Weeds in Ornamental Plantings:
Management Strategies for Homeowners

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Weeds in Ornamental Plantings:

A Management Plan For Tennessee Home Owners

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Cultural and Non-Chemical

- Sanitation
- Cultivation
- Mulching
- Solarization
- Row Spacing – Canopy Closure
- Flame Cultivation
- Handweeding
- Corn Gluten Meal

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Developing A Weed Management Plan:

Weed Management Objective

Objective: To minimize the need for physical or hand removal of weeds from ornamental plantings

- Achieve objective by adopting a planned approach to maximizing the effectiveness of available weed control options
- Adopt an integrated approach to managing weeds

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Developing A Weed Management Plan:

Weed Control Options

Weed Control Options:

1. Control perennial weeds prior to establishment
2. Landscape fabric
3. Mulch
4. Herbicides

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Weed Control Options:
Control Prior to Establishment

Perennial weeds, like purple nutsedge and perennial broadleaf weeds are difficult to control in certain established plantings

Control Prior to Establishment

- In certain types of established plantings, control of perennial weeds is limited to hand removal
- Critical for plantings of annuals and perennials; less critical for plantings of woody trees and shrubs

Method for Control of Perennials

- Make at least two applications of a non-selective herbicide when weeds are active
- Make first application, wait 14 days then cultivate and re-treat re-growth

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Weed Control Options:

Landscape Fabric: Barrier to Weed Emergence

Installation of fabric; barrier to weeds emergence but allows water and air to pass through

Landscape Fabric

- Barrier to weed emergence of most annual and some perennial weeds
- Cost effective if planting will be in place for four or more years (e.g. woody trees and shrubs and certain woody ground covers)
- Cover with a thin layer of coarse textured mulch (for aesthetics and prevent breakdown caused by the sun)

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Weed Control Options:

Mulch: For Suppression of Annual Weeds

Mulch

- Suppress germination and emergence of annual weeds and some perennials
- Limits conditions favorable for weed seed germination

Characteristics

- Choose coarse textured mulch or mulch that does not hold water (otherwise weeds germinate on the surface)
- Layer 2 to 4 inches thick (3 optimum) required for weed control

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Weed Control Options:
Herbicides: Pre-emergence

Pre-emergence Herbicides;
- often granular rather than liquid for use in ornamentals

Pre-emergence Herbicides

- Act by preventing germinating weeds from emerging
- Provide residual control (length, product dependent)
- Applied after planting or renovation to weed free beds
- Require rain or irrigation after application to activate the herbicide

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Weed Control Options:
Herbicides: Post-emergence

Post-emergence Herbicides;
- formulated to be mixed with water and sprayed on emerged weeds

Post-emergence Herbicides

- Control weeds after emergence (Post)
- Two types: selective or non-selective

Selective

- Escaped or newly emerged grass weeds can be easily controlled with a herbicide selective for grass weeds
- Do not use around ornamental grasses

Non-selective

- Controls both grass and broadleaf weeds
- Spot treatment or directed application

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POST-EMERGENCE HERBICIDES:

Characteristics

POST Herbicides;
Applied to the foliage of emerged weeds

Post-emergence Herbicides

- Provide control of emerged weeds

Two Types

a. Systemic (Selective or non-selective)
   - Enters through above ground foliage and moves throughout the entire above and below ground growth

b. Contact (Non-selective)
   - Activity limited to top growth
   - Controls annuals, suppresses perennials

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Developing A Weed Management Plan: Herbicide Options and Program

Herbicides in Ornamentals: Check label for species tolerance in addition to use directions and precautions

Herbicide Types: Two types;

1. Pre-emergence - prevent weeds from emerging from seed for an extended period of time
2. Post-emergence - Control newly emerged annual and perennial weeds

a. Selective - Control emerged grass weeds

b. Non-selective - Control both grass and broadleaf weeds

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PRE-EMERGENCE HERBICIDES:

Characteristics

Example of product sold for use by home gardener

Pre-emergence Herbicides

- Prevent weeds from emerging
- Activity may be predominantly towards grassy weeds
- Activity may be towards broadleaf weeds
- For complete activity, more than one PRE herbicide may need to be mixed together or use product with more than one active ingredient

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PRE-EMERGENCE HERBICIDES:
For Home Gardeners

