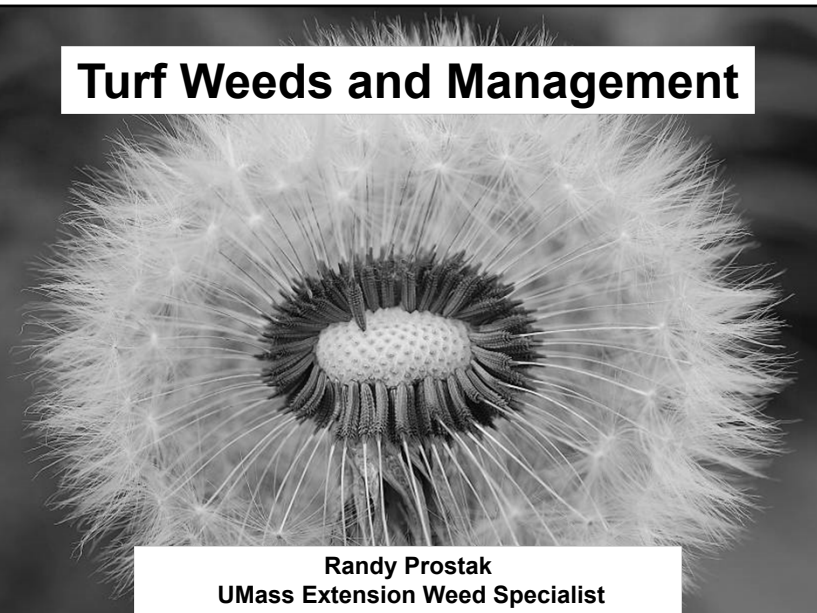
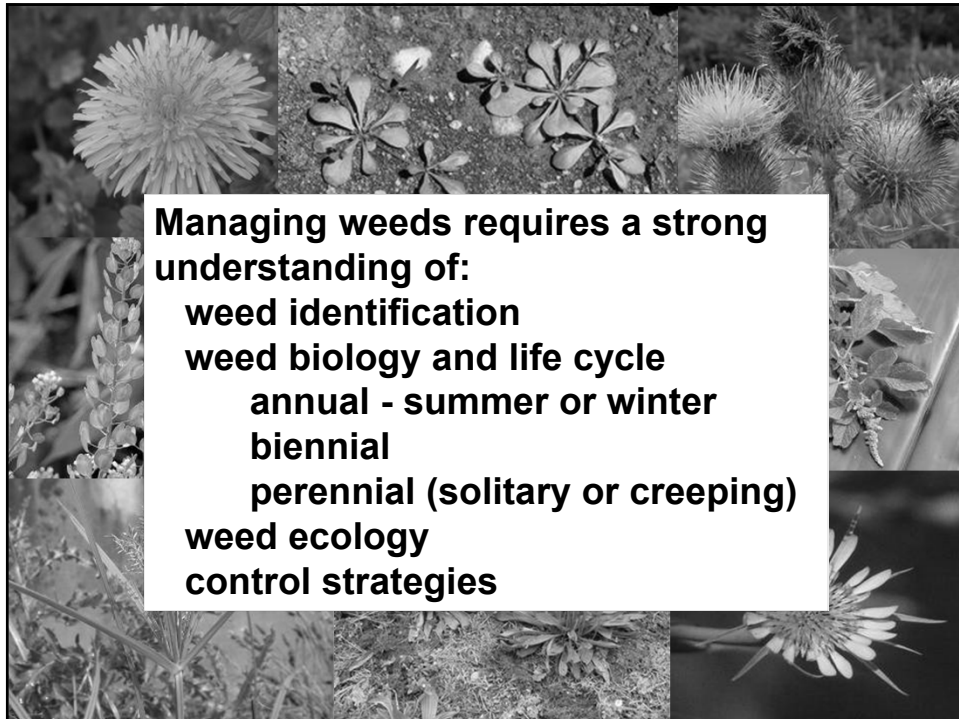


Turf Weeds and Management



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PAT Category 3B - Commercial Turf
April 5 & 6, 2017



Managing weeds requires a strong understanding of:

- weed identification**
- weed biology and life cycle**
 - annual - summer or winter**
 - biennial**
 - perennial (solitary or creeping)**
- weed ecology**
- control strategies**



Successful weed management programs will require that you PLAN AHEAD!!!!



