

## Spring Weed Control Strategies for Homeowners

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THE OHIO STATE UNIVERSITY  
COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

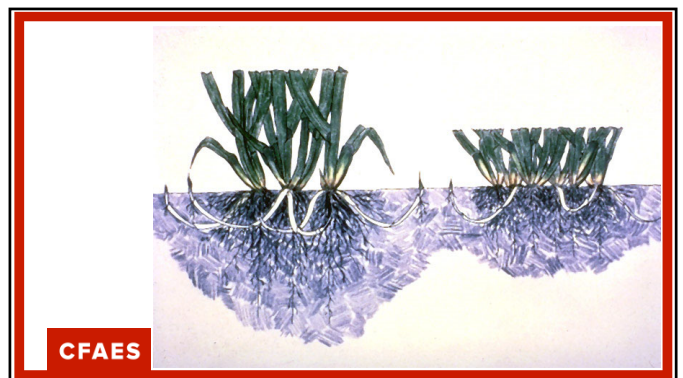
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Mow at the  
recommended height  
Higher is generally better

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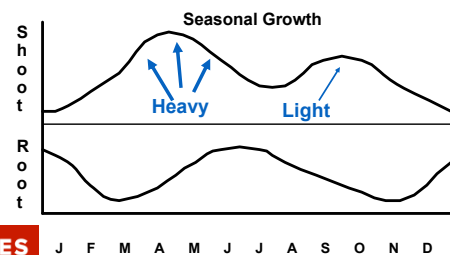
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Fertilize to favor the roots

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### N Fertility Programs of the Past



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## N Fertility Programs of the Past

Heavy nitrogen in spring, light in fall

- Excessive clippings
- Excessive thatch development
- Reduced heat and drought tolerance because carbohydrate reserves were burned up during spring growth flush

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## High Cut Turf N Fertility Program

March-April	0- ½ lb N / 1000ft <sup>2</sup>
→ May-June	¾-1 lb N / 1000ft <sup>2</sup>
August	½- ¾ lb N / 1000ft <sup>2</sup>
→ September	1 lb N / 1000ft <sup>2</sup>
→ Late October	1 - 1 ¼ lb N / 1000ft <sup>2</sup>

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**Prevent crabgrass if you have had it in the past**

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Preemergence  
Herbicide  
Applied Here



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## Smooth Crabgrass



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### Barnyard Grass



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### Goosegrass



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### Yellow Foxtail



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**Can I use a crabgrass preventer if I am seeding my lawn?**

**No. If possible, you should wait and seed in August**

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### Turf Tolerances to Preemergence Herbicides

Products	Kentucky bluegrass	Perennial ryegrass	Tall Fescue	Fine Fescue	Crested Dogfennel	Reseeding Interval†
Bensulide (Betasan, Bensumec, Lescosan) - Controls P. annua, other weeds	✓	✓	✓	✓	±	4 months
Ethofumate (Prograss) - Controls P. annua, other weeds	✓	✓	✓	✓	±	6 weeks
Benflin (Balan, LESCO Benflin 2.5G)	✓	✓	✓	✓	±	6-16 weeks
Oryzalin (Surflan, XL - combination with benflin)	✓	✓	✓	✓	±	6-16 weeks
Pendimethalin (Pendulum, LESCO Pre-M, PROTURF)	✓	✓	✓	✓	±	3 months
Prodiamine (Barricade)	✓	✓	✓	✓	±	4-8 months
Trifluralin (Team) - Combination product with Benflin	✓	✓	✓	✓	±	8-16 weeks
Siduron (Tupersan) - Safe to turfgrass seedlings. Consult label	✓	✓	✓	✓	§	Safe to most seedlings
Oxadiazon (Chipco Ronstar) - Controls goosegrass and other weeds	✓	✓	✓	✓	†	4 months
Dithiopyr (Dimension) - Pre + Post-emergence	✓	✓	✓	✓	†	6 weeks to 4 months

† Stated reseeding interval is for one example product only and this can vary among brands or formulations of the same active ingredient. Always consult the label of the product you are using for specifics prior to application.

