

TURFGRASS SCIENCE

at the UT Institute of Agriculture

Hairy Bittercress (*Cardamine hirsuta*)

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Introduction

Hairy bittercress (*Cardamine hirsuta*) is one of many winter annual broadleaf weeds commonly found in turfgrass systems throughout Tennessee. This weed will persist in a diversity of growing conditions but favors cool, damp, recently disturbed soil, and as a result is a very common weed in landscape beds as well as turf.

Hairy Bittercress Identification

Hairy bittercress seed germinates in late fall and, after emergence, forms a rosette as well as a fibrous root system. Growth from a rosette allows this species to tolerate frequent mowing at a diversity of heights of cut (Figure 1). Leaves are rounded to wedge-shaped and often have small hairs (i.e., pubescence) at the base (Figure 2). Plants produce



Figure 2. Leaf shape of hairy bittercress (*Cardamine hirsuta*).

small, white flowers that form a cylinder-shaped seed capsule that shatters on contact when mature in spring (Figure 3).



Figure 1. Hairy bittercress (*Cardamine hirsuta*) growth habit facilitates survival at mowing heights commonly used to maintain both warm- and cool-season turfgrasses.



Figure 3. Inflorescence and seed capsules produced by hairy bittercress (*Cardamine hirsuta*) in spring.

The University of Tennessee Weed Diagnostics Center (WDC) can assist practitioners in identifying hairy bittercress, as well as many other weed species. All diagnostic identification assays are accompanied by a recommendation for control in the field. More information on weed identification and other services offered by the center can be found online at weeddiagnostics.org.

Hairy Bittercress Control

The best defense against any weed infestation is maintaining a dense, vigorous stand of turfgrass. Growing conditions that favor turfgrass often discourage the growth of hairy bittercress and other weeds. Numerous herbicide options exist for both preemergence and postemergence control of hairy bittercress in warm- and cool-season turfgrass. A complete list can be found in Table 1.

Table 1. Herbicide options for hairy bittercress control.

Active Ingredients	Example Trade Name	Rate ai/ac	Tolerant Turf Species
Preemergence			
Dimethenamid-P + pendimethalin	FreeHand 1.75	1.75-3.5 lb.	Bermudagrass, Centipedegrass, Zoysiagrass
Dithiopyr	Dimension 2EW	0.38-0.5 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Indaziflam	Specticle Flo	0.016-0.05 lb.	Bermudagrass, Centipedegrass, Zoysiagrass
Isoxaben	Gallery 75DF	0.5-1.0 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Tall Fescue, Zoysiagrass
Oxadiazon	Ronstar G	2.0-4.0 lb.	Bermudagrass, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Prodiamine + sulfentrazone	Echelon 4SC	0.25-1.125 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Postemergence			
2,4-D Amine	2,4-D Amine 4L, Others	0.75-1.0 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
2,4-D + clopyralid + dicamba	Millennium Ultra 2	0.667-1.33 lb.	Bermudagrass, Fine Fescue, Kentucky Bluegrass, Tall Fescue, Zoysiagrass
2,4-D + fluroxypyr + dicamba	Escalade 2	1-1.5 lb.	Bermudagrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
2,4-D + MCPP or MCPA + dicamba	Three-way, Trimec, 3D, Others	See Label	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
2,4-D + triclopyr + fluroxypyr	Momentum FX2	1-1.4 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Amicarbazone	Xonerate 70WG	0.04-0.44 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass

Table 1. Herbicide options for hairy bittercress control. (continued)

Active Ingredients	Example Trade Name	Rate ai/ac	Tolerant Turf Species
Carfentrazone + 2,4-D + MCPP + dicamba	Speedzone Southern, Speedzone	0.55-1.39 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Carfentrazone + MCPA + MCPP + dicamba	Powerzone	0.81-2.18 lb.	Bermudagrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Carfentrazone + quinclorac	SquareOne	0.35-0.97 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Clopyralid + triclopyr	Confront, 2D	0.375-0.75 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Dicamba	Banvel 4S, Vanquish 4S, Others	0.25-1.0 lb.	Bermudagrass, Fine Fescue, Kentucky Bluegrass, Tall Fescue, Zoysiagrass
Flazasulfuron	Katana 25WG	0.0078-0.047 lb.	Bermudagrass, Centipedegrass, Zoysiagrass
Imazaquin	Image 70DG	0.37-0.5 lb.	Bermudagrass, Centipedegrass, Zoysiagrass
MCPA + fluroxypyr + dicamba	Change Up	0.75-1.8 lb.	Bermudagrass, Centipedegrass, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Metsulfuron	Manor 60DF, MSM	0.08-0.6 oz.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Zoysiagrass
Metsulfuron + rimsulfuron	Negate 37WG	0.03 lb.	Bermudagrass, Zoysiagrass
Sulfentrazone	Dismiss 4L	0.125-0.375 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass
Sulfentrazone + metsulfuron	Blinside	0.134-0.413 lb.	Bermudagrass, Kentucky Bluegrass, Tall Fescue, Zoysiagrass
Thiencarbazone + iodosulfuron + dicamba	Celsius 68WG	0.11-0.21 lb.	Bermudagrass, Centipedegrass, Zoysiagrass
Thiencarbazone + foramsulfuron + halosulfuron	Tribute Total	0.04-0.12 lb.	Bermudagrass, Zoysiagrass
Quinclorac + sulfentrazone	Solitare 75WG	0.75-1.5 lb.	Bermudagrass, Centipedegrass, Fine Fescue, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass

Final Thoughts

The use of proper maintenance practices throughout the summer will help prevent the encroachment of winter annual broadleaf weeds in the fall. Control measures should be implemented before these weeds produce seed that can be deposited into the soil seed-bank. There are multiple options for postemergence control of winter annual broadleaf weeds. Homeowners should rely on commercially available products containing multiple phenoxy herbicides. Professional applicators can select from an array of different products, depending on the species of turfgrass the weeds have infested. More information on winter annual broadleaf weed management is available in UT Extension publication [W 205 – “Controlling Winter Annual Broadleaf Weeds.”](#)

Always refer to the product label for specific information on proper product use, tank-mix compatibility and turfgrass tolerance. Mention of trade names or commercial products in this publication is solely for the purpose of providing specific information and does not imply

recommendation or endorsement by the University of Tennessee Institute of Agriculture. For more information on turfgrass weed control, visit the University of Tennessee’s turfgrass weed science website, tennesseeturfgrassweeds.org.

Herbicides listed in this publication have provided good to excellent control in research trials conducted at the University of Tennessee; however, other herbicides may also have activity on hairy bittercress. For more information on herbicide selection, please visit University of Tennessee Mobile Weed Manual (MWM) at mobileweedmanual.com. MWM was developed by UT Extension professionals to assist green industry professionals in selecting herbicides for use in turf and ornamentals. MWM is a web-based platform optimized for use on mobile devices such as smartphones and tablets, but it will function on desktop and laptop computers as well. The site provides users with weed control efficacy information for 90 different herbicides, tolerance information for over 2,300 turf and ornamental species, as well as direct links to label and material safety data sheet information on herbicides used for turf and ornamental weed management.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator’s responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), the University of Tennessee Institute of Agriculture and University of Tennessee Extension assume no liability resulting from the use of these recommendations.



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