

Acronyms in *Technology News*

AASHTO	American Association of State Highway and Transportation Officials
APWA	American Public Works Association
CTRE	Center for Transportation Research and Education
FHWA	Federal Highway Administration
IHRB	Iowa Highway Research Board
InTrans	Institute for Transportation (at ISU)
Iowa DOT	Iowa Department of Transportation
ISU	Iowa State University
LTAP	Local Technical Assistance Program
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of County Engineers
TRB	Transportation Research Board



U.S. Department of Transportation
Federal Highway Administration



Iowa Department
of Transportation

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Just say no to noxious weeds

Toxic and/or invasive weeds take a huge economic toll every year in Iowa. They

- Displace and destroy native ecosystems
- Put pressure on endangered species
- Impede opportunities for recreational activities
- Disrupt agriculture by spreading into cropland

For these reasons, public agencies need to do their part in properly managing noxious weed populations in public rights-of-way.

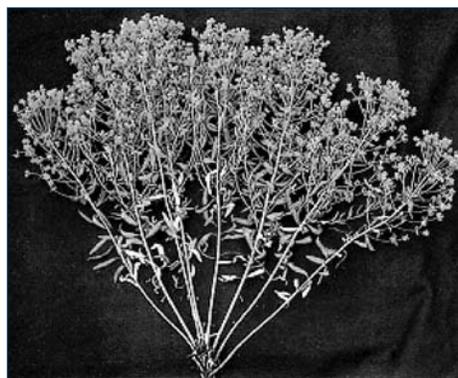
Leafy spurge and Canada thistle

Two of the most prominent noxious weeds in Iowa include leafy spurge and Canada thistle.

Leafy spurge. Leafy spurge is a perennial herb with yellow flowers that can reach 2½ or 3 ft tall. The stems usually cluster from a vertical root that can extend several feet into the ground.

Leafy spurge displaces native plants in prairies and fields. It can grow in moist or dry soil conditions, but it thrives in dry conditions when there is less competition from native plants.

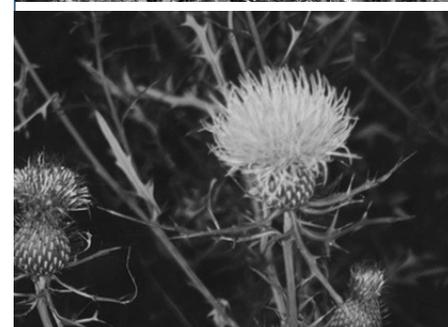
Once established, leafy spurge prevents growth of other plants by releasing toxins. If ingested, these toxins also threaten many animals. Ingesting too much can be fatal.



Leafy spurge

Canada thistle. Another noxious perennial herb in Iowa is Canada thistle. It has purple, lavender, and white flowers that bloom from June through October. It can reach 2 to 4 ft tall. The stem is branched and prickly, as are the leaves, which grow singly and alternately from the stem.

Canada thistle establishes itself by crowding out other plants through shading, competing for soil resources, and releasing toxins that poison surrounding species.



Canada thistle

Management responsibilities and options

It is important to prevent noxious weeds from spreading to crop or pasture areas where they can displace grain crops or be consumed by livestock.

In Iowa, county weed commissioners are required to eradicate noxious weeds on all public land and enforce eradication by landowners of private land. Although "eradication" is stipulated, land managers have acknowledged that some weeds cannot be fully eliminated. They can, however, be suppressed and controlled through a variety of methods.

Mowing. Cody Peterson, Webster County weed commissioner, encourages anyone who mows and bales ditches to watch for noxious weeds. Do not use any bales containing leafy spurge as fodder. Identify

Just say no to noxious weeds continued on page 7

Just say no to noxious weeds continued from page 2

locations that may need special attention, such as treating with herbicides or burning as described below.

Cleaning equipment. Ben Hoskinson, Mahaska County roadside manager, says that management of noxious weeds begins with something as simple as cleaning your equipment thoroughly before leaving a site. Doing so reduces the likelihood of seed transport.

Herbicides. Peterson says that Roundup Ready fields help prevent the spread of leafy spurge into crop areas.

Webster County implements a fall spraying program to treat leafy spurge and Canada thistle. Roadsides are treated in a two-year cycle, half in one year and the other half in the second year.

Contractors also apply an herbicide called Milestone. In known problem areas, Peterson does follow-up spot-spraying with Milestone, avoiding areas with native species.

