

Identification and Control of Perennial Grassy Weeds

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Perennial grasses are considered weeds when they disrupt the uniformity of a turf area with their different colors, textures, or growth habits compared to the desired species. Perennial grassy weeds are difficult to identify. Once identified, perennial grassy weeds are often difficult to control because there are few if any effective selective herbicides, and the nonselective herbicides require multiple applications. In many cases, perennial grassy weeds should simply be tolerated because they would be too difficult to control.

Perennial grasses can be grouped by their growth habit. Bunch grasses are those grasses that do not spread vegetatively, whereas spreading grasses can spread up to a foot or more every season via rhizomes and/or stolons. Bunch grasses can usually be dug out of the turf or controlled with a single application of the non-selective herbicides glyphosate or glufosinate. Conversely, spreading grasses can only be controlled by the systemic herbicide glyphosate, but multiple applications are required to effectively control the rhizomes or stolons.

Perennial grassy weeds can be further grouped by their lifecycle. Cool-season grasses stay green almost throughout the year, depending on where you live in Indiana. Warm-season grasses green-up in early summer, grow actively throughout the summer, and turn brown with the first frost. Understanding the lifecycles is important because cool-season weeds can be controlled almost throughout the year, whereas warm season grasses can be controlled by applications in June through early September.

Bunch-Type Grasses

Tall fescue is a coarse-textured grass,

often used as a primary turf species. Tall fescue infestations often result from contamination in a lower quality seed source. **Orchardgrass** is also a bunch-type grass like tall fescue, with a coarse, upright growth habit and also results from seed contamination. Both tall fescue and orchard grass are cool-season grasses.

When there are few weedy patches, bunch-type grasses can best be cut out with a shovel. Be sure to cut down three to four inches into the soil to get all the stems. The holes should be refilled and seeded or sodded immediately. The seed and soil should be representative of that already in the area. If the area has a large number of these weeds, chemical control will be more efficient. A nonselective systemic herbicide such as glyphosate (Roundup® or Kleenup®) or glufosinate (Finale®) can be spot-applied. These herbicides will also kill the desired turf species, so be careful during application. The area should be reseeded 5 to 7 days following application. Stir up the soil by raking or chopping to insure good seed-soil contact. Refer to AY-13, "Turfgrass Renovation," for further information concerning renovation.

Chlorsulfuron is a selective herbicide registered for the control of tall fescue in many turf species. Chlorsulfuron is available to professional turf managers but not available to homeowners. However, professionals can be hired to apply chlorsulfuron. Spot-apply chlorsulfuron according to label instructions. The tall fescue will gradually thin and die, allowing the desired species to fill in. Reseeding should not be needed. Do not apply chlorsulfuron to perennial ryegrass because it is very susceptible to chlorsulfuron damage.

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Spreading Grasses

Creeping bentgrass is a desirable species on golf courses greens, tees, and fairways but is considered a weed in higher-mowed turfs. It is often found in dense circular patches growing over the top of the desired species via stolons (above-ground stems). **Quackgrass** tends to form slightly thinner patches than creeping bentgrass. Quackgrass has an extensive underground growth habit (rhizomatous) and it is easily distinguished by its clasping auricles. **Rough bluegrass** or *Poa trivialis* is a relatively new perennial grassy weed. It is a result of seed contamination and forms shiny green patches in lawns and athletic fields. Creeping bentgrass, quackgrass, and rough bluegrass are cool-season grasses.

Nimblewill is a weed that resembles creeping bentgrass but tends to form thinner patches than creeping bentgrass. Since nimblewill is a warm-season grass, it will turn brown at the first frost and is very slow to green-up in the spring. The brown patches seen in lawns in the early spring may be nimblewill contamination. Spread is mostly due to seeds produced in the early fall. **Bermudagrass** is another warm-season grass that thrives in warm temperatures and will outcompete other desirable species during the summer months. It is often planted as a desirable turf on golf courses and athletic fields in Indiana. Bermudagrass is classified as a weed because it is slow to green up in the spring and turns brown at the first frost. Bermudagrass is extremely aggressive and spreads rapidly with creeping flat stolons and/or scaly rhizomes that root at the nodes. **Zoysiagrass** resembles bermudagrass, but it greens-up about two weeks earlier in the spring and stays greener two weeks longer in the fall compared to bermudagrass. It is also slightly slower-growing than bermudagrass. Zoysia is one of the best grasses for golf course fairways in southern Indiana, but is usually considered a

weed in lawns.

