

Weeds in the Landscape:

**Are we using all of our weapons to
fight the Weed War?**

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What is in the Armory?

- Eyes! Use our common sense(s) to keep track of weeds that are common problems versus new problems moving in
- Cultural practices: Proper growing conditions for the desirable plants will put them at an advantage over invaders
- Chemical options: When weeds invade, knowing what will work and on what plants is a key to efficient weed management

Most landscapes have some kind of mulch as a component for weed control



What Makes a Good Mulch?

- Coarse texture to dry out
- Aesthetically pleasing
- Will not wash
- Relatively weed free
- Not phytotoxic



Lava rock – some like it,
some don't



Bark nuggets wash easily

Organic Mulches Also Harbor Weeds



Dandelion



Mugwort



Weeds move into (and out of)
mulched areas
-by seeds blown onto the top
-by underground roots and
rhizomes

Phytotoxic mulch?

- Anaerobic/sour mulches can burn tender plants
- Make sure mulches are properly composted and stored
- Pine straw can stunt pansy growth



Hand Weeded



Pine Straw Mulch



Effect of Sour Mulch on Nearby Plants



- Effects are seen within hours of mulch application
- Caused by acids produced by improperly processed mulch
- Irrigating mulch and plants heavily will wash much of the acid away



Some Weeds Like Growing in Mulches



Hand Pulling and Cultivation-

A common means to remove weeds in the landscape

Hand pulling

- Expensive, time consuming, a necessary chore when no other options are available

Cultivation

- In landscape beds, removing the entire weed is important to prevent regrowth



Landscapes: How to supplement mulches for better residual weed control

In the past 3-5 years, a few new herbicide products have become available for improving selective weed control in the landscape

Flumioxazin:

SureGuard (51 WDG)

Broadstar (0.25% G)

Works by inhibiting the pathway to chlorophyll synthesis:
injured plants and weeds looked spotted

Avoid injury by:

•Apply BROADSTAR to DRY FOLIAGE;

If foliage is wet, then ½ to 1 inch irrigation immediately

•Apply SUREGUARD as a DIRECTED APPLICATION ONLY

•Do not use either in areas where HERBACEOUS plants are growing or will be planted. This includes TURF!

•Apply BROADSTAR before tender growth emerges or after hardening off



Flumioxazin:

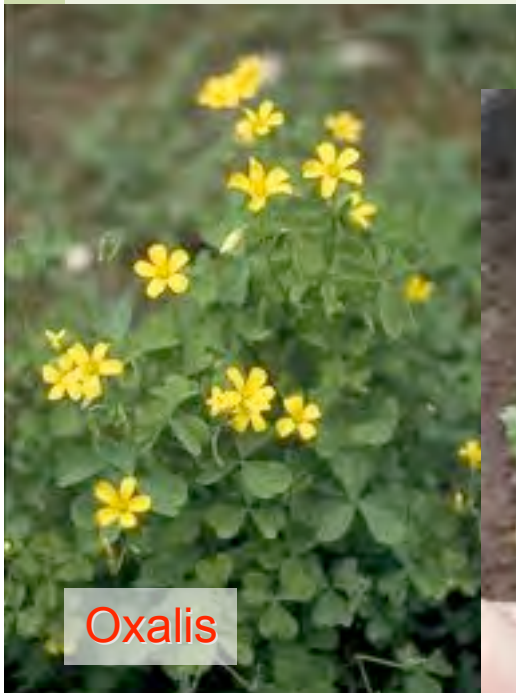
SureGuard (51 WDG)

Broadstar (0.25% G)

Controls annual weeds as they emerge from the soil or mulch

Maximize control:

- Do not incorporate or disturb the soil after application
- Incorporate with at least ½ inch of rain or irrigation
- Control will last for 8-12 weeks under BEST condition
- Clean up escapes and re-apply for longer weed control



Yellow Nutsedge

Cyperus esculentus



Controlling Yellow Nutsedge in the Landscape

Two herbicides labeled for POSTEMERGENCE
selective or directed applications
in established landscapes for YNS management

- Halosulfuron - SEDGEHAMMER (and others) can be applied as a directed application to established woody ornamentals.

A homeowner formulation is being developed

New labeling for field use is being developed

- Bentazon - BASAGRAN can be applied over the top of some groundcovers and as a directed application to others

Controlling Invasive Grassy Weeds when they Invade Turf and Landscapes

- Ornamental Seedling Grasses
- Japanese Stiltgrass
- False Green Kyllinga
- Running Bamboo

Managing Ornamental Grass Seedlings in Turf & Landscape

"Shall I not rejoice also at the abundance of the weeds whose seeds are the granary of the birds?"

