



The Short Story on Thistle Management for Iowa County Pastures

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During summer, thistles become a common sight throughout Iowa County in pastures, roadside ditches and CRP land and a popular question from landowners is, “*how do I control thistles*”?

First, let’s talk biology! It’s important to understand that different thistle species (as well as other weeds) have different life cycles, and this information is critical to your management approach since some weeds are more difficult to control due to longevity and multiple means spread.

Here are the life cycle categories of weeds:

- **Annuals:** Complete life cycle in 12 months or less and only produce new plants by seeds; *example:* **annual sowthistle**. Mowing is often used for control of annual weeds by reducing seed production.
- **Biennials:** Require 2 years to produce seed and die; first year is “rosette” stage and requires cold temperatures to shift to reproductive growth the next year; *examples:* **bull, musk and plumeless thistles**.
- **Perennials:** regrow each year from roots or crown buds and Lives indefinitely; *examples:* **Canada thistle and perennial sowthistle**.

Next, make sure you know which thistle you are controlling! Here are some key characteristics of thistles found in Iowa County and southwest Wisconsin:

Bull Thistle

- leaves deeply cut, with a wrinkled, gray-green surface
- spines perpendicular to leaf surface, needle-like
- stem appears spiny: decurrent leaves (run down along stem)
- flask-shaped flower

Musk Thistle

- leaves smooth, with gray-green margin and white, hairless midrib
- stem spiny except below flower head
- **large** flower: from 1½ to 2 inches diameter

Plumeless Thistle

- leaves are deeply divided and hairy, especially lower surface midrib
- leaf lobes often at an angle to midrib
- stems spiny from base to tip
- flower is ¾ to 1½ inches in size

Canada Thistle

- roots deep and branched
- leaves with crinkled, spiny edges
- small flowers are pink-purple, flask shaped, ¾ inch in size
- **grows in patches** due to rhizomes (spreads by roots); male and female flowers on separate heads & plants

Do you recognize these thistles? (Answers on back!!)



a.



b.



c.



d.

Key Points for Managing Thistles:

Start by taking an inventory of the major weed species on your land and note the locations of infestations so that you can check on weed regrowth or species' changes following control in the season applied as well as several times annually thereafter. Keeping track of weedy areas over time is the best way to monitor effectiveness as well as make progress in weed control.

Prior to using an herbicide, always read the product labels and apply according to label directions. For pastures, be sure to observe appropriate livestock withdrawal times once herbicides are applied. More specific guidelines for bull, plumeless, musk and Canada thistle control are given below. **These guidelines are not an endorsement of particular products over other similar products in the marketplace.** If you have additional questions regarding thistle control options, please call your local UW Extension office.

Canada Thistle Management

Because Canada thistle is a perennial species and has an extensive rhizome root system, it is much more difficult to control than the other thistles growing in southwest Wisconsin and infestations require a long term strategy for control. While mowing will temporarily set Canada thistle back, it would require several repeated mowings throughout the summer to expect even modest control, so in most cases, herbicides are a more effective option. For most effective use, time herbicide application for bud to early flowering stage. There are several herbicides to choose from:

- **Clopyralid ('Stinger')** is currently the herbicide of choice since it is very effective on Canada thistle but is quite expensive.
- **'Curtail' ('Stinger' + 2, 4-D)** is a more economical alternative that appears to be effective
- **Aminopyralid ('Milestone')** is new herbicide formulation that is also very effective on Canada thistle and is less costly than Stinger. This herbicide is available alone or **mixed with 2, 4-D (labeled as 'Forefront')**
- **Dicamba ('Clarity'; 'Banvel')** sprayed alone or **mixed with 2, 4-D ('WeedMaster'; 'Brash')** is even more economical but is less effective as a long-term control method for Canada thistle.

Biennial Thistle Management

The key to long-term control of biennial thistles (bull, plumeless, or musk) is preventing seed production. The best results occur when biennials are treated during their first growing season when they are in the rosette stages, any time between germination and up to "bolting" (emergence of flowers) in their second year. This provides flexible control, since fall applications are ideal because:

- all plants of concern are in the rosette stage
- herbicide is actively moved crown/roots
- a less hectic time of year, so spraying is more likely to get done

Once bolting occurs, mowing to prevent seed development is the best control option as biennials become somewhat resistant to herbicides at this stage of their life cycle.

What to Use for Biennial Thistles?

Growth regulator herbicides such as **2, 4-D or dicamba** ('Clarity'; 'Banvel') are very effective and also make the most economic sense. Premix formulations that combine both herbicides are also available for use ('WeedMaster', 'Brash'). This combination of herbicides will effectively control a number of other biennial weeds as well.

Glyphosate products such as 'Roundup' may be useful in a few situations where thistles have completely taken over, but use caution since glyphosate is non-selective (it will kill all plants that are sprayed). Where appropriate, apply glyphosate to these areas using a backpack sprayer with a single nozzle and aim only for the rosette center (no need to treat entire plant).

Answers to thistle quiz:

- Musk thistle
- Canada thistle
- Plumeless thistle
- Bull thistle



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