

LANDSCAPE MANAGEMENT

INCORPORATES LAWN CARE INDUSTRY

Post-emergence warm-season turfgrass weed control

One of the keys: the tolerance of warm-season grasses to post-emergents decreases in hot weather, drought and/or high humidity.

by Tim R. Murphy, Ph. D.
University of Georgia

Unlike pre-emergence herbicides, which must be applied at certain times of the year, post-emergence herbicides provide the turfgrass manager with viable options to control weeds over the entire year.

A complete chemical weed control program can be based on post-emergence herbicides. However, most post-emergence herbicides usually cause temporary

injury to turfgrasses. Therefore, the primary use of post-emergence herbicides is to supplement the level of weed control obtained with the use of pre-emergence herbicides.

Post-emergence herbicides offer several advantages relative to the use of pre-emergence herbicides. This group of herbicides can be applied on a spot treatment or as-needed basis directly to a weed infestation. Pre-emergence herbicides are usually applied to the entire turfgrass area. Spot treatments of post-emergence herbicides are less expensive than broadcast applications of pre-emergence herbicides. Post-emergence herbicide control may be used on newly sprigged or sodded warm-season turfgrasses. In areas that are scheduled to be overseeded or renovated, the majority of post-emergence herbicides can be used prior to renovation.

Problem weed management—Here are some effective ways of controlling the more persistent weeds which you, as a landscape manager in the southern part of the U.S., will come in contact with:

Common bermudagrass: Unless it is the desired turfgrass, common bermudagrass is an aggressive, competitive weed in southern turfgrass-

es. Multiple applications of Vantage can be used to suppress bermudagrass in centipedegrass. In zoysiagrass, repeat applications of Acclaim at three-week intervals during the summer months will suppress common bermudagrass growth. Prograss has recently been registered for the suppression of actively-growing common bermudagrass in St. Augustinegrass.

Bahiagrass: Repeat application so MSMA or DSMA at 7- to 10-day intervals will control bahiagrass in MSMA/DSMA-tolerant turfgrasses. In labeled warm-season turfgrasses, DMC will effectively control "Pensacola" bahiagrass. In centipedegrass, repeat applications of Vantage at 10- to 14-day intervals will suppress bahiagrass growth and seedhead development.

Dallisgrass: A difficult-to-control warm-season perennial. In bermudagrass or zoysiagrass, two to four repeat applications of MSMA or DSMA will be necessary to control this weed. Also, a non-ionic surfactant should be used with MSMA or DSMA to control dallisgrass. Stay on the application schedule (two to four applications, each at a 5- to 10-day interval) for proper control.

Nutsedge: Basagran T/O will provide good control of yellow nutsedge, but not purple nutsedge. Monthly applications of MSMA or DSMA in tolerant turfgrasses during the late spring and summer months can be used to suppress the growth of both species.

With the exception of bahiagrass and carpetgrass, Image can be used in warm-



Winter weeds are at home in dormant bermudagrass.



Virginia buttonweed remains the most tenacious of warm-season weeds.

season turfgrasses for yellow and purple nutsedge control. The addition of MSMA to Image generally improves nutsedge control in MSMA tolerant turfgrasses. A repeat application, six to eight weeks after the first application of Image or Image + MSMA will be required to control nutsedge during the summer months.

Prostrate spurge: Repeat applications of two-way or three-way broadleaf herbicides can be used to control this summer annual. In bermudagrass, low rates of Sencor will effectively control emerged prostrate spurge. Research conducted in Florida has shown that DMC will effectively control prostrate spurge in bermudagrass.

Virginia buttonweed: Still probably the most difficult to control. Monthly applications of a two-way or three-way herbicide will be needed during summer months. Recent research in Alabama and Mississippi has shown that a tank mix of 2,4-D + metsulfuron has potential for control.

—The author is an extension agronomist specializing in weed science at the University of Georgia.

continued on page 14

Post-emergence suggestions

- Apply post-emergence herbicides to small, actively-growing weeds. Perennial and annual weeds that are growing under good soil moisture conditions at moderate air temperatures (60°-90° F) are easier to control with post-emergence herbicides than weeds that are stressed due to adverse environmental conditions.

- Do not use when turf and weeds are under stress. The tolerance of warm-season turfgrasses to post-emergence herbicides decreases at air temperatures greater than 90° F, when turfgrasses are drought stressed or when they are growing under high soil moisture and high relative humidity conditions. Herbicides that contain 2,4-D, dicamba, mecoprop, dichlorprop, imazaquin, MSMA and DSMA should not be applied at high air temperatures since there is an increased risk of unacceptable turfgrass injury. Always

follow the most restrictive warning that is shown on the label.

- Single applications at high rates generally cause more turfgrass injury than repeat applications at low rates. Additionally, single, high-rate applications often do not control perennial weeds. The repeat application is usually made at an interval of 7 to 14 days after the first application, or when re-growth of the weed is noted.

- Coordinate mowing schedules. Generally, mowing should be delayed three to four days prior or after a post-emergence herbicide application.

- Do not apply immediately before rainfall or irrigation.

- Use surfactants and crop oil concentrates according to label directions.

- Calibrate all spray equipment and train the operator.

—Dr. Murphy



**Start the spray season
three times better prepared.**

With new TeeJet® Triple Nozzle Bodies, you're prepared for almost any spraying application. Change tips with a quick twist of the nozzle body. In a few seconds, you'll be spraying again.

Upgrade your sprayer this year with TeeJet Triple Nozzle Bodies with ChemSaver® no-drip check valves. There's no better way to spray.