- H.D. Thoreau

ORNAMENTAL GRASSES THAT CAN BE WEEDY

GENUS & SPECIES	COMMON NAME
Koeleria macrantha	<i>June grass</i>
Miscanthus sinensis	<i>Chinese silver grass</i>
Pennisetum setaceum	<i>Fountain grass</i>
Panicum virgatum	<i>Switch grass</i>
Sorghastrum nutans	<i>Indian Grass</i>
Calamagrostis brachytricha	<i>Korean feather reed</i>
Chasmanthium latifolium	<i>Inland sea oats</i>
Panicum clandestinum	<i>Deer tongue</i>
Digitaria spp. (WEED)	<i>Crabgrass</i>

Controlling SEEDLING Ornamental Grasses with POST emergence herbicides

PERCENT CONTROL (30 DAYS AFTER TREATMENT)

Common Name	Trade Name	Silver grass	Switch Grass	Kor. Feather reed	Sea Oats	Indian grass	Deer tongue	June Grass	Crabgrass	KBG	Per. Rye
Untreated	~	0	0	0	0	0	0	0	0	0	0
fenoxaprop-p	ACCLAIM Extra	100	10	100	100	100	100	100	100	0	0
glyphosate	ROUNDUP	100	100	100	100	100	100	100	100	100	100
clethodim	ENVOY PLUS	100	100	100	100	100	100	100	100	100	100
mesotrione	TENACITY	100	100	100	100	100	100	100	100	0	0
dithiopyr	DIMENSION (2EW)	73	0	0	57	90	85	50	67	40	13
flumioxazin	SUREGUARD	100	100	100	100	100	100	100	100	100	100
	LSD0.05	14	3	~	4	4	~	~	4	~	2

Controlling SEEDLING Ornamental Grasses with PRE emergence herbicides

Common Name	Trade Name	PERCENT CONTROL (30 DAYS AFTER TREATMENT)										
		Silver grass	Fountain Grass	Switch Grass	Kor. Feather reed	Sea Oats	Indian grass	Deer tongue	June Grass	Crabgrass	KBG	Per. Rye
Untreated	~	0	0	0	0	0	0	0	0	0	0	0
mesotrione	TENACITY	2	23	100	100	100	63	50	50	100	23	20
Ethofumesate	PROGRASS	100	100	100	100	100	100	100	100	100	87	0
dithiopyr	DIMENSION (2EW)	100	100	100	100	100	100	100	100	100	100	83
flumioxazin	SUREGUARD	100	100	100	100	100	100	100	100	100	100	100
pendimethalin	PENDULUM AQUACAP	100	100	20	85	100	100	100	18	100	40	60
	LSD0.05	2	4	4	4	~	4	~		~	6	2

Success in Controlling Seedling Ornamental Grasses

- Post emergence control can be achieved:
 - Nonselectively with Roundup (glyphosate)
 - Selectively in Landscape with EnvoyPlus or AccliamExtra
 - Selectively in Turf with AcclaimExtra
- Pre emergence control can be achieved:
 - In Landscape with SureGuard and others
 - In Turf with Pendulum Aquacap and others
- Seedlings get established in late fall- early spring, so treating them then will control before they get large

Japanese Bamboo:

Can be a very destructive weed!



Bamboo

The old running rhizomatous types are the problem-

They move quickly from the original site once they are established

The clump type cultivars are slow to spread from the original plant



Rhizomes will grow around or penetrate most obstructions

Vertical barriers with Biobarrier cloth will keep new growth from getting through

Bamboo



Ineffective Roundup Applications
Cause injury but not control



In the Spring cut down old stems and wait for new growth to reach 1-2 feet

New shoots are more susceptible to herbicide application





Effective control?

Cut down old growth to the ground

Try to control new growth with systemic herbicide or continual mowing

Vertical containment in the ground is expensive

Should be confined to a small area



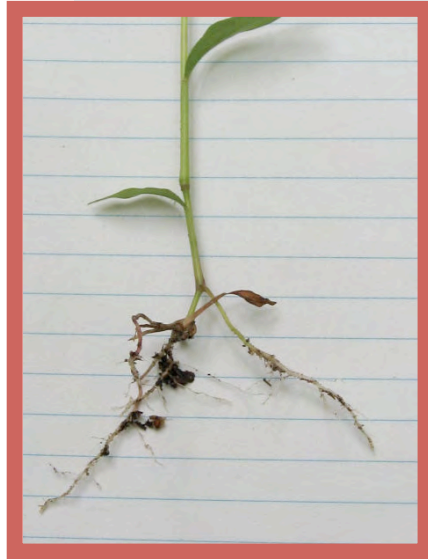
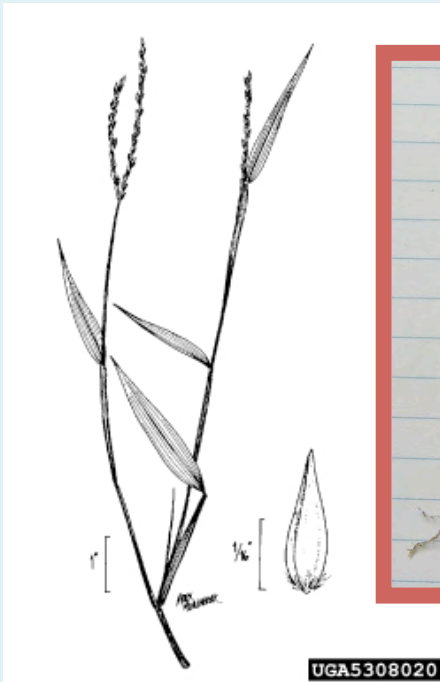


3 months later: new growth is much less vigorous and very bushy

Managing Running Bamboo

- Deal with problem early!
- Scout for this weed in neighboring properties.
- Try to get all concerned working on the problem.
- Removing all old growth is the first step
- Work on controlling the new growth as it emerges.
- Underground protection is expensive but worth it if pools and tanks are in imminent danger of puncture/penetration.