Single active ingredients	Mixture of active ingredients
1. PREEN 2. Miracle Gro G.Weed Preventer - Active trifluralin - Grasses and certain broadleaves 3. Spectracide Weed Stop - Active dithiopyr - Broader spectrum of grasses and certain broadleaf weeds	1. SNAPSHOT ♦ - Grasses and broadleaf weeds

♦ Indicates not sold at common retail garden center requiring special order from professional supplier (cost greater than $30.00)

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RESIDUAL CONTROL:
For Home Gardener

- Make application to weed free soil
- Will not control emerged weeds
- Season-long control requires repeat applications

Residual control	Rain or irrigation
1. PREEN - 30 to 60 days	1. ½ inch immediately
2. Miracle Gro G.Weed Preventer - 30 to 60 days	2. ½ inch immediately
3. Spectracide Weed Stop - 90 to 120 days	3. ½ inch within 21 days
4. Snapshot - 60 to 90 days	4. ½ inch within 3 days

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POST HERBICIDE OPTIONS :
For Home Gardener

Non-selective: Controls emerged grass and broadleaf weeds

CONTACT (Edging)	**SYSTEMIC**
1. FINALE (glufosinate) - Provides some systemic activity - Annual and perennials - Non-residual	1. ROUNDUP (glyphosate) - Grass, broadleaf weeds and sedges - Includes perennials - Non-residual - Activity temp. dependent

Selective: For emerged grassy weeds

1. VANTAGE (sethoxydim)
   - No surfactant or crop oil required
   - Annual and perennial grasses (requires repeat application)

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Weed Management Plan

Objective of Plan

- To minimize the need for hand (or physical) removal of weeds
- Optimize control options by planned approach

Plan

1. Site Assessment : Avoid a problem
2. Choice of Plant Type : Dictates control options
3. Species Selection : Dictates herbicide options
4. Site Preparation and Establishment
5. Herbicide Program : For established plantings

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Site Assessment:
Avoid (or minimize) a Problem

Perennial broadleaf weeds are especially difficult to control in certain types of plantings

Site Assessment: Usually not based on weeds but functional use and aesthetics; however, avoid a problem

Within The Site

- Assess the current vegetation:
  - Presence of perennial weeds
    especially perennial broadleaf weeds and sedges
  - Aggressive turf now becomes a weed

Surrounding Area

- Assess for weeds that may encroach after establishment

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Type of Planting and Species:
Dictates Control Options and Herbicide Choices

Control of emerged broadleaf weeds limited to hand removal in all plantings except in woody trees and shrubs

Choice of Species: Within planting, choose species that are compatible to the same herbicides (check species tolerance on herbicide product label)

Planting Type: Dictates available control options

1. Woody Trees and Shrubs - Most
2. Woody Ground Covers - Several
3. Annual Flower Beds - Most limited
4. Herbaceous Perennial Beds - Limited
5. Mixed Plantings - Most limited

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Woody Tree and Shrubs:
Weed Control Options

Mulch plus landscape fabric highly effective in preventing annual weeds

Woody Trees and Shrubs: Have the most weed control options to minimize hand weeding

- Directed application of non-selective herbicide

Control Options:

1. Landscape Fabric - Planting 4 or more years
2. Mulch Layer - With or without landscape fabric
3. Selective POST Herbicides - For grass weeds
4. Non-selective POST Herbicides - Directed
5. Pre-herbicides - Several options

- Pre-plant control less critical for these plantings

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Woody Ground Covers:
Weed Control Options

Control of emerged broad leaf weeds limited to physical removal

Woody Ground Covers: Several control options except use of non-selective herbicides

- Control perennial broadleaf weeds prior to planting, critical (established, physical removal)

Control Options:

1. Landscape Fabric - if does not limit spread
2. Mulch Layer - With or without landscape fabric
3. Selective POST Herbicides - For grass weeds
4. Pre-herbicides - Several options

- Pre-plant control of broadleaf weeds critical

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Annual Flower Beds:
Weed Control Options

Pre-plant control of perennial broadleaf weeds critical and perennial grasses beneficial

Annual Flower Beds: Control options are very limited

- Pre-plant control of perennial broadleaf weeds is critical and perennial grasses is very beneficial

Control Options:

1. Mulch Layer - Primary weed control option
2. Selective POST Herbicides - For grass weeds
3. Pre-herbicides - Limited options

- Pre-plant control is very critical
- Often requires frequent hand weeding

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Herbaceous Perennial Beds:
Weed Control Options