Statue of Weed Scouting

Scout for weeds every time you are on a site!!



Optimizing performance: 1

Correct timing of application

- during the growing season**
- growth stage of target weed**

Insure rain-free/irrigation free period!!!!!!!

No MOW period before and after application

Optimizing performance: 2

Favorable growing conditions:

- resist the temptation to think incorrently:

“drought stressed weeds are easier
to control than weeds that are
not drought stressed”

- turf injury increases during drought stress

Crabgrass Control

Preemergence

- timing

full bloom of forsythia

NEED TO BE WATERED IN !!!!!!!!!!!

(if not they may not work well)

CAN BE APPLIED IN THE RAIN.



- herbicides (alone or on-fertilizer formulations)
 - dithiopyr - Dimension
 - prodiamine - Barricade
 - pendimethalin - Pre-M, Pendulum, Halts
 - oxadiazon - Ronstar
 - benefin + trifluralin - Team
 - dimethenamid - Tower

(all above - reseeding after 3 to 4 months)

Crabgrass Control



Preemergence

- **EARLY DOWN EARLY GONE!!!!!!!!**
fall off possible
- forces reliance on POST management



BORDER PATROL

Why?

- lower PRE rate applied:
rotary spreader distribution
- herbicide degrade due to heat
and moisture



BORDER PATROL

Management?

- apply follow up PRE
- early POST
Dimension early post
Acclaim Extra
- sell and install perennial bed
can believe I suggest this



How do PRE's work?

Do they prevent germination? NO!!

DO NOT RELY ON "POST ONLY" PROGRAMS!

Effective crabgrass programs use PRE and POST as needed for escapes.

Reason:

1. PRE - control per \$ is greater
2. POST - narrow application window

Some exception:

1. newly installed sod: low population??
2. season following fall seeded turf
3. area where reseeding/renov. may done
4. site with know low annual grass pressure

Weed management during turf establishment

- late summer and fall much better than spring
- water and soluble N to encourage est. speed

**CAN NOT USE CONVENTIONAL
CRABGRASS PREEMERGENCE HERBICIDE
PRODUCTS AT TIME OF TURF SEEDING!!!!**

Herbicides safe on new seedings & reseeding

- siduron - Tupersan
- quinclorac - Drive
- mesotrione - Tenacity

Postemergence Crabgrass Management (including yellow foxtail)

- timing
 best before first tiller
- fenoxaprop: Acclaim Extra
- dithiopyr: Dimension (sprayable)
 very early POST
- quinclorac:
 - small and large, miss 2- to 4-tiller
 - before, at and after seeding
- mesotrione: Tenacity (1-leaf to 4-tiller)



**ANTAGONISM-
Acclaim Extra and BRDLF herbicides**

Acclaim Extra label statement:

**Broadleaf herbicides such as 2,4-D or
MCPP may reduce the effectiveness of
Acclaim Extra Herbicide.**

**Do not use Acclaim Extra with 21 days
following 2,4-D or MCPP, or 5 days before a
2,4-D or MCPP application.**

**Postemergence annual grass control:
Spray Volume**

**Enough spray to penetrate through a
thick turf canopy??**

**example: Early POST control of annual
grasses with Acclaim Extra
40 to 80 gal/A, 100 gal/A**

mesotrione - Tenacity

NEW ACTIVE!!

topramezone - Pylex

- HPPD inhibitor - “bleacher”
- residential and athletic, spot trt. only
- 0.23 - 0.34 fl oz (7 -10 ml)/1000 sq. ft.
- notable weeds:
 - POST goosegrass at all stages
 - crabgrass, barnyardgrass, stiltgrass
 - labeled for dallisgrass, active on paspalum
 - white clover, ground ivy, dandelion,
Oxalis, speedwell