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### Fall Seeding of Cool Season Turf

August 15 – September 15

- Turfgrasses are more competitive
- Warm season weeds (e.g. crabgrass) are at the end of their life cycle
- Germinating grasses require warm soil temperatures, but are intolerant of summer heat

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## Remove broadleaf weeds from the lawn

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### Dandelion

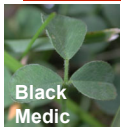


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### White clover

Black  
Medic

Oxalis



Clover



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### Blackseed plantain



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### Buckhorn plantain



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### Perennial Broadleaf Weed Control

Postemergence herbicides in the **fall**

- More effective than spring application
  - **Better CHO translocation**
  - **Control not always immediately apparent**
- Landscape and garden species are less susceptible to drift injury
- Winter annuals are also controlled

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Broadleaf Herbicide Combination Products		2,4-D	2,4-DP	MCPA	MCPB	Dicamba	Clopyralid	Fluroxypyr	Quinclorac	Triclopyr	Carfentrazone	Sulfentrazone	Pyraflufen	Florasulam	Flumioxazin	Haloxyfen
Gordon's Amine 400																
Scotts Step 2, Turf Builder Weed & Feed, Gordon's Weed & Feed																
Gordon's Trimec, Preen Lawn Broadleaf Weed Control, Spectracide Weed Stop For Lawns Plus Crabgrass Preventer, Ortho Weed B Gon, BioAdvanced Weed Killer for Lawns, Ace Lawn Weed Killer Concentrate, Ferti-lome Weed-Out Broadleaf Weed Control																

**CFAES** \*Products mentioned are for example only and do not constitute an endorsement to the exclusion of other products that may be similar.

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### Broadleaf Herbicide Formulations

#### Granular

- More acceptance among consumers
- Often formulated with fertilizers
- Most broadleaf herbicides are soil-active, root absorbed

#### Liquid

- Far more effective
- Better coating, more penetration

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### Creeping charlie



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### Canada thistle



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### Wild violet



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Broadleaf Herbicide Combination Products		2,4-D	2,4-DP	MCPA	MCPB	Dicamba	Clpyralid	Fluroxypyr	Quinclorac	Triclopyr	Carfentrazone	Sulfentrazone	Pyraflufen	Florasulam	Flumioxazin	Haloxifen
Bonide Chickweed, Clover and Oxalis Killer																
Quincept, BioAdvanced Lawn Weed & Crabgrass Killer, Ortho Weed B																
Gon plus Crabgrass Control, Bonide Duraturf Crabgrass Plus																
Ortho Weed B Gon Chickweed, Clover & Oxalis Killer																
Bonide Weed Beater Ultra																
Scotts Roundup for Lawns																
Surge, Spectracide Weed Stop2																
Q4 Plus, Spectracide Weed Stop																

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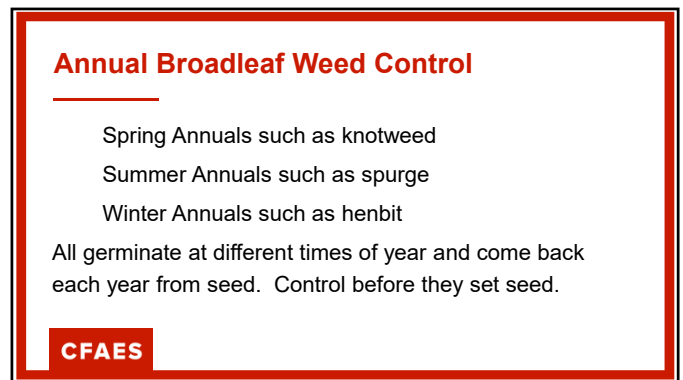
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Spurge

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Hairy Bittercress

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### Winter annual broadleaf weed control

Preemergence herbicide in September

Is better than:

Postemergence in November

Is better than:

Post emergence in April

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**Familiarize yourself with  
natural/organic products if  
interested in using them**

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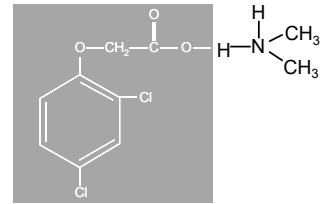
### What is Organic?