Japanese stilt grass (*Microstegium vimineum*)



Control of Japanese Stiltgrass with Common Herbicides

TREATMENT				PERCENT CONTROL
Chemical Name	Trade Name	Rate lb/a AI	Timing	Japanese stiltgrass 46 DAT(PRE)
Untreated	~	~	~	0
Pendimethalin 3.8ACS	PENDULUM AQUACAP	1.5	pre	88
Mesotrione 4EC	TENACITY	0.125	pre	99*
Dithiopyr 0.25G	DIMENSION	0.25	pre	86
Oxadiazon 2G	RONSTAR	2.0	pre	36
Trifluralin 0.74G	TREFLAN	4.0	pre	70
				27 DAT(POST)
Quinclorac	DRIVE	0.75	post	63
Mesotrione 4EC	TENACITY	0.125	post	15
Acclaim (w/Trimec)	ACCLAIM	0.08	post	80
Halosulfuron	SEDGEHAMMER	0.031	post	0
<i>Fisher's LSD @ 0.05</i>				13

Control of Japanese Stiltgrass with Common Herbicides

TREATMENT				PERCENT CONTROL		
Chemical Name	Trade Name	Rate lb/a AI	Timing	Japanese stiltgrass	Smooth crabgrass	
Untreated	~	~	~	0	0	
Pendimethalin 3.8ACS	PENDULUM AQUACAP	1.5	pre	88	98	
Mesotrione 4EC	TENACITY	0.125	pre	99*	98	
Dithiopyr 0.25G	DIMENSION	0.25	pre	86	85	
Oxadiazon 2G	RONSTAR	2.0	pre	36	50	
Trifluralin 0.74G	TREFLAN	4.0	pre	70	80	
				27 DAT (POST)		
Quinclorac	DRIVE	0.75	post	63	100	
Mesotrione 4EC	TENACITY	0.125	post	15	92	
Acclaim (w/Trimec)	ACCLAIM	0.08	post	80	78	
Halosulfuron	SEDGEHAMMER	0.031	post	0	0	
				<i>Fisher's LSD @ 0.05</i>	13	12

The background of the slide is a close-up photograph of Japanese Stiltgrass seedlings. The plants are small, with bright green, rounded leaves and thin, upright stems. They are growing in a dark, textured substrate, likely soil or mulch, which is visible between the plants. The lighting is bright, highlighting the vibrant green color of the foliage.

Managing Japanese Stiltgrass in Turf and the Landscape

- Recognize emerging seedlings as a potential troublesome annual GRASS weed
- Emergence can occur 1-2 weeks before more commonly found crabgrass
- Controlling Stiltgrass postemergence should occur before inflorescence appear
- Mowing is not an effective management in turf situations
- Effective control options exist in both PRE and POST herbicides (selective or non-selective)

Facts about False Green Kyllinga

Pasture Spikesedge

- One of several species in the Kyllinga genus
- Native to the eastern US
- In the CYPERACEAE family: same as YELLOW NUTSEDGE
- A perennial weed that spreads by RHIZOMES and SEEDS
- Seed heads begin to form at the end of the season
- DISTRIBUTION as far north as CONN and RI coastal areas
- Appears to be travelling north in mulching or composted materials. Bird movement possible



False Green Kyllinga

Kyllinga gracillima



False Green Kyllinga

Kyllinga gracillima



Control of False Green Kyllinga with Common Herbicides

TREATMENT				PERCENT CONTROL	
Chemical Name	Trade Name	Rate lb/a AI	Timing	F.G. Kyllinga 46 DAT (PRE)	Smooth crabgrass
Untreated	~	~	~	0	0
Pendimethalin 3.8ACS	PENDULUM AQUACAP	1.5	pre	95	98
Mesotrione 4EC	TENACITY	0.125	pre	94	98
Dithiopyr 0.25G	DIMENSION	0.25	pre	51	85
Oxadiazon 2G	RONSTAR	2.0	pre	94	50
Trifluralin 0.74G	TREFLAN	4.0	pre	31	80
				27 DAT (POST)	
Quinclorac	DRIVE	0.75	post	~	100
Mesotrione 4EC	TENACITY	0.125	post	~	92
Acclaim (w/Trimec)	ACCLAIM	0.08	post	~	78
Halosulfuron	SEDGEHAMMER	0.031	post	~	0
				<i>Fisher's LSD @ 0.05</i>	12

Postemergence herbicides with reported ability to provide at least 50% control of F.G. Kyllinga

- MSMA
- Basagran (bentazon)
- Sedgehammer/Manage (halosulfuron)
- Certainty (sulfosulfuron)
- Sulfentrazone (SURGE: not on LI)