

Perennial grass weed control in cool season lawn

Erin Hill, MSU Plant & Pest Diagnostics

August 2024

Many of the perennial grassy weeds that we battle in lawns are cool-season species, just like our desired turf species, which makes selective control challenging.

Non-chemical options

Mechanical removal may work, depending on the species and the size of the infestation. Clumping grasses, like tall fescue and orchardgrass, are species where this can be most effective where feasible. Ensure that you completely remove the crown(s) of these species to prevent them from coming back. Grasses with stolons (e.g., creeping bentgrass and rough bluegrass) or rhizomes (e.g., quackgrass) present a challenge because it can be difficult, but not impossible to remove those vegetative structures. Removing these grasses manually requires the holes dug to be larger than the infestation appears, with all above and below ground material removed. Any stolon or rhizome fragments that remain will produce new plants (like clonal propagation).

Cultural management approaches, like fertilizing and mowing frequently to favor the growth and vigor of your desired turf is described here by a former colleague, Dr. Ron Calhoun.

https://www.canr.msu.edu/news/quackgrass_control_in_turf

Another strategy would be to tarp the affected area. Dr. Calhoun discusses this in the article above but mentions leaving the tarp on for only a week. I am not convinced that is a long enough period to kill these vigorous grasses and their vegetative structures. I would suspect it may take several weeks or months to get complete control of rhizomes.

Chemical options

With the exception of creeping and colonial bentgrasses, there are seldom selective chemical control options that will only control (or suppress) that weedy grass and not impact your lawn. See more on control of these two species at the end.

The easiest way to eliminate perennial grasses is through the use of herbicides that translocate within the plant to kill not only the top growth but also the root (and rhizome system if applicable). Typically the broadspectrum herbicide active ingredient glyphosate is recommended. The Turfgrass Weed Control for Professionals published by Purdue University in collaboration with several other institutions, including MSU, recommends a minimum of two applications of glyphosate to kill tough perennial grass weeds, like quackgrass. It notes that three or more may be needed depending on the level of establishment.

When using products containing glyphosate there are a few important points to consider. First, as with any pesticide, remember to read and follow all labeled instructions. Second, glyphosate is a broad-spectrum herbicide, meaning it will injure or kill other plants contacted during application, so care is needed to avoid green plant material, exposed roots, and injured bark of desired plants.

Third, glyphosate is relatively safe in the environment when used as labeled. It adsorbs strongly to soil in most cases (i.e. clay and organic matter), allowing even sensitive crops to be planted shortly after application; meaning no carry over issues are expected. Fourth, glyphosate alone can take up to 14 days to show full activity under ideal growing conditions. Retreatment of the area may be needed depending on the degree of infestation. Glyphosate is most effective for perennial control in the fall but can be applied anytime the plants are actively growing (temperatures consistently above 50F). For woody species, periods of heavy sap flow in the spring may not be effective times to treat. Finally, glyphosate is getting harder to find in the consumer market (i.e., big box stores) and Roundup brand products have been changing their active ingredients (even though the labels look similar) and moving away from glyphosate. Roundup Super Concentrate as of the summer of 2024 still has glyphosate only as the active ingredient. There are also generic glyphosate products available at stores like Tractor Supply Company. Be sure that the product you choose has only the active ingredient glyphosate or glyphosate + pelargonic acid. Products with additional active ingredients may have other unwanted effects and may delay the planting of other plants in the coming season(s).

Creeping and colonial bentgrass chemical management

There are two tactics recommended in Turfgrass Weed Control for Professionals annual publication (Purdue University) for controlling creeping bentgrass that would also apply to colonial bentgrass. One tactic involves non-selective control with an herbicide as mentioned above. The second tactic recommended is repeated applications of the herbicide Tenacity (active ingredient: mesotrione). The guide recommends a few things to keep in mind when using Tenacity to control creeping bentgrass:

- **Timing-** Apply in late-summer (probably for mid- to lower Michigan, late-August -September). It notes that spring and summer timings applications are less consistent.
- **Sequential applications-** Multiple applications are needed. Making three or four applications at two-week intervals are recommended.
- **Rate-** Use the appropriate rate for your grass type, check the label on this to be sure. There is a yearly maximum of 16 oz/Acre of Tenacity, so keep that in mind if you plan to make 4 applications (reduce the rate to 4 fl oz/A for each one).
- **Mowing height-** Often we tell people to increase mowing height (to 3-3.5") to help control certain weeds, but the guide here says that it's easier to control creeping bentgrass if you mow at a lower height.
- **Adjuvant-** 2.5% v/v urea ammonium nitrate (i.e. 2.5 gal/100 gal water, this equates to 95 ml per single gallon of mix) is recommended to improve creeping bentgrass control
- **Surfactant-** 0.25% nonionic surfactant is recommended (0.25 gal per 100 gal, this equates to 9.5 ml per single gallon of mix)
- **Cultural practices-** Raking to remove dead creeping bentgrass is recommended after the first application.

Finally, it notes that just one season of these practices will not achieve complete control, because about 5% can survive and populate the infestation the following year. Complete eradication using either tactic is likely to take several years.

Moving forward

After you have achieved your desired level of control the work is not over. You need to do two important things. 1) Make sure you have a robust/vigorous stand of grass in your lawn to create a competitive environment for weeds. Practices could include re-seeding areas where the grass stand is thin or has been removed, fertilizing the grass (early-spring and/or early-fall), watering when conditions are dry, and increasing your mowing height (~3.5", this last one will not help with all grassy weeds but will help with broadleaves and stress management). 2) You need to be on the lookout for weeds emerging from seed. Some weeds can linger as seeds in the "seed bank" of the soil for decades! Controlling these weeds could include the use of a preemergence herbicide (e.g. products targeting crabgrass control) or manual removal of emerged plants. More information on lawn care from the MSU Extension Turfgrass site:

https://www.canr.msu.edu/home_gardening/lawns/