Natural

Non-toxic

Low impact

Minimum risk



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### Natural / Organic Weed Control Products

#### Non-selective

- Various plant oils
- Horticultural Vinegar
- Herbicidal Soaps
- Pelargonic acid

#### Selective

- Corn Gluten Meal
- Chelated iron
- A.D.I.O.S.
- Halo

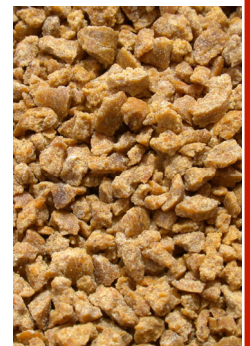
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### Corn Gluten Meal

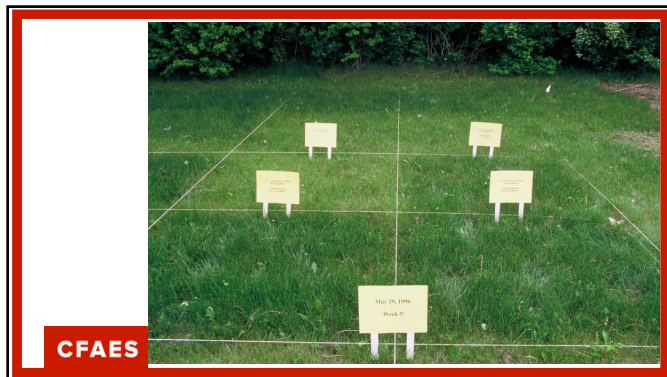
Byproduct of wet milling  
process of corn

10% nitrogen by weight



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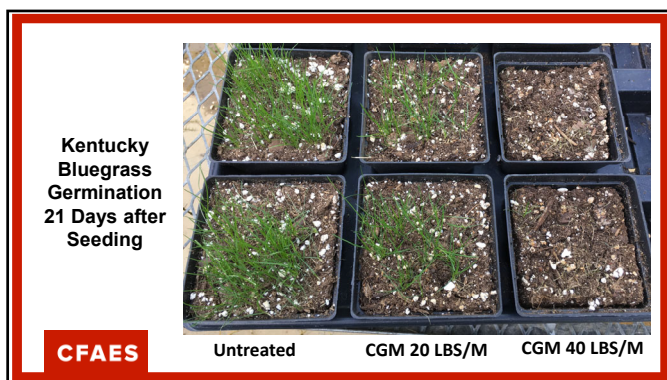
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Kentucky  
Bluegrass  
Germination  
21 Days after  
Seeding

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Untreated CGM 20 LBS/M CGM 40 LBS/M

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### Corn Gluten Meal

Bioactive Dipeptides

Less effective in year 1

Crabgrass control >85% has been observed in 2<sup>nd</sup> and subsequent years of use

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### How to Use Corn Gluten Meal

Spring application for crabgrass

Fall application for broadleaf weeds

20 lbs product per 1000 square feet

- 10% N by weight
- 2 lbs N per 1000 square feet

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### Chelated Iron

Selective because iron is more toxic to broadleaf plants than to grasses

Can discolor turf in warm weather

Several products available

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### Some Chelated Iron Containing Products

- Fiesta
- Iron X
- Natria

All are 26.52% Iron HEDTA  
Typical rate 25.2 fl oz / 1000 ft<sup>2</sup> and 240 GPA

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### Fiesta

Dandelion  
White clover

Applied: Sept 20, Oct 11

4% Solution  
5 gal per 1000 ft<sup>2</sup>



September 20

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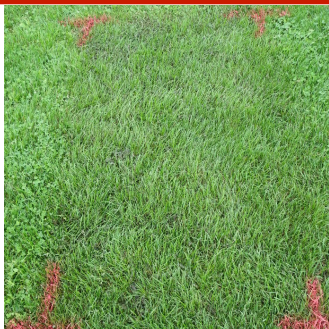
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### Fiesta

Dandelion  
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Applied: Sept 20, Oct 11

4% Solution  
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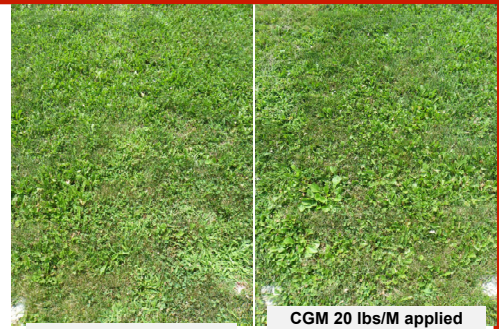


September 21 (1 DAT)

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Weed Cover  
on August 14



Untreated

CGM 20 lbs/M applied  
April 10

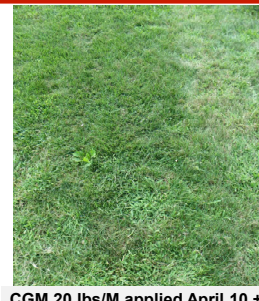
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Weed Cover  
on August 14



Fiesta (5%, 4 gal/M)  
Applied May 15, June 15, July 15



CGM 20 lbs/M applied April 10 +  
Fiesta (5%, 4 gal/M)  
Applied May 15, June 15, July 15

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What are these strange  
new weeds in my lawn?