Broadleaf Weed Control

Broadleaf postemergence

- herbicides - 2, 3 or 4 way combinations
2,4-D, 2,4-DP, MCPP, MCPA, dicamba,
triclopyr, clopyralid, fluroxapyr,
quinclorac, carfentrazone, sulfentrazone,
pyralflufen, penoxsulam, florasulam
- timing
 1. spring to early summer
 2. late summer - early fall

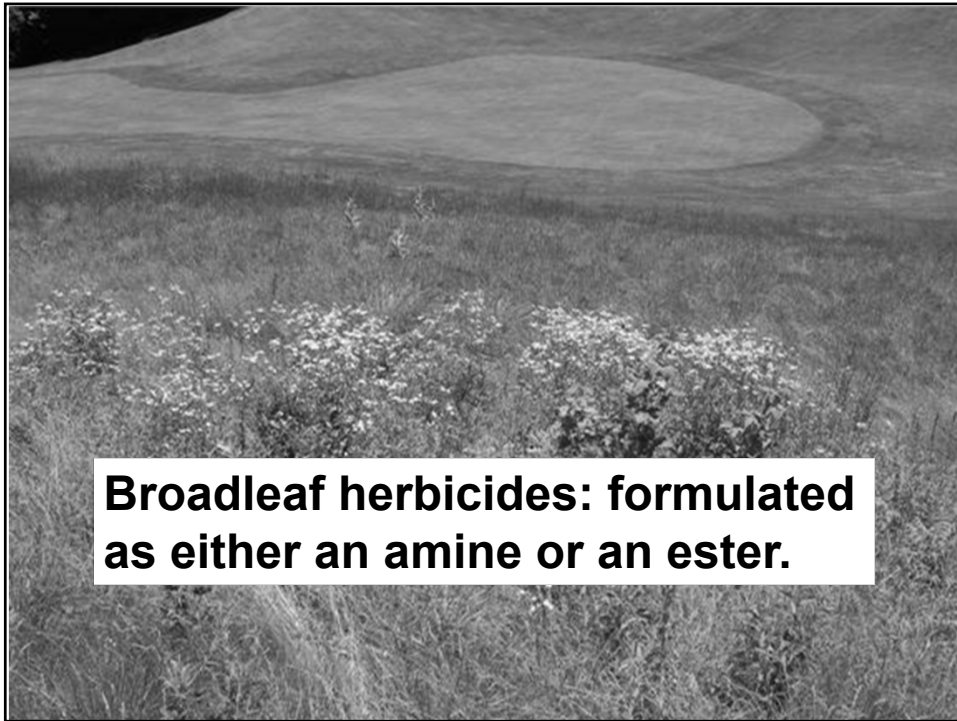
TIMING #2 WILL PERFORM BETTER THAN #1

Broadleaf Herbicide Products

Sprayable formulations provide better control than granular formulations. GRANULARS DO NOT STICK TO WEED LEAVES

As an extension weed specialist, have extreme difficulty supporting the use of granular, on-fert broadleaf herbicide products by professionals.

DIFFICULT TO CONTROL APPLICATION NEAR LANDSCAPE ORNAMENTALS!!!!!!!!!!



Broadleaf herbicides: formulated as either an amine or an ester.

Amine or Ester Formulations

amines

- less volatile, safer around susceptible ornamentals
- safer in spring near soft ornamentals
- common for turf herbicides

esters

- more volatile, low-volatility available
- better penetration of leaf cuticle
- more effective on “difficult-to-control” weeds
- better in cooler weather, use in the fall
- common for brush herbicides

Ester vs. Amine Formulations

Ester formulations are by weight more active than amine formulations.

Ester formulations provide better control of “difficult-to-control weed” than amine formulations.

