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Weed Control for Kentucky Home Lawns

G.C. Munshaw, M. Barrett, and J.D. Green, Plant and Soil Sciences

Cultural weed control practices—let your lawn control the weeds!

The best defense against weed problems in home lawns is a healthy and dense lawn. In thick lawns, weed seeds may not germinate because light may never reach the soil surface. A thick lawn is competitive with weeds, keeping them from growing and reproducing. Developing a healthy and dense lawn comes from using cultural practices such as proper grass species and cultivar selection, proper mowing heights and fertilization, and other good management practices. The need for herbicides to control weeds in home lawns can be greatly reduced if the lawn is well maintained.

There are instances, however, when weeds escape and more aggressive control tactics are necessary. Even in well-maintained lawns, weeds can become a problem. Some weeds adapt to lawn management practices, and diseased or drought-stressed lawns can result in thin turf and create openings for weed germination. Control tactics can include herbicide applications or physical removal of the weeds. In small areas, or if the weed infestation is not severe, physical removal is the control method of choice. However, an herbicide application can provide the lawn a better chance of successfully competing with weeds.

The first step if you decide to use an herbicide is to know your weeds. What species are you trying to control, and what are their life cycles? For example, knowing you are trying to control smooth crabgrass and that it typically germinates in early to mid-April in Kentucky gives you a target window to apply an herbicide that kills this grass as its seeds begin to germinate. Knowing the life cycle also allows for the best timing of herbicide applications on young weed seedlings. For all weeds, herbicide treatment when the weeds are young will result in the easiest and best opportunity for control using the least amount of herbicide.

Some herbicides are packaged with a fertilizer as a "weed and feed" product. These products should be avoided in the spring for cool-season lawns, which are composed of tall fescue, Kentucky bluegrass, and perennial ryegrass. In Kentucky it is recommended that fertilizer should not be applied to these lawns in the spring. Spring and summer fertilizer applications lead to increased lawn disease and weed infestations. The best time of year to fertilize cool-season lawns is in the fall.

Recommended time of year for herbicide applications on target weeds

Season		Target weeds
Spring	March-late April March-May	Crabgrass and other annual grasses pre-emerge Broadleaf post-emerge[1]
Summer	May-August	Grass and grasslike post-emerge[1]
	July/August	Broadleaf spot treat[1]
Autumn	September/October	Broadleaf post-emerge[1,2]
Winter	November-January	Broadleaf spot treat[1]

[1] If problem weeds are present.

[2] Warm-season lawns (bermudagrass or zoysiagrass) may require a fall pre-emergent application to reduce winter annual weeds in the dormant lawn.

Trade names and active ingredients

Trade name	Active ingredients	
	Common name	Chemical name[1]
Hi-Yield 2,4-D Selective Weed Killer	2,4-D	Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
Roundup	glyphosate	*N*-(phosphonomethyl)glycine

[1] The chemical name describes the chemical structure. Selecting the right herbicide can be difficult for products that list only the chemical name on the label. To determine the contents of the product, consider cross-referencing with labels of familiar products or consult your cooperative extension agent for assistance. See appendix B for a partial list of common and chemical names of ingredients of homeowner herbicides.

Publications detailing healthy lawns from the University of Kentucky

Lawn Fertilization in Kentucky (AGR-53) at http://www.ca.uky.edu/agc/pubs/agr/agr53/agr53.htm.

Turf Care Calendar for Kentucky Bluegrass, Tall Fescue, and Perennial Ryegrass Turf (AGR-55) at http://www.ca.uky.edu/agc/pubs/agr/agr55/agr55.pdf.

Home Lawn Irrigation (ID-79) at http://www.ca.uky.edu/agc/pubs/id/id79/id79.htm.

Low-Maintenance Lawn Care, Stressing Pest Avoidance and Organic Inputs (ID-154) at http://www.ca.uky.edu/agc/pubs/id/id154/id154.pdf.

Types of weeds—know your enemy!

The vast majority of home lawn weeds in Kentucky are either annuals or perennials. Annual weeds complete their life cycle—germinating, maturing, flowering, and setting new seeds—in one growing season. Annual weeds can be either winter annuals or summer annuals. Winter annual weeds typically germinate during the fall, mature over the winter and early spring, and then flower, set seed and die in late spring/early summer. Summer annual weeds germinate in the spring, mature during the summer, then flower and set new seed before dying during the fall. Perennial weeds can live for multiple growing seasons. Some perennials are considered cool-season or warm-season plants due to the time of year when their growth is most prevalent. Most perennial plants can reproduce both by vegetative structures (e.g. roots and stolons) and by seed. Biennial weeds (completing their life cycle within two growing seasons) exist but rarely cause problems in Kentucky lawns.

