

# GIANT RAGWEED CONTROL IN CROPLAND

**Weed  
Facts  
WF-2**



Drawing from WEEDS OF THE NORTH CENTRAL STATES,  
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Giant ragweed (*Ambrosia trifida*) is an upright annual broadleaf weed. It is native to North America. Giant ragweed can often reach final heights of over 8 feet. It contributes to late summer hay fever because it sheds large amounts of airborne pollen. A very competitive plant, giant ragweed is capable of causing dramatic yield loss in crop production and dominating disturbed sites by out-competing other weeds and vegetation. Competitiveness of this weed is due to its vigorous growth during the seedling stage.

Giant ragweed leaves are usually opposite, large, slightly hairy, and three-lobed (occasionally five-lobed or unlobed). The stems, which are rough and hairy, are unbranched to frequently branched. Flowers develop in clusters on the tips of branches and stems. Female and male flowers develop in separate clusters. The seeds are enclosed in a woody hull (0.25 to 0.33 inch long) containing a central beak and surrounded by a circle of five or more short, thick, blunt spines. The true seeds are black and smooth.

Giant ragweed seeds germinate best at 68 to 86°F, but can germinate over a large range of temperatures. Giant ragweed is often one of the first weeds to emerge in the spring, which greatly enhances its competitiveness with later emerging plants.

Plants can emerge from seeds as deep as 6 inches in the soil, but seeds closer to the soil surface result in a greater percentage of plants becoming established. Seeds at the soil surface often do not germinate.

Giant ragweed grows best in flood plains, moist areas of drainage ditches or open stream banks, and in low heavier soils of cultivated fields.

**Pursuant to the provisions of Title 3, Chapter 24 of Delaware Code, as Amended 1995, the Delaware Department of Agriculture under its Rules and Regulations has declared giant ragweed a noxious weed. Designation as a noxious weed requires that giant ragweed must be controlled.**

A noxious weed is a plant that has adverse effects on or threatens agricultural production. A plant is designated as "noxious" by the U.S. or Delaware Departments of Agriculture. An attribute of a noxious weed is that it is difficult to control with many 'standard' weed control programs. Often fields infested with a noxious weed need special attention and require different management than non-infested fields.

Growers who have noxious weeds can call Terry Van Horn, noxious weed specialist, at Delaware Department of Agriculture to sign a compliance agreement. Failure to control this weed can result in fines of \$25 per acre (\$100 minimum).

Noxious weeds can be reported to Mr. Van Horn at 1-800-282-8685. He will contact the owner or agency to work on developing a control program. Noxious weeds also must be controlled on right-of-ways, lots and undeveloped lands as well as farmland.

## **PREVENTION**

Giant ragweed is a prolific seed producer and these seeds can be spread by many means. Of particular importance is its spread by seeds carried in crop harvesting equipment. Proper cleaning of equipment requires use of an air compressor, pressure hose, or sweeping. Letting the equipment run to clean itself out is not adequate. Another important means of infestation is the planting of soybean seed from infested fields. Giant ragweed seeds are similar in size to soybeans, and are difficult to remove in regular seed cleaning operations. Growers should buy certified seed; or if saving seed or buying from a neighbor, they should be familiar with fields where the seed was grown.

Be sure the soybean seed is not contaminated with giant ragweed seed. Giant ragweed in field edges and roadsides can be a source of seed. Be sure weeds in areas outside the field are not permitted to produce seed.

## **CONTROL IN CORN**

Excellent giant ragweed control can be achieved in field corn. Control programs should consist of soil-applied atrazine followed with a postemergence herbicide program. Atrazine rate restrictions must be considered when planning herbicide programs that include atrazine and/or atrazine premixes.

### **Preplant or Preemergence Control**

Apply atrazine preplant incorporated or preemergence at labeled rates for the soil type. A follow-up with a postemergence herbicide may be needed to control escaped plants. Timely cultivation and hand pulling may be equally effective when there are few uncontrolled weeds. Follow all herbicide label precautions.

