Controlling Canada Thistle
Michigan State University Extension Service
IPM Facts
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What is a Perennial Weed?

A perennial weed is any weed capable of surviving for three or more years Perennial weeds are characterized by vegetative reproduction. Vegetative reproduction in these species is due to (a) rhizomes–underground creeping stems commonly found in perennial grasses; (b) stolons–prostrate stems or runners on the soil surface with roots at the nodes; (c) creeping roots; (d) tubers–underground enlarged storage stems; or (e) bulbs–underground storage organs consisting of a stem axis covered with many overlapping leaf scales.

Perennial weeds may or may not reproduce by seed. They always, however, have the potential to reproduce by vegetative means.

Description of Canada Thistle

Canada thistle has an extensive, deep root system. Stems are 2 to 5 feet tall, grooved, and branch only at the top. Stems are slightly hairy when young, but increase in hairiness with maturity. Leaves are slender, smooth, and have crinkled edges with spiny margins. There are many compact rose-purple flowers surrounded by tight bracts. Flowers are about 3/4 inch in diameter. Seeds are brown, smooth-coated, 3/16 inch long, and attached to a tannish down that is easily broken off. Canada thistle primarily spreads by an underground root system. It often grows in dense patches in fields or pastures.

Methods of Control

Methods of perennial weed control fall into three categories: (a) cultural, such as crop rotation; (b) mechanical, tillage including various implements such as plows, disks, or cultivators; and (c) chemical, using herbicides. Control of perennial weeds may require a combination of all these methods. Consider the energy and environmental implications when choosing a method of control.

Mechanical Control

Mechanical control may increase or decrease perennial weed infestations. Tillage may increase infestations by moving perennial weeds to new areas of the field or breaking dormancy of underground buds resulting in new shoot growth. Tillage during cool, wet conditions results in reduced control.

Tillage may decrease perennial weed infestations if done frequently enough to deplete underground root reserves. The field should be tilled every two or three weeks. Warm, dry soil conditions increase the effectiveness of tillage for perennial weed control by drying plant roots on the soil surface.

Chemical Control of Canada Thistle

Soybeans

Herbicide	Rate	Timing (Weed stage)	Effectiveness
Basagran + COC[1]	1 qt/A and repeat[2]	6-8" POST	Good
Classic[2] + NIS[1]	0.75 oz/A	2-4" POST	Fair-Good
Synchrony STS[3] + 28%N + COC	0.5 oz/A + 2 qt + 1%	2-4" POST	Fair-Good
Pursuit + NIS + 28% NIS	4 oz/A (1.4 oz/A 70 DG)	1-3" POST	Fair-Good
Blazer + NIS	1.5 pt/A	POST (before bud)	Poor
Cobra + COC	0.78 pt/A	POST (up to 12")	Poor
Roundup Ultra + AMS or 28% N[4]	1 qt	bud stage POST[5]	Good

[1]COC = crop oil concentrate; NIS = nonionic surfactant.
[2]Do not use Classic at 0.5 to 0.75 oz/A if pH is greater than 7.0.
[3]Do not use Synchrony STS on fields north of I-96 where pH is greater than 7.0.
[4]Ammonium sulfate (AMS) at 17 lbs/100 gal or urea-ammonium nitrate (28%N) at 4%.
[5]For spot treatment only. Broadcast applications can be made to Roundup Ready soybeans only.

Corn

Herbicide	Rate	Timing (Weed height)	Effectiveness
Stinger	0.5 pt/A	6-8" POST	Good
Basagran + COC[1]	1 qt/A and repeat[2]	8" POST	Fair-Good
Banvel	0.5 pt/A and repeat[2]	8" POST	Fair-Good
Beacon + 2,4-D amine + NIS[1]	0.38 oz/A + 1 pt/A	8" POST	Fair-Good
Beacon + Banvel + NIS	0.38 oz/A + 0.5 pt/A	8" POST	Fair-Good
Banvel + 2,4-D amine	0.25 pt/A + 0.5 pt/A and repeat[2]	8" POST	Fair
Beacon + COC or NIS	0.76 oz/A	8" POST	Fair
Hornet	2.4 oz/A	6-8" POST	Good
2,4-D amine	1 pt/A and repeat[2]	8" POST	Poor

[1]COC = crop oil concentrate; NIS = nonionic surfactant.
[2]Two applications of each treatment are recommended for adequate results.

Winter Wheat and Barley

Herbicide	Rate	Timing	Effectiveness
Stinger	.33 pt/A	Rosette-bud stage	Good
Express + NIS[1]	0.3 oz/A	4-8" Can. thistle	Fair
Harmony Extra + NIS	0.6 oz/A	4-8" sowthistle	Fair
2,4-D ester	1.5 pt/A	Fully tillered to boot stage (Crop)	Poor-Fair
Banvel	0.25 pt/A	Early spring to fully tillered stage (Crop)	Poor

[1]NIS = nonionic surfactant

Spot Treatments and Between Crops

Herbicide	Rate	Timing[1] (Weed growth stage)	Effectiveness
Roundup Ultra	2%	Spot treatment (bud stage)	Good-Very Good
Roundup Ultra	2-3 qt/A	Bud to bloom stage	Good-Very Good
Banvel	1-2 qt/A[2]	Bud stage	Good-Very Good
2,4-D ester	1-2 qt/A	Bud stage	Fair-Good

[1]Fall applications provide the most effective control.
[2]Banvel at 1 qt/A will provide suppression; 2 qt/A will provide control.

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To protect yourself and others and the environment, always read the label before applying any pesticide.

This publication contains pesticide recommendations based on research and pesticide regulations. However, changes in pesticide regulations occur constantly. Some pesticides mentioned may no longer be available, and some uses may no longer be legal. If you have questions about the legality and/or registration status for using pesticides, contact your county Extension office.

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