

# Herbicides

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**YEARS OF RESEARCH** are completed before herbicides become available for sale. When used properly, most of the herbicides available in today's market are highly effective. It is integral that these materials be applied according to label instructions using calibrated equipment. Failure to do so can lead to poor performance and wasted revenue. Proper herbicide use is also incumbent upon applying the product at a time of year when it has shown to be most effective. For example, most preemergence herbicides will not effectively control crabgrass (*Digitaria* spp.) when applied after crabgrass plants have emerged from the soil. Be sure to consult a

cooperative extension specialist from a local university for more information on proper herbicide application timing.

Although herbicide applications provide effective weed control, implementing proper cultural practices will also help prevent future weed infestations. Weeds only invade turf stands if there is a void in the canopy in which to do so. Turf managers should ensure that everything possible is being done to maintain dense, vigorous turf growth. Practices such as selecting traffic-tolerant cultivars, applying fertilizers to meet soil test recommendations, sufficiently irrigating to meet plant needs, mowing at a proper height of cut, and aerifying regularly all serve to maximize turf vigor and density, consequently reducing the likelihood of weed infestations. Implementing proper cultural practices to provide plant competition against weeds is essentially a means of preventative weed control. In many cases, increased plant competition from combining herbicide applications with cultural practices like aeration or fertilization can lead to greater weed control than simply applying herbicides by themselves.

Chemical manufacturers seem to be aware of the challenges faced by

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### BASF Professional Turf & Ornamental ([www.betterturf.com](http://www.betterturf.com))

Product Name	Active Ingredient	For use in/on
Onetime	Dicamba, MCPP-P, Liquid Quinclorac	Barnyardgrass, Crabgrass, Dollarweed, English Daisy, Foxtail, Ground Ivy, Kikuyugrass, Oxalis, Speedwell, Spurge, Torpedograss, Virginia, Buttonweed, Wild Garlic/Onion, Wild Violet.
Drive XLR8	Liquid Quinclorac	Bindweed, Clover, Crabgrass, Dandelion, Dollarweed, Foxtail, Kikuyugrass, Signalgrass, Speedwell, Torpedograss.
Pendulum AquaCap	Pendimethalin	Field Sandbur, Woolly Cupgrass, Lawn Burweed, Hop Clover, Cudweed, Evening Primrose, Fiddleneck, Filaree, Puncturevine, Pennsylvania Smartweed, Annual Spurge, Chickweed Species, Yellow Woodsorrel.

### Bayer Environmental Science ([www.BackedbyBayer.com](http://www.BackedbyBayer.com))

Product Name	Active Ingredient	For use in/on
Acclaim Extra	Fenoxaprop-p-ethyl	Crabgrass and goosegrass
Celsius	Iodosulfuron-methyl-sodium, thiencazuron-methyl, dicamba	Grassy and broadleaf weed control in warm-season turf
Finale	Glufosinate-ammonium	Non-selective broad-spectrum grassy and broadleaf weed control
Prograss	Ethofumesate	Poa annua control and bermudagrass suppression in St. Augustine
Revolver	Foramsulfuron	For control of cool-season grasses such as poa and goosegrass
Ronstar	Oxadiazon	Goosegrass, crabgrass, annual bluegrass
Sencor	Metribuzin	Goosegrass, broadleaf weed control

### Dow AgroSciences ([www.DowAgro.com](http://www.DowAgro.com))

Product Name	Active Ingredient	For use in/on
Confront	Triclopyr/Clopyralid	Post-emergence control of 35 difficult to control broadleaf weeds.
Dimension	Dithiopyr	Pre- and post-emergence control of crabgrass; preemergence control of 40 annual grassy and broadleaf weeds.
Gallery	Isoxaben	Preemergence control of 95 broadleaf weeds, including dandelion, clover, plantain and thistle.
Kerb	Pronamide	Pre- and early post-emergence control of Poa annua and other grassy and broadleaf weeds.
LockUp	Penoxsulam	Post-emergence control of key broadleaf and grassy weeds, including white clover and dollarweed.
Lontrel	Clopyralid	Post-emergence control of broadleaf weeds, including clover and thistle.
Scythe	Pelargonic Acid	Non-selective post-emergence control of annual and perennial grasses, weeds and mosses.
Snapshot	Trifluralin/Isoxaben	Preemergence control of 111 broadleaf and grassy weeds in landscape ornamentals.
Team Pro	Benefin/Trifluralin	Preemergence control of broadleaf and grassy weeds.
Turfion Ester	Triclopyr	Broad-spectrum post-emergence control of hard-to-control weeds, including oxalis, wild violet, spurge and ground ivy.

### DuPont Professional Products ([www.proproducts.dupont.com](http://www.proproducts.dupont.com))

Product Name	Active Ingredient	For use in/on
TranXit	Rimsulfuron	Spring use of TranXit controls ryegrass to give bermudagrass the opportunity for more rapid and complete reestablishment after winter dormancy. Then follow-up with a fall application of TranXit to control annual bluegrass prior to overseeding for the winter.

turf managers and have begun to produce new herbicides designed on maximizing the effectiveness of a single herbicide application. These herbicides typically combine two or more active ingredients that have been sold individually into a single formulated product. Examples include Solitare (sulfentrazone + quinclorac) and Onetime (quinclorac + MCPP + dicamba). Both of these products offer postemergence control of crabgrass (*Digitaria* spp.) and various broadleaf weeds with a single application. Using a product with a wide weed control spectrum will reduce the number of herbicide applications required during the season.

