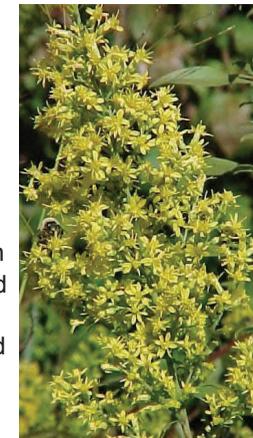
Great St. John's Wort (*Hypericum pyramidatum*)-

This herbaceous perennial stands 3-5 feet tall. It blooms from July through August with vibrant yellow flowers. This plant prefers moist soils and partial sun. Is very easy to grow and takes no maintenance.



Showy Goldenrod (*Solidago speciosa*)-

This native perennial herb reaches up to 3 feet tall. It blooms from July through September. Yellow flowers attract bees, hummingbirds, and butterflies. It can be grown in many different soil types and prefers full sun. Provides good habitat for many mammals and birds. This plant is wrongfully accused of causing hay fever.



Another Problematic Plant-

Cypress Spurge (*Euphorbia cyparissias*):

This plant is very closely related to Leafy Spurge, but not as invasive. It was introduced from Europe as an ornamental. Like Leafy Spurge, Cypress Spurge has been found invading dry grasslands. However, Cypress Spurge will tolerate wetter and shadier conditions than Leafy Spurge. It is found mostly around old homesteads and cemeteries.

Similarities:

Cypress Spurge contains small green flowers that are surrounded by yellow-green bracts. The stems produce a milky sap similar to Leafy Spurge. Leaves are simple, alternate, narrow, and long. Similar control techniques may be used as with Leafy Spurge.

Differences:

Cypress Spurge grows between 6-12 inches high, about 2 feet shorter than Leafy Spurge. It has shorter, more narrow, and more abundant leaves than Leafy Spurge. Flowers last longer on this plant, blooming from April to August. This plant rarely produces viable seeds, and so is not as invasive as Leafy Spurge.