Prepackage mixtures containing atrazine such as Bicep II Magnum, Breakfree ATZ, Bullet, Cinch ATZ, Degree Xtra, Expert, Fultime, Guardsman Max, Harness Xtra, Keystone, Lexar, or Lumax are readily available for soil-applied and postemergence use. Spiking premixes with additional atrazine may be needed in order to achieve a total soil-applied atrazine rate of 1.5 lbs ai/A. Postemergence premixes containing atrazine include Laddok, Liberty ATZ, Marksman, Ready Master ATZ, and Steadfast ATZ. Be certain to follow atrazine maximum use rate restrictions per application and per season.

### **Postemergence Control**

The following table lists herbicides that can be used at labeled rates and according to label directions to control emerged giant ragweed plants. Subsequent flushes of giant ragweed may require multiple or split applications of some products or follow-up applications with other products. See labels for details.

Herbicide	Corn growth stage - maximum size or range		Maximum giant ragweed size	Rate/Acre	Efficacy rating <sup>a</sup>
	Broadcast	Directed			
2,4-D	8 in	pre-tassel	*	0.5 to 1 pt	E
Banvel/Clarity	5 lvs or 8 in at 16 oz/A 36 in or 15 day pre-tassel at <8 oz/A	n/a	3 in	8 to 16 oz	G-E
Distinct / Status	24 in at 4oz 4-10 in at 6 oz	up to 36 in at 4 oz	*	4 to 6 oz	G-E
Marksman	5 lvs or 8 in	n/a	*	2 to 3.5 pt	G-E
NorthStar <sup>b</sup>	V6 or 4-20 in	20-30 in	9 in	5 oz	G-E
Stinger	24 in	n/a	5-lf	0.5 pt	G-E
Yukon	spike to 36 in	n/a	6 in	4 to 8 oz	G-E
Atrazine	12 in	n/a	**	2.4 pt	G
Beacon <sup>b</sup>	V6 or 4-20 in	pre-tassel	6-9 in <sup>c</sup>	0.38 to 0.75 oz	G
Callisto <sup>b</sup>	V8 or 30 in	n/a	5 in	3 oz	G
Equip <sup>b</sup>	V4 or 12 in	V4-V8 or 12-36 in	4 in	1.5 oz	G
Glyphosate products <sup>e</sup>	V8 or 30 in	n/a	6 in	1 qt <sup>e</sup>	G
Liberty <sup>d</sup>	V7 or 24 in	20-36 in	3-8 in <sup>c</sup>	20 to 34 oz	G
Liberty ATZ <sup>d</sup>	12 in	n/a	4-8 in <sup>c</sup>	32 to 48 oz	G
Ready Master ATZ <sup>e</sup>	12 in	n/a	4 in	1.5 to 2 qt	G
Spirit <sup>b</sup>	V6 or 4-20 in	20-24 in	9"	1 oz	G
Steadfast ATZ	V5 or 12 in	n/a	4 in	14 oz	G
Buctril	pre-tassel	n/a	4-6 in <sup>c</sup>	0.5 to 1 pt	F-G
Hornet WDG <sup>b</sup>	24 in	n/a	6-8 in <sup>c</sup>	2 to 5 oz	F-G
Laddok	12 in	n/a	6 in	2.3 pt	F-G
Sandea	48 in	when necessary	3-6 in <sup>c</sup>	0.67 to 1.3 oz	F-G

\* Indicates giant ragweed is listed on the label, but no size information is given.

\*\* Experience in the Mid-Atlantic region indicates activity with this herbicide, although giant ragweed is not listed on the label. Treatment should be made before giant ragweed is 4 inches tall.

<sup>a</sup>E = Excellent (>90% control) G-E = Good to Excellent G = Good (80-90% control)

F-G = Fair to Good F = Fair (60-80% control)

<sup>b</sup>Beacon, Callisto, Equip, Exceed, Hornet, NorthStar, Spirit, and Steadfast ATZ labels all contain restrictions concerning soil insecticide use. Follow label carefully or serious crop injury may occur.

<sup>c</sup>Indicates that maximum weed size is rate dependent; consult label for details.

<sup>d</sup>Liberty and Liberty ATZ require the use of glufosinate-resistant corn hybrids. Using these products on corn hybrids that are not glufosinate resistant will seriously injure or kill the corn crop.