Weeds can be further separated or classified into different groups by their general growth habits. Grassy or grasslike weeds are monocots (one leaf emerges from the soil). Broadleaf weeds are dicots (two leaves emerge from the soil). Herbicides differ in spectrum and in the types of weeds that they control. Knowing whether you are dealing with a winter or summer annual or a perennial and whether the plant is a grassy or broadleaf weed is one of the first steps in choosing the proper herbicide control strategy.

Weeds controlled and common herbicides available at garden centers

Annual grassy weeds—pre-emerge products

Weeds	Herbicide common name	Application timing
Crabgrass Foxtail Goosegrass	benefin + trifluralin dithiopyr pendimethalin prodiamine trifluralin siduron[1]	In southern KY before April 1. In northern KY before April 15. A four-to six-week repeat application will extend control. If goosegrass is the main target weed, apply second application in mid-May.

[1] Commonly applied during spring lawn establishment. Do not apply to bermudagrass lawns.

Annual grassy weeds—post-emerge herbicides

Weeds	Herbicide common name	Application timing
Crabgrass Foxtail Goosegrass	fenoxaprop[1] quinclorac	Best results are obtained when applications are made when weeds are young, tender, and at a rapid stage of growth. Peak germination typically occurs in earl April to early May, depending on location in KY. However, annual grassy weeds may germinate at any time during the growing season.

[1] Not for use on bermudagrass lawns.

Perennial grassy weeds—post-emerge herbicides (nonselective)

Weeds	Herbicide common name	Application timing
Bermudagrass Bentgrass patches Dallisgrass Johnsongrass Nimblewill Orchardgrass Quackgrass Tall fescue clumps	glyphosate[1] fenoxaprop[1,2]	Apply when target grasses are actively growing with adequate soil moisture. Glyphosate will kill all species—desired and undesired alike. Killed areas must be reseeded or resodded with desirable grass. Repeated applications will be required for adequate bermudagrass and nimblewill control before re-establishment, regardless of herbicide used.

[1] Glyphosate is a much more effective herbicide at controlling hard to kill weeds, such as those listed in this table. Repeat applications will likely be necessary when using fenoxaprop.

[2] Suppresses bermudagrass.

Types of herbicides—choose the right tool!

Herbicides available for use in home lawn weed control can be classified by when they are applied—either before or after weeds appear—and whether they are selective or nonselective. A pre-emergent herbicide is applied before weeds appear and controls them as the seed germinate. A common misconception is that pre-emergent herbicides kill weeds before they germinate. Actually, pre-emergent herbicides form a residual barrier in the upper soil layer and must be applied prior to weed seed germination to be effective. When seeds germinate and young weed seedlings begin to grow near the soil surface, the seedling comes in contact with the herbicide barrier. The herbicide is then taken into the plant, and the weed dies. Lawn grasses with established root systems are unaffected by the herbicide barrier.

Selective post-emergent herbicides are applied after weeds germinate and plants are visible. These herbicides are most effective when applied to young, actively growing weeds. Most pre-emergent and post-emergent herbicides selectively control the undesired species without damaging the turf. Nonselective herbicides, usually applied post-emergent, often will injure or kill all plants within the treated area, both desirable and undesirable ones that come in contact with the herbicide. Nonselective herbicides are typically reserved for spot treatments or total renovation of an area.

Spot treating weeds is typically performed with a handheld sprayer. This method of weed control can be very effective and uses less herbicide. However, because non-selective herbicides will kill your desired lawn species as well as the weeds, the application must be carefully controlled to keep these spots as small as possible.

Reading the label—get the information you need!

The packaging of an herbicide will include the trade name of the product, generally in large print, and the actual herbicide common and/or chemical name(s) listed in finer print under "Active Ingredients." The trade name is a name that the company selling the product uses for marketing. The common name represents the accepted name for the herbicide active ingredient; the chemical name for a herbicide is descriptive of the active ingredient within the product.

Many herbicide products sold for use in home lawns contain more than one herbicide ingredient. Including multiple herbicides in one product often broadens the number of weeds controlled and makes selection of which product to use much easier. The same herbicide ingredients can often be found in several different products under different trade names sold by the same and different companies. For example, the chemical name "glyphosate" may be marketed as Roundup, Roundup Pro, Kleenup, Knock-Out, Pronto Big N'Tuf, or under many other trade names. Also, under the same product trade name the application rate can vary depending on the concentration of the herbicide active ingredient(s) in the formulation.

