

Perennial grasses are considered weeds when they disrupt uniformity of a turf area because of different color, texture, or growth habit compared to desired turf. Perennial grassy weeds are difficult to identify and once identified, are extremely difficult to control in many cases. Few effective selective herbicides are available and multiple applications per year with either selective or non-selective herbicides are needed for controlling perennial grasses, and then these weeds may reappear after a year or two. In many cases, perennial weedy grasses should simply be tolerated in a turf because they are too difficult or impossible to control effectively.

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 a herbicide. Conversely, spreading grasses can only be controlled by multiple applications of herbicides to effectively control above ground plants as well as rhizomes or stolons.

Perennials can be further grouped by their physiology. Cool-season grasses green up usually in April and remain green until November or later. Warm-season grasses green up in early summer, grow actively throughout the summer, and turn brown with the first frost. Understanding the physiology will not only help with identification, but also help determine when to use herbicides to control.

Bunch-type grasses

Tall fescue is a coarse-textured grass, often used as a primary turf species. 'Kentucky 31' or 'K31' tall fescue is a very old, wide-bladed cultivar of tall fescue, often used in pastures, roadside ditches, and other utility turf areas. In lawns and finer turf areas,

infestations of K31 tall fescue usually result from contamination in a low 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. Cut down three to four inches into the soil to get all the stems. The holes should be refilled with representative soil and reseeded or sodded immediately. If the area has a large number of plants, chemical control will be more efficient. A nonselective systemic herbicide such as glyphosate (Roundup or Kleenup) or glufosinate (Finale) can be spot-applied. For even larger infestations, glyphosate can be broadcast and the entire area renovated. Chlorsulfuron was a selective herbicide registered as Corsair for the control of tall fescue in many turf species. However, chlorsulfuron is no longer available for use on turfgrasses.

Spreading Grasses

Creeping bentgrass is a desirable species on golf courses, 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 is easily distinguished by its clasping auricles. **Roughstalk 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, and thus stay green from early spring to late fall.

Warm-season perennial grassy weeds green-up much later than cool-season grasses and will go dormant and turn tan

Perennial grassy weed control

with the first frost. **Nimblewill** is a weed that resembles creeping bentgrass, but tends to form thinner patches than creeping bentgrass and is often found in the shade. 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 south of Nebraska. Bermudagrass is extremely aggressive and spreads rapidly with stolons and/or 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. **Tumble windmillgrass** is another perennial warm-season grass, with wide leaves, bluish-green color, flat stems, and a characteristic seedhead from which it gets its name. **Buffalograss** is usually considered a desirable turfgrass but occasionally can be weedy in Kentucky bluegrass lawns. Buffalograss is usually a gray green color with fine leaf blades.

Control of spreading grasses can be tried with the nonselective systemic herbicide glyphosate (RoundUp). Glufosinate (Finale), 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 stolons or rhizomes. To overcome this, more than one application is needed and the weed needs to start to regrow before the next application. At least two applications are recommended, but three or more may be needed, and thus the area will be unsightly for months if optimum control is desired. Furthermore, the large number of stolons or rhizomes and extended dormancy of these structures may allow the grassy

weed to reappear in future years.

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 are only a few 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 can 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. Fumigation is 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 availability of fumigation limits its use in most situations.

The herbicide mesotrione (Tenacity) has recently been labeled for turf and will provide selective control of creeping bentgrass, nimblewill, and tumble windmill grass. Three applications applied seven to ten days apart will effectively control any of these three grasses. Fall applications are most effective on creeping bentgrass, whereas applications should start just after green-up of nimblewill or windmill grass. Areas can be reseeded immediately after the last application. Refer to the label for specific recommendations. The herbicide bispyribac-sodium (Velocity) will selectively control roughstalk bluegrass, but it is currently not recommended for use on lawns and sports fields because it can be damaging to Kentucky bluegrass.

Control of perennial grassy weeds is difficult and time-consuming. Clients may be better off tolerating perennial grassy weeds in their lawn.