<sup>e</sup>Glyphosate is the active ingredient in all Roundup and Touchdown formulations. Glyphosate is also available under many other names and as part of numerous prepackaged mixtures. The rate given in the table is for glyphosate with a formulation of 4 lb ai (3 lb ae) per gallon. Adjust the rate for other formulations. All glyphosate products require the use of glyphosate-resistant corn hybrids. Using these products on corn hybrids that are not glyphosate resistant will seriously injure or kill the crop.

Always consult herbicide labels for the proper adjuvants to use. When tank-mixing products, different adjuvants may be required. Consider whether tank-mixes, split applications or follow-up applications that are recommended on the label would be preferred to using a single product or timing. Other important considerations are crop variety, soil insecticide interactions, environmental conditions, herbicide volatility or drift to sensitive crops, crop health and stage, crop rotation, and grazing and feeding intervals. This information is available on herbicide labels.

## CONTROL IN SOYBEANS

Control of giant ragweed in soybeans is difficult because it continues to germinate and grow throughout the summer and early fall.

Satisfactory control is possible with a chemical control program that includes a preplant incorporated or preemergence herbicide plus timely application of a postemergence herbicide. Cultivation can be used to remove plants between rows. When the number of plants is limited, they can be hand removed before they produce seed.

## Preplant or Preemergence Control

The following herbicides can be used at labeled rates and according to label directions.

Herbicide	Application	Rate/A	Efficacy rating <sup>a</sup>
Authority First/ Sonic	PPI or Pre	6.5-8 oz	F-G
FirstRate	PPI or Pre	0.6-0.75 oz	F-G
Gangster	Pre	3.6 oz <sup>b</sup>	F-G
Valor XLT	Pre	3 oz	F-G
Canopy	PPI or Pre	4-7 oz	F
Scepter	PPI	2.8 oz	F
Valor	Pre	2-3 oz	F

<sup>a</sup> G = Good (80-90% control) F-G = Fair to Good  
F = Fair (60-80% control)

<sup>b</sup>equivalent to 3 oz of Valor and 0.6 oz of FirstRate

## Postemergence Control

The following herbicides can be used at labeled rates and according to label directions to control emerged giant ragweed plants. Subsequent flushes of giant ragweed may require multiple or split applications of some products or follow-up applications with other products. See labels for details.

Herbicide	Soybean growth stage – maximum size or range	Maximum giant ragweed size	Rate/Acre	Efficacy rating <sup>a</sup>
Classic	60 days before maturity	2-6 in	0.75 oz	G-E
Flexstar	Pre-bloom	4-8 leaf <sup>b</sup>	1 to 1.5 pt	G-E
Cobra	45 days before harvest or before R6 (full seed)	36 in	12.5 oz	G
Extreme <sup>c</sup>	not specified on label	6 in	3 pt	G
FirstRate	before 50% flowering	6 leaf or 10 in	0.3 oz	G
Reflex	Pre-bloom	4 leaf	1.25 to 1.5 pt	G
glyphosate products <sup>c</sup>	through full flowering	6 in	1 qt <sup>c</sup>	G
Sequence <sup>c</sup>	through 3 <sup>rd</sup> trifoliolate	18 in	2.5 - 3.5 pt	G
Synchrony XP <sup>d</sup>	first trifoliolate to 60 days before soybean maturity	4 in	0.75 oz	F-G
Ultra Blazer	not specified on label	2 leaf or 3 in	1.5 pt	F-G
Pursuit	not specified on label	4 leaf or 1-3 in	4 fl oz	F
Raptor	Pre-bloom	5 in	4-5 oz	F

<sup>a</sup>E = Excellent (>90% control) G-E = Good to Excellent G = Good (80-90% control)  
F-G = Fair to Good F = Fair (60-80% control)

<sup>b</sup>Indicates that maximum weed size is rate dependent; consult label for details.

<sup>c</sup>Products containing glyphosate require the use of glyphosate-resistant soybean varieties. The glyphosate rate given is for a formulation of 4 lb ai (3 lb ae) per gallon. Adjust the rate for other formulations. Using these products on soybean varieties that are not glyphosate resistant will seriously injure or kill the soybean crop.