Other chemicals applied by spraying programs to treat noxious weeds include Banvel, Plateau, Glyphosate, and Tordon.

Burning. Webster County does not currently have a burn program, but Peterson says burning can reduce seed germination.

Spraying and burning. A solid strategy is to combine spraying and burning: Apply chemicals in the fall when weed nutrients are concentrating in the root systems, and then follow up the next spring by burning infested areas before seeds develop.

Using biological controls. Biological controls sometimes include the use of insects to minimize noxious weeds. The results from biological controls are not as immediate as from herbicide applications. If the use of pesticides is minimized in the infested area so that biological agents can flourish, however, the results can be very satisfactory.

As an alternative to chemical and mechanical controls, the U.S. Department of Agriculture has reported the success of some biological controls for leafy spurge. These include the following:

- Leafy spurge stem boring beetle (*Oberea erythrocephala*)

- Leafy spurge flea beetles (*Aphthona* spp.)
- Leafy spurge gall midge (*Spurgia esulae*)

Using native vegetation. When a prairie is planted, weeds are smothered by other, more desirable plants. Although establishing prairie can take up to five years, counties can feel the value where it counts—in their budgets, due to savings in mowing and spraying expenses.

A prairie mix in Iowa is quite diverse. It usually includes up to seven native grasses, including big bluestem, little bluestem, Indian grass, and sideoats grama, plus 15 to 30 wildflower species. This variety of species enables the plantings to occupy more ecological niches that would otherwise be susceptible to various kinds of weed infestation.

For more information

Basic information for this article was provided by the Integrated Roadside Vegetation Management (IRVM) program at the University of Northern Iowa. For questions or assistance managing invasive species and noxious weeds, contact the IRVM program manager, Kirk Henderson, 319-273-2813, kirk.henderson@uni.edu.

Or, contact your local weed commissioner. An online list of county contacts is maintained by IRVM: www.uni.edu/irvm/Countycontacts.htm.

Other potential contacts referenced in this article include the following:

- Cody Peterson, vegetation specialist and Webster County weed commissioner, 515-576-4258, peterson@webstercountyia.org.
- Ben Hoskinson, Mahaska County roadside manager, 641-672-2897, ext. 16, hoskinson@Mahaskacounty.org.

Three publications in the Iowa LTAP library could be useful:

- *Back Country Road Maintenance and Weed Management*, U.S. Department of Agriculture, Forest Service; 22 pages, P1665.
- *Vehicle Cleaning Technology for Controlling the Spread of Noxious Weeds and Invasive Species*, U.S. DOT, FHWA; 27 pages, P1687.
- *Roadside Weed Management*, U.S. DOT, FHWA; 369 pages, P1704.

Concepts in two previous Technology News articles—“Iowa’s Roadside Prairies” (June 1997) and “Why Roadside Management?” (May–June 2000)—are still appropriate. Find them online: www.intrans.iastate.edu/ltap/tech_news/1997/97junetn.pdf (see page 4) and www.intrans.iastate.edu/ltap/tech_news/2000/00may-ju.pdf (see page 9), respectively. ■

Conference calendar

August 2010			
19-20	Mid-Continent Transportation Research Forum	University of Wisconsin, Madison, Wisconsin	Jason Bittner 608-262-7246 www.mrutc.org/midcon/
September 2010			
14-15	SPOT (Snow Plow Operator Training) Workshop	Iowa State Fairgrounds, Des Moines	Georgia Parham 515-294-2267 gparham@iastate.edu
16	Snow Rodeo (Truck, Motor Grader, Loader)	Iowa State Fairgrounds, Des Moines	Georgia Parham 515-294-2267 gparham@iastate.edu
15-17	APWA, Iowa Chapter Fall Conference	ISU Alumni Center Ames, IA	John Joiner 515-239-5165 JJoiner@city.ames.ia.us
23-24	24th Annual Roadside Conference “Native Vegetation at Work”	Quality Inn & Suites Ames, IA	Kirk Henderson 319-273-2813 kirk.henderson@uni.edu
28	Iowa Streets and Roads Workshop 2010: Legal Understanding	Quality Inn, Starlight Conf. Center, Ames	Georgia Parham 515-294-2267 gparham@iastate.edu
29-30	Iowa Streets and Roads Conference 2010: Doing More with Less	Quality Inn, Starlight Conf. Center, Ames	Georgia Parham 515-294-2267 gparham@iastate.edu