Winter Annual

fall to spring:

- germinate in fall & grow vegetatively,**
- dormant with cold weather**
- spring continue vegetatively**
- flower & produce seed**
- die with hot weather**

**ex. henbit, red deadnettle, groundsel,
common chickweed, horseweed, annual
bluegrass, bittercress, mouse-ear cress**

Broadleaf Weed Control

Broadleaf preemergence

- isoxaben (Gallery)
- dimethanamid (Tower)
- conventional crabgrass PRE herbicides control BRDLF weeds as a “bonus”
- late-season PRE for winter annual weeds
 - benefin
 - dithiopyr
 - oxadiazon
 - prodiamine
 - bensulide
 - mesotrione
 - pendimethalin
 - quinclorac

Winter annual weeds!!!!!!!

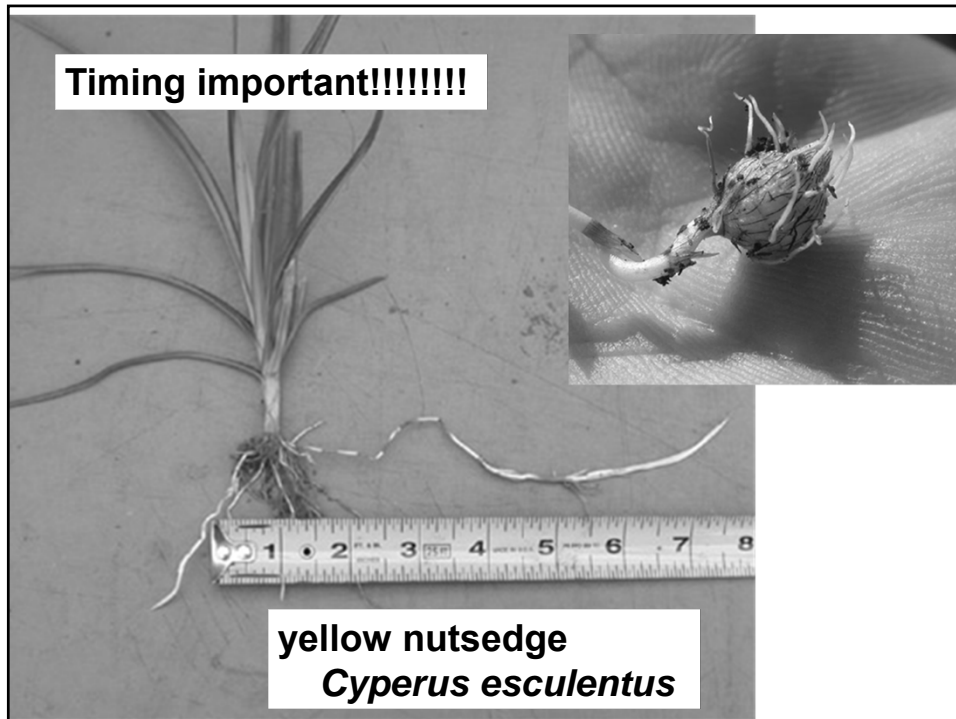
- POST BRDLF herbicide in spring
- hold irrigation and dry down site
- score the BRDLV “two-for” (fall trt.)
- PRE annual grass herbicides applied in late summer to early fall

White Clover Control

- 2 and 3-way comb phenoxy/dicamba
 - good w/ retreat
- combinations with clopyralid or fluroxypyr
 - no clopyralid on residential turf
- quinclorac (DRIVE) – excellent, complete

Wild Violet and Ground Ivy Control

- combination products w/ triclopyr and/or dicamba
- timing
 1. fall (good) - Sept. to early Oct.
 2. mid-spring - early summer
- sprayable > granular
- retreat at first signs of weed regrowth
- glyphosate for heavy infestations



Yellow nutsedge
Less obvious with frequent mowing

Early season POST:

bentazon: Basagran

halosulfuron:

Manage, Sedgehammer, ProSedge

sulfentrazone - Q4 Plus, Surge, Dismiss

mesotrione - Tenacity

PRE - before spring emergence:

dimethenamid - Tower (PRE nutlet sprout)