<sup>d</sup>Synchrony XP (Classic + Pinnacle premix) requires use of STS soybean varieties. Using this product on non-STS soybean varieties will seriously injure the soybean crop.

If annual grasses are present, a glyphosate product is the preferred choice. Pursuit or Raptor may also be effective on young annual grasses. Otherwise, a postemergence grass herbicide should be included.

Always consult herbicide labels for the proper adjuvants to use. When tank-mixing products, different adjuvants may be required. Consider whether tank-mixes, split applications or follow-up applications that are recommended on the label would be preferred to a single product or timing. Other important considerations are crop variety, health, and stage, environmental conditions, and crop rotation.

### **Post-directed Application**

If a serious regrowth of giant ragweed occurs before soybeans canopy, and cultivation is not practical, a post-directed application of 2,4-DB at 1 pt/A may be beneficial. This strategy is not as effective as other strategies and should be used only when necessary. Giant ragweed must not be more than one-third the height of the soybeans to allow for effective spray coverage of the giant ragweed. Do not spray higher than the bottom one-third of the soybean plants to avoid crop injury.

### **Rescue Treatment**

Cobra is labeled for suppression of large (up to 36 inch tall) giant ragweed plants. Apply Cobra at 12.5 oz/A with 0.5 % v/v crop oil concentrate.

To control large giant ragweed that has canopied above the soybean, use a rope wick applicator with glyphosate. Apply a 1 to 1 ratio of glyphosate to water when most plants are 6 inches above the soybeans. Refer to the label to determine if additional surfactants are needed.

## **CONTROL IN GRAIN SORGHUM**

Excellent giant ragweed control can be achieved in grain sorghum. Control programs should consist of soil-applied atrazine followed with a postemergence herbicide program. Atrazine rate restrictions must be considered when planning herbicide programs that include atrazine and/or atrazine premixes.

### **Preplant or Preemergence Control**

Apply atrazine preplant incorporated or preemergence at labeled rates for the soil type. A follow-up with a postemergence herbicide may be needed to control escaped plants. Hand pulling may be equally effective when there are few uncontrolled plants. Follow all herbicide label precautions.

Prepackage mixtures containing atrazine such as Bicep II Magnum, Bullet, or Guardsman Max are readily available for soil-applied use. Spiking pre-mixes with additional atrazine may be needed in order to achieve a total soil-applied atrazine rate of 1.5 lbs ai/A. Postemergence premixes containing atrazine include Laddok, Marksman, and Buctril/Atrazine. Be certain to follow atrazine maximum use rate restrictions per application and per season. Sorghum seed must be protected with seed treatments of Concep or Screen when using Dual or Lasso or premix products containing them.

### **Postemergence Control**

Control of emerged giant ragweed plants can be obtained with dicamba (8 oz/A Banvel or Clarity), Marksman (2 pt/A), Buctril 2E (1.5 pt/A), Laddok S-12 (2.3 pt/A), Peak (0.75 to 1 oz/A), Sandea (0.67 oz/A), or Yukon (4-6 oz/A). Subsequent flushes of giant ragweed

may require multiple or split applications of some products or follow-up applications with other products. Consult the labels (or corn section of this sheet) for giant ragweed sizes that can be treated with these products.

Always consult herbicide labels for the proper adjuvants to use. When tank-mixing products, different adjuvants may be required. Other important considerations are seed treatment, soil insecticide interactions, environmental conditions, herbicide volatility or drift to sensitive crops, crop health and stage, crop rotation, and grazing and feeding intervals. This information is available on herbicide labels.

## **CONTROL IN PASTURE AND FORAGE**

An excellent opportunity to control giant ragweed is during pasture renovation. Apply glyphosate at 1.5 qt/A or Gramoxone Inteon at 2 pt/A. Thorough coverage of foliage is essential. Higher rates of these herbicides may be required to control other weeds or sod present.