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## Lesser Celandine

### *Ranunculus ficaria*

- Introduced as ornamental
- Native to Europe
- AKA Fig buttercup, pilewort

Spring ephemeral

Invasive

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## Lesser Celandine Control

### Manual

- Be sure to remove bulbs

### Non-Selective

- Glyphosate
- Temperature should be above 50 degrees

### Selective control in Turf

- Choose a herbicide with at least 2 of the following: MCPA, triclopyr, dicamba

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Remove perennial grasses  
from the lawn after they  
have greened up

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## Orchardgrass



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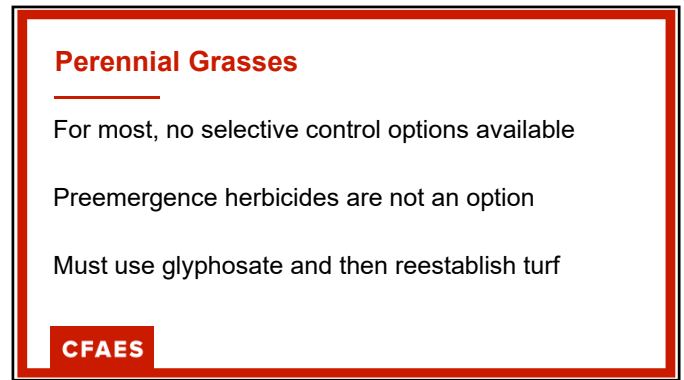
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### Design for Cultural Weed Control

Plant canopies should close at maturity

When possible, select ground covers for which labelled herbicides are available

Hardscaping/mulch for high traffic areas

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### Cultural Weed Control

Install quality, weed-free soils, plants and mulches

Regularly clean equipment

Scouting / early detection may allow for mechanical control of certain weeds

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### Weed Control in Ornamental Beds

Identify weeds you are trying to control

- Affects herbicide choice

Know the life cycle of the weed

- Affects application timing

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### Weed Control in Ornamental Beds

- Annual Grass
- Annual Broadleaf
- Sedges
- Perennial Grass
- Perennial Broadleaf

Selective Control  
Generally Easier



Selective Control  
More Difficult

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### Perennial Broadleaves



Curly Dock

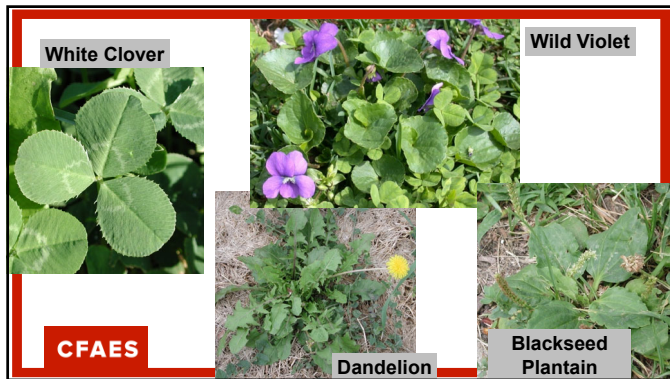


Canada Thistle

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### Perennial Broadleaf Control

No preemergence options

Postemergence control may be easier in late fall compared to spring

- Weeds are more susceptible
- Ornamentals may be less susceptible

Very few selective herbicide options

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### Clopyralid (e.g. Lontrel)

Can be used over the top of about 50 trees, shrubs, ornamental grasses and ground covers on label

Must be used as directed spray for all others

Do not apply near shallow rooted trees or shrubs

Do not seed for 3 weeks

Do not rotate susceptible ornamentals for 10 months

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### Control of woody vines and invasives

Triclopyr can be sprayed or painted onto freshly cut stumps to prevent re-sprouting

Glyphosate

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### Winter Annual Broadleaves

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### Winter Annual Broadleaves



Common Groundsel



Purple Deadnettle

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### Cool Season Annual Broadleaves



Mallow



Knotweed



Black Medic

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### Warm Season Annual Broadleaves