Selecting the appropriate herbicide can be difficult because several herbicide products have the same active ingredient but are marketed under different trade names. Since the same herbicide active ingredients can be available under different trade names, the listing of herbicides to use for different weeds is based on the common name of herbicide ingredients, not their trade names. (See Appendix A for a partial list of homeowner products.) Occasionally you will only find the chemical name listed on the herbicide label. You may be able to figure out which active herbicide ingredients the chemical name is referring to by looking at other labels or talking to your cooperative extension agent. (See Appendix B for a partial list of common chemical names.)

Weeds controlled and common herbicides available at garden centers

Other grasslike weeds—post-emerge herbicides

Weeds	Herbicide common name	Application timing
Yellow nutsedge	halosulfuron-methyl[2] sulfentrazone[3] bentazon	Apply when nutsedge is actively growing with adequate soil moisture. Yellow nutsedge will be visible beginning in the spring/early summer.
Star-of-Bethlehem[1]	sulfentrazone[3] carfentrazone + 2,4-D + mecoprop + dicamba	Very few herbicidal control options are available for use by homeowners. Treatments should be applied in the spring to actively growing weeds. Repeat applications may be necessary.
Wild garlic	2,4-D + dicamba + mecoprop imazaquin[4]	Very few herbicidal control options are available for use by homeowners. Herbicides should be applied in the fall and late winter combined with good cultural practices to thicken the stand of lawn grasses. This weed will likely take several years of treatment to fully control

1 Star-of-Bethlehem is a very difficult to control weed and will likely need high rates to control.
2 Although available to homeowners, this herbicide is best left to professionals.
3 May also provide some soil-residual control (remains in the soil for some period following application).
4 Do not apply to bermudagrass lawns during spring greenup.

Winter broadleaf weeds—post-emerge herbicides

Weeds	Herbicide common name	Application timing[1]
Chickweed[2] Dandelion Ground ivy[2,3] Henbit[2] Speedwell Thistles (biennial) White clover[2]	2,4-D 2,4-D + dicamba 2,4-D + dichlorprop (2,4-DP) 2,4-D + mecoprop (MCPP) 2,4-D + dicamba + mecoprop quinclorac sulfentrazone triclopyr	Treatments may be made from March to May or from August to early November. Apply when weeds are small and actively growing.

1 Spray drift and volatility from certain broadleaf herbicides may injure desirable landscape plants. Avoid spraying during windy conditions or when weather is hot and humid.
2 Will not be effectively controlled by 2,4-D alone.
3 Products containing triclopyr may improve control.

Summer broadleaf weeds—post-emerge herbicides

Weeds	Herbicide common name	Application timing[1]
Annual lespedeza[2,3] Black medic[2] Carpetweed Ground ivy[2,3] Knotweed[2] Plantains Spurge[2] White clover[2] Wild violet[2,3] Yellow woodsorrel[2]	2,4-D 2,4-D + dicamba 2,4-D + dichlorprop 2,4-D + mecoprop 2,4-D + dicamba + mecoprop quinclorac sulfentrazone triclopyr	Apply treatments in spring or early summer following weed emergence. Apply when weeds are small and actively growing. Follow-up applications may be needed.

1 Spray drift and volatility from certain broadleaf herbicides may injure desirable landscape plants. Avoid spraying during windy conditions or when weather is hot and humid.
2 Will not be effectively controlled by 2,4-D alone.
3 Products containing triclopyr may improve control..

The herbicide label contains information on proper use of the product, signal words as well as cautionary statements on how to protect the applicator, desirable plants, and the environment. Extreme care should be taken to avoid spray drift; vapors of some herbicides can damage desirable plants. Furthermore, some herbicides applied over exposed tree roots may damage trees. The information on the label is mandated by the federal government through the EPA and is the law. *Always read the label and follow directions carefully.*

Conclusion

Remember that the best defense against weeds is a healthy lawn. Using good management practices may make herbicides unnecessary, but if you experience weed problems, you may choose to apply an herbicide to give your lawn a fighting chance to successfully compete with the weeds. You must identify the kind of weed you want to control so that you can choose the herbicide that will be effective in your environment. Read the herbicide labels and rely on your county extension agent for assistance.

Appendix A.

Selected trade names of common homeowner herbicides

Many homeowner products contain several herbicides to increase the spectrum of weeds controlled. The following tables list the main herbicide(s) in a product relative to its trade name, or the herbicide active against a specific weed. Many pre-emerge herbicides come packaged with a fertilizer. These products are not recommended as spring applied fertilizer can result in greater weed and disease problems. Cool-season home lawns in Kentucky should be fertilized in the autumn.