Postemergence control of giant ragweed in permanent pasture is possible with dicamba (1 pt/A Banvel or Clarity), Overdrive (4-8 oz/A) or Stinger (0.5 pt/A). Cimarron, Crossbow, Milestone, and ForeFront are not labeled for giant ragweed control, but may provide control or suppression. These products will injure or kill desirable legumes. Mowing may be an appropriate alternative to chemical control. Mowing should take place before the plants produce seed.

Glyphosate or Gramoxone Inteon will control giant ragweed when applied prior to establishment of alfalfa, ladino clover, and red clover. Apply glyphosate at 1.5 qt/A or Gramoxone Inteon at 2 pt/A. Thorough coverage of foliage is essential. Higher rates of these herbicides may be required to control other weeds or sod present.

Pursuit (4-6 fl oz/A) or Raptor (4-6 fl oz/A) will control giant ragweed in seedling alfalfa or in the fall or spring in dormant stands. Pursuit

may also be applied postemergence to established stands after dormancy or after cutting but before excessive alfalfa growth. Gramoxone Inteon will also control giant ragweed in fall or spring dormant alfalfa stands or after cutting. Apply 1 pt/A within 5 days of cutting.

Always consult herbicide labels for surfactants to use, appropriate weed and crop stages, grazing, feeding, haying, and slaughter intervals, and other restrictions.

## **CONTROL IN VEGETABLES**

### **Chemical Control**

There are limited herbicide options for giant ragweed control in most vegetable crops. Sweet corn fields can be treated with Bicep II Magnum and postemergence applications of atrazine or Laddok. 2,4-D postemergence, or Callisto preemergence or postemergence are other options, although some sweet corn varieties can show significant injury to 2,4-D or Callisto. Sandea is an option for use with some vegetables; check the label for timing and rates. Basagran is labeled for snap and lima beans and can suppress small giant ragweed plants, but plants often regrow. Vegetables should not be planted in fields with giant ragweed infestations.

### **Cultivation**

Cultivation in combination with herbicide application can increase the overall level of control. When cultivating, care must be taken to avoid bringing soil not treated with an herbicide near the soil surface, thereby reducing the opportunity for seeds to germinate and seedlings to emerge.

### **SPOT-SPRAY CONTROL (Crop and Non-crop)**

Spot treatment can be made in corn, soybeans, wheat, barley, oats, sorghum, forage, pasture, and non-crop areas. For small or localized areas, use the chart below and

apply the recommended concentration on a spray-to-wet basis (1 gal/1000 ft<sup>2</sup>) to provide thorough coverage. For larger areas, refer to the herbicide label for rates to apply on a per-acre basis. Mowing may be an appropriate alternative to chemical control, particularly in pastures and non-crop areas. Mowing should take place before the plants produce seed. Several other products are labeled for spot-spray applications in grass forage.

<sup>c</sup>2,4-D can be used in non-cropland and in crops labeled for postemergence 2,4-D application. Amount is based on a 3.8 lb/gal formulation of 2,4-D.

**NOTE:** Glyphosate will kill non-glyphosate resistant crops in the treated area. Take care to avoid drift outside the target area. Glyphosate does not provide residual weed control; therefore, giant ragweed seedlings that emerge after application will continue to grow.

**Amount of herbicide to mix with various volumes of water**

Gallons of water	Glyphosate <sup>a</sup>	Stinger <sup>b</sup>	2,4-D <sup>c</sup>
100	2 gal	3 pt	3.1 gal
25	2 qt	12 oz	3.1 qt
1	2.6 oz (5 tbsp)	½ oz (1 tbsp)	4 oz (8 tbsp)

Stinger and 2,4-D can volatilize or drift to sensitive crops or plants and cause serious injury. Consult herbicide labels for precautions and application procedures that will minimize the potential for volatility or drift. Alternatives to these products are preferred when high value sensitive plants such as ornamentals, fruit trees, vines, or flowers are nearby.

<sup>a</sup>Add a surfactant as required by the label. Amount is based on a 4 lb ai/gal (3 lb ae/gal) formulation of glyphosate.

<sup>b</sup>A surfactant is not necessary with Stinger. The Stinger rates in this table are for non-cropland and permanent grass pasture. Consult the label for rates to use in specific crops.

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