

# Post-emergence weed control in warm-season turfgrasses

by Tim R. Murphy, Ph.D.

■ Pre-emergence herbicides are invaluable for providing effective control of common annual weeds such as crabgrass and goosegrass. However, most turfgrass sites are infested with weeds that are not controlled by pre-emergence herbicides.

Fortunately, warm-season turfgrass managers have a wide array of post-emergence herbicides which can be used to control these problem weeds. A complete chemical weed control program can usually be based on post-emergence herbicides. However, multiple applications are commonly needed and 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 a pre-emergence herbicide.

A successful post-emergence weed control program depends on well-maintained turf. Use of recommended fertility programs, water requirements, mowing heights and schedules, and disease and insect control will greatly increase turf competition against weeds. It will also improve the tolerance of warm-season turfgrass to post-emergence herbicides and increase the effectiveness of the post-emergence weed control program.

Numerous herbicides are available to control emerged weeds in warm-season turfgrasses (Table 1). However, several factors must be considered in selecting the appropriate herbicide.

**Turfgrass tolerance**—The single most important factor in selecting a post-emergence herbicide is the tolerance of the turfgrass to the herbicide.

Warm-season turfgrass species differ in their tolerance to post-emergence herbicides. For example, bermudagrass has good tolerance to MSMA and DSMA. However, carpetgrass, centipedegrass and St. Augustinegrass are severely injured by these herbicides. Additionally, cultivars within a species may respond differently to the same herbicide. Meyer zoysiagrass has better tolerance to MSMA than Emerald or Matrella. Refer to the product label to determine if the herbicide may be used on a particular turfgrass species.

Correct weed identification is a prerequisite for selecting an appropriate herbicide. After the weed has been identified, review the label to determine if the herbicide will control the problem weed. Reference to land grant university weed control guides may show the effectiveness of herbicides in controlling weed species that are not listed on the herbicide label.

**Application frequency**—For some herbicides, a repeat application is necessary to effectively control the weed. For example, two applications of MSMA, at a

seven- to 10-day interval, are necessary to control crabgrass in bermudagrass. In contrast, one application of Vantage will usually control crabgrass in centipedegrass.

Other than athletic fields and sod farms, turfgrasses are rarely grown as the sole plant in the landscape. Ornamentals may be injured by herbicide spray and vapor drift or by root absorption of some herbicides. Ester formulations of the phenoxy herbicides (2,4-D, dichlorprop) easily volatilize during warm temperatures and can injure sensitive ornamentals by vapor drift.

Their use should be avoided during the warm months of the year on or near sites that contain ornamentals.

Spray drift damage can be prevented by spraying when the wind velocity is less than 5 mph, and by selecting a nozzle tip and spray pressure that produces large spray droplets.

Atrazine (Aatrex), dicamba (Banvel) and dicamba-containing herbicides can injure broadleaf ornamentals via root uptake, particularly on sandy soils if rainfall occurs immediately after application. Avoid the use of these herbicides over the root zone of shrubs and small trees.

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Purple nutsedge



Wild garlic



Virginia buttonweed

**Table 1. Names of warm-season turfgrass post-emergence herbicides<sup>1</sup>**

Common name	Trade name(s)	Uses
asulam	Aulox	grass weed control in St. Augustinegrass
atrazube	Aatrex, others	pre- and post-broadleaf and grass weed control
bentazon	Basagran T/O	primarily used for yellow nutsedge control
bentazon + atrazine	Prompt	yellow nutsedge and broadleaf weed control incentipede grass, St. Augustine grass and zoysiagrass
bromoxynil	Buctril	broadleaf weed control
2,4-D	numerous formulations	broadleaf weed control
2,4-D + dicamba	Eight-One	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; Trimec 992; 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 <sup>2</sup>	Iloxan	goosegrass control in golf course bermudagrass
diquat	Reward	winter annual weed control in dormant bermuda grass
DSMA	numerous formulations	grass weed control in bermudagrass and zoysiagrass
ehofumesate	Prograss	pre- and early post- <i>poa annua</i> (annual bluegrass) control in overseeded bermudagrass. Common bermuda grass suppression in St. Augustine grass
fenoxaprop	Acclaim	annual grass weed control and suppression of bermudagrass in zoysiagrass
glyphosate	Roundup	winter annual weed control in dormant bermudagrass and bahiagrass
haalosulfuron	Manage	controls yellow and purple nutsedge
imazaquin	Image	nutsedge and wild garlic control in warm-season turfgrasses (except bahia grass). Also controls certain annual broadleaf weeds.
mecoprop	Mecomex; Lescopex	broadleaf weed control
mecoprop + 2,4-D + dicamba	Southern Trimec Trimec Bent	broadleaf weed control
MCPA + mecoprop + dicamba	Trimec Encore, Encore DSC	broadleaf weed control
MCPA + mecoprop + dichlorprop	Weedestroy Triamine II, Weedestroy Tri-Ester II	broadleaf weed control
metribuzin	Sencor Turf	goosegrass control in bermudagrass. Also controls prostrate spurge, winter annual 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 T/O	annual bluegrass control in bermuda grass
sethoxydim	Vantage	annual grass control and suppression of bahiagrass in centipede grass
triclopyr + clopyralid	Confront	broadleaf weed control in bermudagrass, centipede grass & zoysiagrass

<sup>1</sup> Refer to the herbicide label for a complete listing of tolerant turfgrasses and labeled application sites.

<sup>2</sup> Diclofop-methyl has a state label for use in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina and Texas.