Control of spreading grasses is usually attempted with a nonselective systemic herbicide like glyphosate. Glufosinate, on the other hand, is not systemic in the plant and will not provide effective control of spreading grasses. Best results are seen when the weedy plants are young, fully green, actively growing, and not under drought stress. The mother plants are easily killed, but often the weed will regrow from the stolons or rhizomes. To overcome this, more than one application is recommended. One must allow the weed to regrow before the next application. At least two applications are recommended, but three or more may be needed. One must realize that the area will be dead and unsightly for a number of months if optimum control is desired. Controlling warm season grasses should be initiated shortly after green-up in the summer, whereas control of cool season plants can be started in spring, summer, or early fall.

If there is only a small number of weeds, spot applications can be made with a wick applicator or a small sprayer. Reseeding can take place five to seven days following final herbicide application. This method can be effective, but undetected weeds will continue to spread across the area. Once the area has been infested with a large number of weeds, killing the entire area will be most effective with multiple applications of glyphosate. Renovation can begin five to seven days following final glyphosate application. Refer to AY-13, "Turfgrass Renovation" for information on reestablishment.

Fumigation is probably the most effective way of eradicating perennial grassy weeds. Fumigation of the infested areas will kill stolons and rhizomes, eliminating repeated herbicide applications and reducing the time the area is unsightly. The cost and very limited availability of fumigation precludes its use in most situations and is generally not recommended for homeowners.

There is some encouraging research on

selective controls of creeping bentgrass, rough bluegrass, and nimblewill. The herbicide sulfosulfuron has the potential of controlling creeping bentgrass and rough bluegrass selectively, while mesotrione has potential selectivity for nimblewill growing on a cool-season turf. Though neither of these potential herbicides is available as of January 2004, these products may be registered for use in the next few years.

Control of perennial grassy weeds is a very difficult and time-consuming process. One must weigh the advantages and disadvantages before deciding whether to attempt control. Many homeowners may be better off just tolerating perennial grassy weeds in your lawn.

More information and mentioned publications are available at www.agry.purdue.edu/turf

Easy-to-Use Guide to Identifying and Controlling Perennial Grassy Weeds

The weed patch turns brown early in fall and stays brown until late spring:

Weed: A warm-season grass that is likely either nimblewill, zoysiagrass, or bermudagrass.

Control: Multiple applications of glyphosate after green-up followed by reseeding in August. Be sure to spray well outside of the visible patch or blanket apply to the whole area

The weed patch stays green throughout most of the year in Indiana:

The grass leaf blades are very coarse and 0.25-0.5 inches wide.





Weed: Either tall fescue or orchard grass







Control: A single application of glyphosate or gluphosinate applied in early August followed by reseeding.



The grass leaf blades are less than 0.25 inches wide.

Weed: Either creeping bentgrass, rough bluegrass, or quackgrass

Control: Multiple applications of glyphosate after green-up followed by reseeding in August. Be sure to spray well outside of the visible patch or blanket apply to the whole area.

Cool-season bunch grasses	
Tall Fescue	Orchardgrass
	
	
Pointed leaf tip Short to absent auricles Rolled vernation Absent Ligule Prominent venation Near crown stem may appear pinkish/purplish	Boat-shaped leaf tip Absent auricles Folded vernation Long, membranous ligule Venation not prominent Compressend sheaths Light green color

Cool-season spreading grasses		
Creeping Bentgrass	Quackgrass	Rough bluegrass
		
		
Pointed leaf tip Rolled vernation Short to absent auricles Long, membranous ligule Prominent venation Stoloniferous growth	Pointed leaf tip Rolled vernation Long clasping auricles Absent, short ligule Prominent venation Light green color Large rhizomes present	Boat-shaped leaf tip Absent auricles Folded vernation Short, absent ligule Light green color Stoloniferous growth

Warm-season spreading grasses		
Nimblewill	Bermudagrass	Zoysiagrass
		
		
Pointed leaf tip Short leaf blades Folded vernation Absent Ligule Venation not prominent Seedhead with awns	Pointed leaf tip Folded vernation Absent auricles Hairy ligule Venation not prominent Leaf blades not hairy Stolons and rhizomes	Pointed leaf tip Rolled vernation Absent auricles Hairy ligule Venation not prominent Leaf blades hairy on top Stolons and rhizomes

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