Control of emerged broad leaf weeds limited to physical removal

Herbaceous Perennial Beds: Control options limited or similar to annual flower beds

- Lack of periodic cultivation favors growth of perennial weeds

Control Options:

1. Landscape Fabric - Option in clump types
2. Mulch Layer - If doesn't impede growth
3. Selective POST Herbicides - For grass weeds
4. Pre-herbicides - Limited options

- Pre-plant control is very critical
- May require hand weeding for broadleaf weeds

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Mixed Plantings:
Weed Control Options

Most limited control options

Mixed plantings: Control options limited or similar to annual flower beds

- Control perennial weeds prior to establishment

Control Options:

1. Mulch Layer - Primary control option
2. Selective POST herbicides - For grass weeds
3. Pre-herbicides - very limited due to diversity of species

- Pre-plant control of perennials is very critical
- Requires frequent hand weeding

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Sedges or Grass-like Weeds
Control in Ornamentals

Purple Nutsedge

- Avoid contaminated sites
- If present, assess site for conditions favoring growth
- Often introduced in contaminated plant material
- Herbicide options dependent on positive identification
- Hand weeding is ineffective

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Summary

Weed Management Plan

Objective: Minimize the need for physical or hand removal of weeds

- Adopt integrated approach to maximize effectiveness of weed control options

Plan

- Plan before planting and consider;
- Planting type and species
- Site preparation and establishment
- Herbicide options and program

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Summary

Weed Management Options

Prior to planting, gain control of perennials, especially broadleaf weeds

Weed Management Options:

1. Pre-plant control

   - Pre-plant control critical in all plantings except for plantings of woody trees and shrubs

2. Landscape fabric

   - Option in long-term plantings

3. Mulch

   - Primary control option; limits emergence

4. Herbicides options

   - Options are limited to planting type and species tolerance (read product label)

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Summary

Adopt a Planned Integrated Approach

Planned Approach

Planning is usually based on aesthetics, however;

- Consider weed control options in the planning of new and care of established ornamental plantings

- Weeds are perpetual problems, but, certain steps can limit the need for frustrating physical removal of weeds

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Questions?

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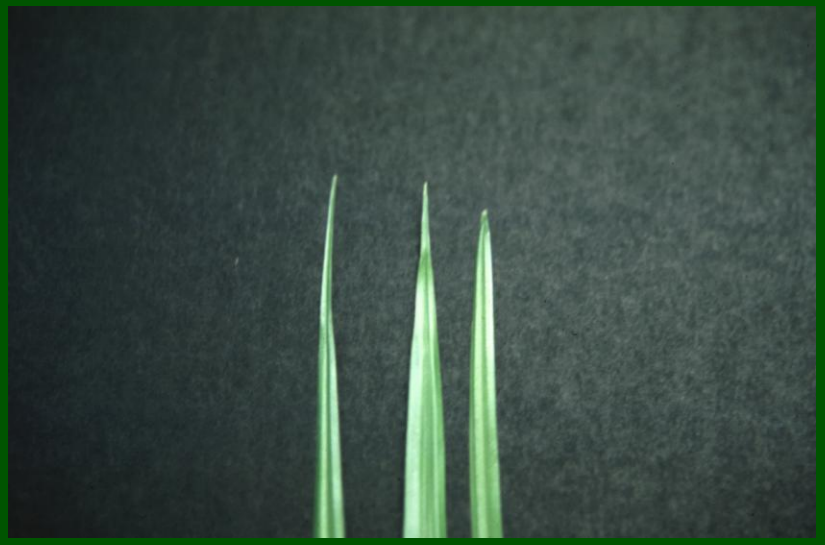
Sedges or Grass-like Weeds
Identification in Ornamentals



Leaf Tips;
- Two Left; Yellow nutsedge
- Far Right: Purple nutsedge

Most Common

Perennial

- Yellow nutsedge
- Purple nutsedge
- Bermudagrass

Less Common

Annual

- Annual Sedge

Perennial

- Kyllinga

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Sedge Control Options :
For Home Gardeners

Herbicide Option is dependent on Desired Species Tolerance Apply as directed application	
Non-selective	**Use dependent on Ornamental**
1. ROUNDUP (glyphosate) - Provides activity towards both yellow and purple nutsedge 2. FINALE (glufosinate) - Activity towards yellow but weak on purple nutsedge	1. BASAGRAN (bentazon) - Yellow nutsedge only 2. MANAGE (halosulfuron) - Yellow and purple nutsedge

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