Pre-emerge herbicides for lawns

Herbicide common name	Trade names
benefin + trifluralin	Team Team Pro Hi-Yield Crabgrass Control
dithiopyr	Dimension Hi-Yield Ornamental Weed & Grass Stopper Preen Crabgrass Preventer Sta-Green Crab-Ex
pendimethalin	Scotts Halts Crabgrass Preventer Lesco Pre-M
prodiamine	Barricade, StaGreen Crabgrass Preventer
siduron	Tupersan

Post-emerge grass herbicides for lawns

Herbicide common name	Trade names
fenoxaprop	Bayer Advanced Bermudagrass Control for Lawns Bayer Advanced Crabgrass Killer for Lawns
glufosinate	Finale
glyphosate	Eraser Hi-Yield Killzall Weed and Grass Killer Pronto Big N'Tuf Roundup Ultra-Kill Weed & Grass Killer
quinclorac	Bayer Advanced Lawn Weed & Crabgrass Killer Bonide Weed Beater Plus Crabgrass Control Drive Ortho Weed B Gon Max Plus Crabgrass Control

Post-emerge other grasslike weed herbicides for lawns

Herbicide common name	Trade names
bentazon	Basagran T/O Hi-Yield Basagran
halosulfuron	Hi-Yield Nutsedge Control Sedgehammer
imazaquin	Image
sulfentrazone	Bonide Sedge Ender Bonide Weed Beater Complete Dismiss Ortho Nutsedge Killer for Lawns

Post-emerge broadleaf weed herbicides for lawns

Herbicide common name	Trade names
2,4-D	Hi-Yield 2,4-D Amine No.4 Hi-Yield 2,4-D Selective Weed Killer
2,4-D + dicamba	Ultra Turf Lawn Weed Control
2,4-D + dichlorprop	Weed Whacker
2,4-D + mecoprop	Ortho Weed B Gon Lawn Weed Killer
2,4-D + dicamba + mecoprop	Bayer Advanced Weed Killer for Lawns Bonide Weed Beater Lawn Weed Killer Fertilome Weed-Out Broadleaf Weed Control Hi-Yield Lawn Weed Killer Ortho Weed B Gon Lawn Weed Killer Preen Weed Control Spectracide Weed Stop for Lawns Trimec Classic
carfentrazone + 2,4-D + mecoprop + dicamba	Speedzone
quinclorac	Bayer Advanced Lawn Weed & Crabgrass Killer Bonide Weed Beater Plus Crabgrass Control Drive Ortho Weed B Gon Max Plus Crabgrass Control
sulfentrazone	Bonide Sedge Ender Bonide Weed Beater Complete Dismiss Ortho Nutsedge Killer for Lawns

Appendix B.

Common and chemical names for common homeowner herbicides

Herbicide common name	Chemical name
2,4-D	dimethylamine salt of (2,4-dichlorophenoxy) acetic acid[1]
benefin	N-butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl) benzenamine
bentazon	3-(1 methylethyl)-1H-2, 1,3-benzothiadiazin-4(3H)-one 2,2-dioxide
dicamba	3,6-dichloro-2-methoxy benzoic acid
dichlorprop	2-(2,4-dichlorophenoxy)propanoic acid
dithiopyr	S,S-dimethyl 2-(diflouromethyl)-4-(2-methylpropyl)-6-(triflouromethyl) 3,5-pyridinedicarbothioate
fenoxaprop	(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]propanoic acid
glufosinate	2-amino-4-(hydroxymethylphosphinyl)butonic acid
glyphosate	isopropylamine salt of N-(phosohonomethyl)glycine[1]
halosulfuron-methyl	methyl 3-chloro-5-[[[[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]amino]sulfonyl] 1-methyl-1H- pyrazole-4- carboxylate
imazaquin	2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-quinolinecarboxylic acid
mecoprop	2-(4-chloro-2-methylphenoxy)propionic acid
pendimethalin	N-(1-ethylpropyl)-3,4-dimethyl-2,6-dnitrobenzenamine
prodiamine	2,4-dinitro- N3,N3-Di-n-propyl-6-(trifluoromethyl)-1,3-benzenediamine
quinclorac	3,7-dichloro-8-quinolinecarboxylic acid
siduron	N-(2-methylcyclohexyl)-N′-phenylurea
sulfentrazone	N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide
triclopyr	3,5,6-trichloro-2-pyridinyloxyacetic acid
trifluralin	2,6-dinitro-N, N-dipropyl-4-(trifluoromethyl) benzenamine

[1] Most common form but other salts available.

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