Heavy infestations:

glyphosate early season: before June 21st

dimethenamid - TOWER

- preemergence crabgrass material
 - RUP in Massachusetts
 - groundwater protection list - MA Zone II
 - PRE activity on yellow nutsedge
 - FREEHAND - landscape use
- dimethenamid + pendimethalin
not for cool-season turf

**Should we be adding spray adjuvants/
surfactants/spreader-stickers
to our herbicide spray treatments??**

**If label calls for one, then add one.
If it **DOESN'T** then **DON'T!!!****

Turf injury may occur

- during periods drought
- late season apps. (cool/cold)
- especially w/ ester formulations

Postemergence for renovation

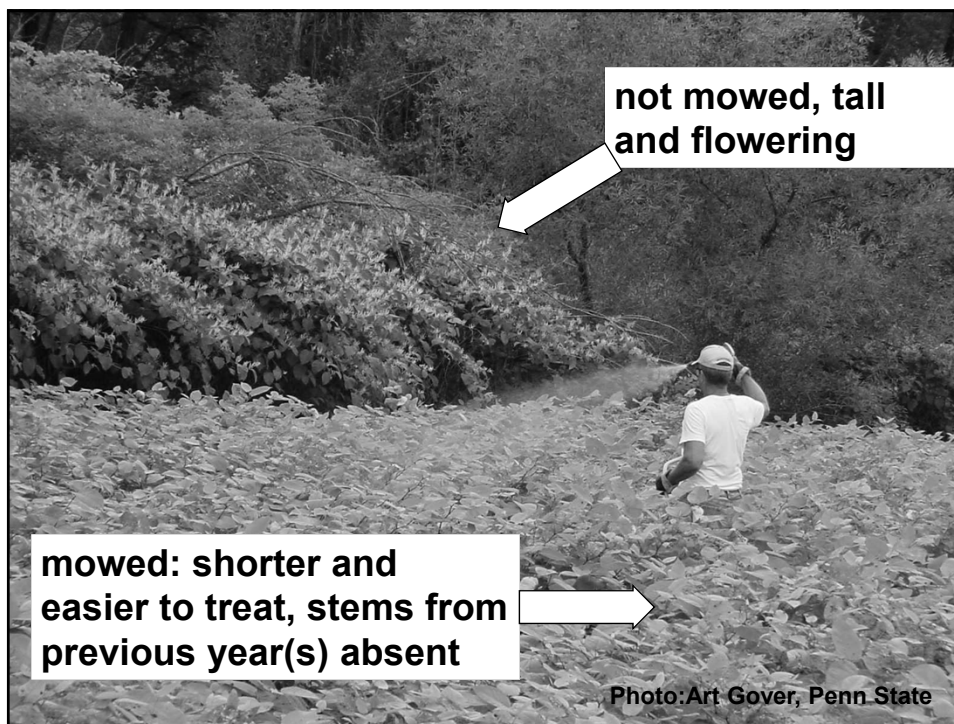
Objective: start with a weed-free area

- **glyphosate products are translocated and are therefore the best choice**
- **contact herbicide are not suitable including Finale and any of the non-chemical/organic options**

JAPANESE KNOTWEED CONTROL

- **frequent cultivation or digging (equipment)**
- **repeated cutting/mowing - slow spread & reduced vigor**
- **glyphosate - flowering (late summer)**
 - **cut back in late May to early June to facilitate treatment**
 - **other herbicides???**





JAPANESE KNOTWEED CONTROL

- frequent cultivation or digging (equipment)
- repeated cutting/mowing - slow spread & reduced vigor
- glyphosate - flowering (late summer)
 - cut back in late May - early June to facilitate treatment
- stem injection –
 - inc. in herbicide and labor
- several years of mgt.



Final Thought

Total reliance of any one form of control will never be as effective as an integrated approach.

Incorporating several control strategies into your weed management program will always result in better overall weed management.



**Thank You for Your Attention!!
Have a Great 2017 Season!!**

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