Purslane



Pigweed

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### Warm Season Annual Broadleaves



Spurge



Oxalis

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### Landscape Bed Preemergence Herbicides

Apply prior to weed germination

Requires adequate rainfall or irrigation to "activate"

Do not expect season-long control

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Always review label  
for information about  
sensitive plants

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#### SENSITIVE Ornamental Species - Special Precautions

Ornamental grasses	Unacceptable phytotoxicity may occur to ornamental grasses. <b>FreeHand® 1.75G herbicide should not be applied.</b>
Herbaceous perennials	Unacceptable phytotoxicity may occur to the following herbaceous perennials. <b>FreeHand 1.75G should not be applied.</b>
Black-eyed Susan	Asteraceae spp.
Blue star	Asclepias tuberosa
Butterfly flower	Asclepias tuberosa
Butterfly weed	Asclepias tuberosa
Cape leadwort	Plumbago spp.
Columbine	Aquilegia spp.
Dead nettle	Lamium spp.
Fuchsia	Veronica spp.
Phlox	Phlox paniculata
Proclamation flower	Scabiosa spp.
Speedwell, speckled	Veronica spicata
other Veronica spp.	Veronica spp.
Thickstem	Conoclinium aureum
Annual bedding plants	Applications of <b>FreeHand 1.75G</b> to bagworms, gophers, and impatiens (including New Guinea impatiens) may result in injury, therefore, <b>FreeHand 1.75G</b> should not be applied.
Chelone spp.	DO NOT apply <b>FreeHand 1.75G</b> sequentially to these species. During the growing season, a second application of <b>FreeHand 1.75G</b> can be made if a herbicide of a different mode of action is applied between <b>FreeHand 1.75G</b> applications. <b>FreeHand 1.75G</b> applications must be separated by at least 16 weeks.
Coreopsis	
Creeping phlox	
Hydrangea	
Loropetalum	
Loropetalum chinensis	
Magnoles	
Salvia spp.	
Solidago spp.	
Spirea	
Thrift	
Viburnum spp.	
Western hemlock	
Ferns	Applications of <b>FreeHand 1.75G</b> to immature ferns during periods of new growth of fronds may result in some injury.
Hydrangeas	Not all hydrangea cultivars may respond to the herbicide application with the same tolerance. Before treating an entire block of plants, apply only to a small number of plants and evaluate for 2 months for tolerance.

## Preemergence Herbicides

Dichlobenil	Oryzalin
Dimethenamid-p	<b>Pendimethalin</b>
<b>Dithiopyr</b>	Prodiamine
<b>Isoxaben</b>	<b>Trifluralin</b>
Metolachlor	Oxyfluorfen
Oxadiazon	Flumioxazin
Simazine	Indaziflam

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## Trifluralin (e.g. Preen)

One of safest  
products for  
annual beds



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## Trifluralin + Isoxaben (e.g. Preen extended control)

Not for use in  
annual beds



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## Mulches

May help control weeds from seed

- Not effective against perennials

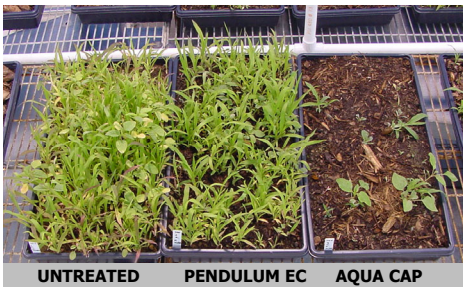
Mulches may be:

- Used alone
- Placed on top of geotextiles
- Used in conjunction with herbicides

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## EFFICACY OF PENDIMETHALIN FORMULATIONS AS AFFECTED BY MULCH TYPE



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## Non-Selective Herbicides

Contact

- Diquat (e.g. Reward)
- Pelargonic acid (e.g. Scythe)
- Glufosinate-ammonium (e.g. Finale)

Systemic

- Glyphosate (e.g. Roundup)

**Must not come into contact with ornamental plants**

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### Ornamental Bed Weed Control

#### Read the label

- Are the ornamentals tolerant?
- Are the weeds controlled by product?
- Are you applying at the right time?
- Consider if residual will cause effect on subsequent annual plantings (if applicable)

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### Ornamental Bed Weed Control

#### Properly calibrate spray equipment

- Over application may damage ornamentals and waste money
- Under application may result in poor weed control

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