Tenacity (mesotrione) is an herbicide that exhibits activity against broadleaf and

grassy weeds in cool-season turfgrass.

Although this product has been labeled for use on golf courses for several years, new labeling will allow for use on sports fields beginning in 2010 (D. Shepard and D. Mosdell, personal communication).

Individuals managing cool-season sports turfs will benefit greatly from this new labeling in that Tenacity will provide an option for both broadleaf and grassy weed control during the seeded establishment of tall fescue (*Festuca arundinacea*), Kentucky bluegrass (*Poa pratensis*), and perennial ryegrass (*Lolium perenne*). Research at the University of Tennessee has observed that sequential applications of Tenacity provide more effective control of crabgrass, goosegrass (*Eleusine*

*indica*), and winter annual broadleaf weeds than single applications.

The guide that follows details many of the herbicides labeled for use on warm- and cool-season turf. Always refer to the product label for specific information on proper product use, tank-mix compatibility, and turfgrass tolerance. For more information on turfgrass weed control in the transition zone, visit <http://tennesseeturfgrass.weeds.org>. ■

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## FMC Professional Solutions ([www.fmcprosolutions.com](http://www.fmcprosolutions.com))

Product Name	Active Ingredient	For use in/on
<b>Echelon</b>	Sulfentrazone + Prodiamine	Preemergence crabgrass, sedge, and goosegrass. Fall applications for the control of poa annua.
<b>Dismiss</b>	Sulfentrazone	Warm and cool season turf: Fast, visible postemergence control of sedges, including yellow nutsedge, purple nutsedge (2 apps), and green kyllinga.
<b>Dismiss South</b>	Sulfentrazone + Imazethapyr	Warm season turf (excluding St. Augustine). Fast, visible postemergence control of sedges, with a focus on purple nutsedge.
<b>Dismiss CA</b>	Sulfentrazone	Fast, visible postemergence control of sedges, including yellow nutsedge and green kyllinga.
<b>Solitare</b>	Sulfentrazone + Quinclorac	Postemergence sedges, crabgrass, and broadleaf weeds in a single product.
<b>QuickSilver</b>	Carfentrazone	Silvery Thread Moss (more golf related). Broadleaf tank-mix partner to speed up the results of other products.

## SipcamAdvan ([www.sipcamadvan.com](http://www.sipcamadvan.com))

Product Name	Active Ingredient	For use in/on
<b>Atrazine</b>	Atrazine	Season-long control of annual grassy and broadleaf weeds in warm-season turf, conifers and ornamentals.
<b>Cavalcade PQ</b>	Prodiamine, Quinclorac	Preemergence and extended postemergence control of grassy and broadleaf weeds.
<b>Cavalcade 65WDG</b>	Prodiamine	Long-residual preemergence control of 30 grassy and broadleaf weeds, including crabgrass, Poa annua, goosegrass, prostrate spurge, common purslane and knotweed.
<b>Eject 4L</b>	Quinclorac	Extended postemergence control of grassy and broadleaf weeds, such as crabgrass (including mature plants), foxtail, barnyardgrass, clover, dandelion, black medic, wild violet and others.
<b>Sim-Trol</b>	Simazine	Both preemergence and postemergence control of nearly 50 annual grassy and broadleaf weeds in warm-season turfgrass and ornamental.

## Syngenta ([www.greencastonline.com](http://www.greencastonline.com))

Product Name	Active Ingredient	For use in/on
<b>Fusilade II</b>	Fluazifop-P-butyl	Controls a long list of both perennial and annual grass weeds in a variety of turf and landscape areas. Extremely fast and effective, and can be applied over-the-top or as a directed spray without damaging valuable ornamental plantings. It can also be used at reduced rates to safely remove Bermudagrass from tall fescue and zoysia grass.
<b>MonumentR 75WG</b>	Trifloxysulfuron-Sodium	Selective post-emergent herbicide for the control of sedges, certain grasses and broadleaf weeds in bermudagrass and zoysiagrass. May be applied to bermudagrass and zoysiagrass on golf courses, sod farms, sports fields, residential properties (except in California) including home lawns, and other non-residential turf areas.
<b>DepartureTM</b>	Glyphosate	A nonselective foliar systemic herbicide for control of a broad spectrum of emerged annual and perennial grass and broadleaf weeds and unwanted woody brush and trees. It can be used in a wide range of nonagricultural use areas.

Always read the label. Visit [www.greencastonline.com/prod/index.aspx](http://www.greencastonline.com/prod/index.aspx) for label information and additional details about each product.

## Valent Professional Products ([www.valent.com/professional](http://www.valent.com/professional))

Product Name	Active Ingredient	For use in/on
<b>SureGuard</b>	Flumioxazin	Provides excellent, long-lasting preemergent control of annual broadleaf and grassy weeds such as bittercress, chickweed, groundsel, spurge, oxalis, crabgrass and many others.
<b>BroadStar</b>	Flumioxazin	BroadStar is an odorless and dust-free granular preemergence herbicide that eliminates a broad spectrum of annual broadleaf and grassy weeds such as spurge, bittercress, oxalis, common groundsel and crabgrass, among many others.
<b>Velocity</b>	Bispyribac-sodium	Gradually eliminates Poa annua and Poa trivialis from creeping bentgrass and effectively transitions a Poa-dominated mixed stand of turf to pure bentgrass. Also suppresses dollar spot and controls other broadleaf weeds.