Circle No. 148 on Reader Inquiry Card

 **Spraying Systems Co.**
P.O. Box 7900, Wheaton, IL 60189-7900

TeeJet®
No better way to spray.



Sprayer Tune-Up Week
February 22-26

Table 1.

POST-EMERGENCE HERBICIDES, WARM-SEASON TURFGRASS

Common name	Trade name	Uses
asulam	Asulox	Grassy weed control in St. Augustinegrass
atrazine	Aatrex, others	Pre- and post- broadleaf and grass weed control
bentazon	Basagran T/O	Primarily used for yellow nutsedge control
bromoxynil	Buctril	Broadleaf weed control on seed or sod farms only
2,4-D	numerous formulations	Broadleaf weed control
2,4-D + dicamba	Eight-One; Phenabane 801	Broadleaf weed control
2,4-D + dichlorprop	Weedone DPC Amine; Weedone DPC Ester	Broadleaf weed control
2,4-D + mecoprop	Lescopar; 2 Plus 2	Broadleaf weed control
2,4-D mecoprop + dicamba	Trimec Classic; Trex-san; Three-Way	Broadleaf weed control
2,4-D + mecoprop + dichlorprop	Weedestroy Triamine; Weedestroy Tri-Ester	Broadleaf weed control
dicamba	Banvel	Broadleaf weed control
diclofop-methyl ¹	Iloxan	Goosegrass control in bermudagrass
diquat ²	Diquat	Winter annual weed control in dormant bermudagrass
DSMA	numerous formulations	Grassy weed control in bermudagrass and zoysiagrass
ethofumesate	Prograss	Pre- and early post- annual bluegrass control in overseeded bermudagrass. Common bermudagrass suppression in St. Augustinegrass.
fenoxaprop	Acclaim	Annual grass control and suppression of bermudagrass in zoysiagrass
glyphosate	Roundup	Winter annual weed control in bermudagrass
imazaquin	Image	Purple nutsedge and wild garlic control in warm-season turfgrasses (except bahiagrass) and certain broadleaf weeds
mecoprop	Mecomec; Lescopex	Broadleaf weed control
mecoprop + 2,4-D + dichlorprop	Southern Trimec	Broadleaf weed control
MCPA + mecoprop + dicamba	Weedestroy Triamine II; Weedestroy Tri-Ester II	Broadleaf weed control
metribuzin	Sencor Turf	Goosegrass control in bermudagrass, and prostrate spurge and numerous winter annual broadleaf weeds
metsulfuron	DMC	Controls 'Pensacola' bahiagrass, wild garlic, prostrate spurge and numerous broadleaf weeds
MSMA	numerous formulations	Grass weed control in bermudagrass and zoysiagrass
MSMA + 2,4-D + mecoprop + dicamba	Trimec Plus	Grass and broadleaf weed control in bermudagrass and zoysiagrass
pronamide	Kerb	Annual bluegrass control in bermudagrass
sethoxydim	Vantage	Annual grass control and suppression of bahiagrass in centipedegrass

¹ Diclofop-methyl has a state label for use in Alabama, Florida, Georgia, Mississippi, North Carolina and South Carolina.

² Diquat has a state label in Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee and Texas for winter annual weed control in dormant bermudagrass.

Source: Dr. Murphy

Table 2.

WARM-SEASON TURFGRASS TOLERANCE TO POST-EMERGENCE HERBICIDES

HERBICIDE/TURF	BAHIA	BERMUDA	CENTPEDE	CARPETGRASS	ST. AUGUSTINE	ZOYSIA
asulam	NR-S	T ¹	NR-S	NR-S	I-T	NR
atrazine	NR-I	S(D)	T	NR-T	T	I
bentazon	T	T	T	NR-T	T	T
bromoxynil	T	T	T	NR-I	T	T
2,4-D	T	T	I	I	S-I	T
2,4-D+dicamba	T	T	S-I	I-T	S-I	T
2,4-D + dichlorprop	T	T	I	I-T	S-I	T
2,4-D + mecoprop	T	T	I	I-T	S-I	T
2,4-D + mecoprop + dicamba	I-T	I-T	S-I	I-T	S-I	T
2,4-D + mecoprop + dichlorprop	T	T	I	I	I	T
dicamba	T	T	I-T	T	S-I	T
diclofop-methyl	NR	T	NR	NR	NR	NR
DSMA, MSMA	NR-S	T	NR-S	NR-S	NR-S	I
fenoxaprop	NR-S	NR-S	NR-S	NR	NR-S	T
glyphosate ²	S(D)	S(D)	S	S	S	S
imazaquin	NR-S	T	T	NR-I	T	T
MCPA + mecoprop + dichlorprop	T	T	I	I	I	T
mecoprop	T	T	S-I	I	S-I	T
metribuzin	NR-I	T	NR-S	NR-S	NR-S	NR-S
metsulfuron	NR-S	T	T	NR	T	I-T
pronamide	NR	T	NR	NR	NR	NR
sethoxydim	NR-S	NR-S	T	NR-I	NR-S	NR-I

T= Tolerant at labeled rates I= Intermediate tolerance; use at reduced label rates S= Sensitive; do not use this herbicide D= Dormant applications recommended NR=Not registered for use on this turfgrass ¹Labeled only on 'Tifway' (419) bermudagrass and St. Augustinegrass

² Bahiagrass and bermudagrass are tolerant to glyphosate when completely dormant.

Source: Dr. Murphy

continued on page 16