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Guide to Identifying and Controlling Perennial Grassy Weeds:

Because perennial grassy weeds are extremely difficult to identify, use this table as a guide and contact the University of Nebraska if more help is needed.

1. **The weed patch turns brown early in fall and stays brown until late spring:**
 - a. The grass leaf blades are fairly coarse with leaves 0.125 to 0.25 inches wide
 - i. No distinct seedheads, usually in dense patches in full sun (Fig 1):
Weed: Zoysiagrass or bermudagrass
Control: Three or more applications of glyphosate every 3-4 weeks starting in June followed by reseeding in early August
 - ii. Distinct seedheads, prostrate growth of leaves:
Weed: Tumble windmill (Fig. 3)
Control: mesotrione applied three times on 7-10 day intervals after greenup followed by reseeding or three or more applications of glyphosate every 3-4 weeks starting in June followed by reseeding in early August
 - b. The grass leaf blades are less than 0.125 inches wide.
 - i. Leaves are hairy and gray green (Fig. 2)
Weed: Buffalograss
Control: Three or more applications of glyphosate every 3-4 weeks starting in June followed by reseeding in early August
 - ii. Leaves are sparsely haired and weed is in thin patches, often in shade
Weed: Nimblewill (Fig. 4 and 5)
Control: mesotrione applied three times on 7-10 day intervals after greenup, followed by reseeding
2. **The weed patch is green early in spring through late in fall:**
 - a. The grass leaf blades are very coarse and 0.25 inches wide or more.
Weed: Either tall fescue or orchard grass (Fig. 6)
Control: Patch can be dug out or spot-sprayed with a single application of glyphosate or gluphosinate applied in early August followed by reseeding.
 - b. The grass leaf blades are much less than 0.25 inches wide.
 - i. Leaf blades have pointed leaf tips (Fig. 7)
 1. Plant has rhizomes (underground stems) (Fig. 9), in thin patches, and with clasping auricles (Fig. 10)
Weed: Quackgrass
Control: Three or more applications of glyphosate every 3-4 weeks starting after green up in April followed by reseeding in early August
 2. Plant has stolons (above ground stems) and in dense patches:
Weed: Creeping bentgrass (Fig. 11))
Control: mesotrione applied three times on 7-10 day intervals in September, followed by reseeding
 - ii. Boat shaped leaf tips (Fig. 8) and shiny green leaves:
Weed: Roughstalk bluegrass (Fig. 12)
Control: three or more applications of glyphosate every 3-4 weeks starting after green up in April followed by reseeding in early August or 3 to 4 applications every two weeks of byspiribac sodium (Velocity) starting in June followed by reseeding in August.

Perennial grassy weed control



Figure 1:(top left) A dense stand of zoysiagrass in full sun.

Figure 2: (top right) Hairy leaves of buffalograss.

Figure 3: (middle left) Characteristic seedheads of tumble windmill grass. (photo courtesy of Anne Streich)

Figure 4: (middle right) Thin texture of nimblewill when dormant.

Figure 5: (bottom left) Thin patches of dormant nimblewill in light shade of Kentucky bluegrass lawn.

Perennial grassy weed control



Figure 6: (top left) Coarse textured tall fescue in a fine-textured Kentucky bluegrass stand.

Figure 7: (lower left) Pointed leaf tip, typical of quackgrass or creeping bentgrass. (Photo courtesy of Aaron Patton)

Figure 8: (lower center) Boat shaped leaf tip typical of roughstalk bluegrass. (Photo courtesy of Aaron Patton)

Figure 9: (lower right) Clasping auricles of quackgrass. (Photo courtesy of Aaron Patton)



Perennial grassy weed control



Figure 10: (top) Rhizomes of quackgrass may be 6 to 12 inches deep.

Figure 11: (middle) Dense patches of creeping bentgrass are most visible in the dew patterns in the morning.

Figure 12: (bottom) Roughstalk bluegrass is a lighter green with shiny leaves, tends to flatten and thin during the heat of summer.

