

TURFGRASS SCIENCE

at the University of Tennessee

Annual Bluegrass (*Poa annua*) Control on Non-overseeded Bermudagrass Athletic Fields

James T. Brosnan, Assistant Professor, Turfgrass Weed Science, Plant Sciences
Greg Breeden, Weed Science Extension Assistant, Plant Sciences

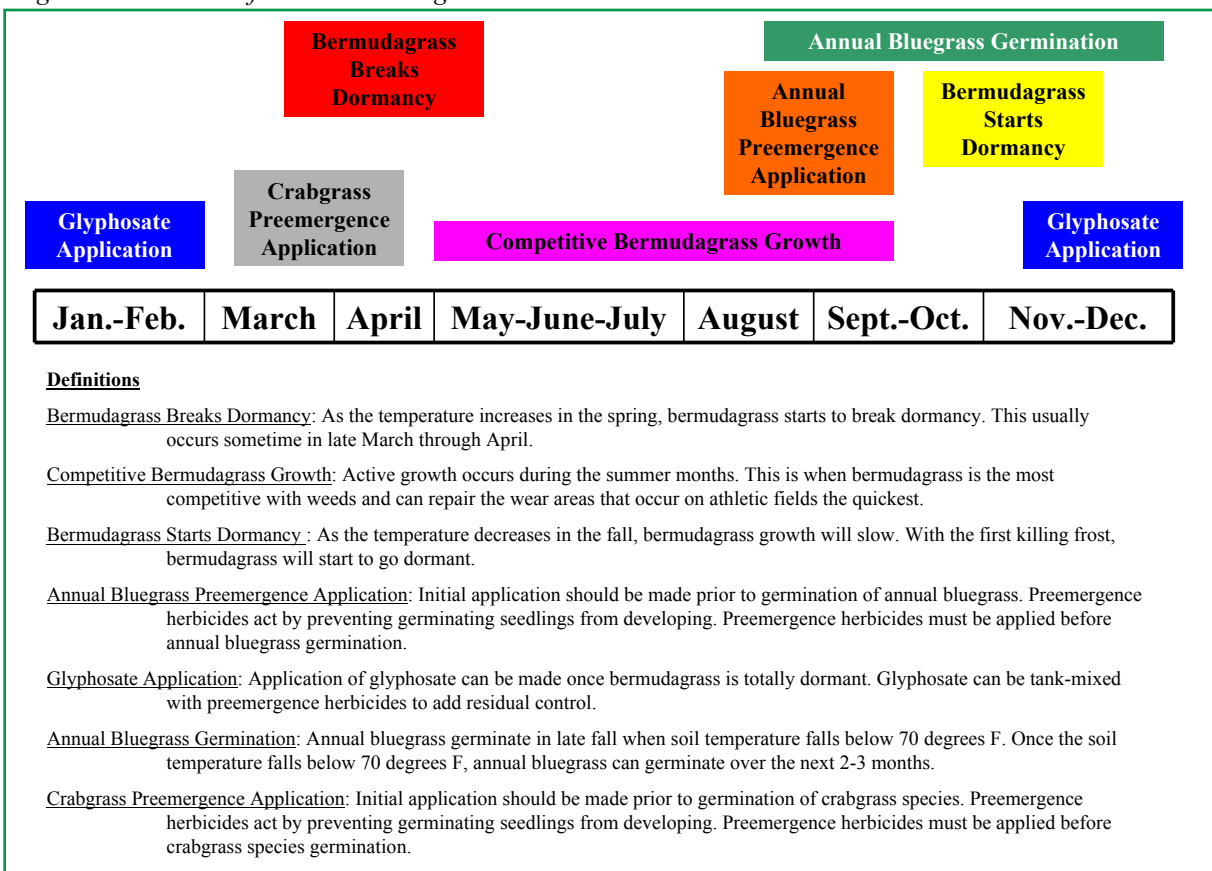
Introduction

Annual bluegrass (*Poa annua*) infestations are a common problem on bermudagrass (*Cynodon* spp.) athletic fields in Tennessee. Foot traffic associated with field use can lead to the development of bare soil areas across the playing surface. During the fall and winter months, annual bluegrass plants can establish in these bare soil areas. Such infestations not only reduce the aesthetic quality of the field, but they can affect playability as well. The shallow root system and bunch-type growth habit of annual bluegrass can reduce traction and cause the playing surface to become uneven.

Annual Bluegrass Life Cycle in Tennessee

Annual bluegrass is a winter annual grassy weed that germinates in the late summer, grows throughout the winter and produces seeds in the spring. Once soil temperatures fall below 70 degrees F, germination of annual bluegrass seeds will begin and continue for the next 2-3 months. In upper East Tennessee, germination may begin as early as August (Figure 1). An individual annual bluegrass plant can produce up to 100 seeds. Failure to control annual bluegrass can lead to the development of an annual bluegrass seedbank in the soil profile.

Figure 1. Time line for annual bluegrass



Annual Bluegrass Identification

Annual bluegrass has a bunch-type growth habit (Figure 2) and plants often form distinct patches or clumps. The leaf blade is folded and has a boat-shaped tip (Figure 3). Blades can also be rippled or slightly wrinkled. Annual bluegrass has a long, membranous, slightly pointed ligule. It produces a panicle-type seedhead that is triangular in shape with spikelets bunched toward the ends (Figure 4). Seedheads start to emerge in the spring and viable seed can be produced in just a few days after pollination. This feature allows for the production of viable seed, even in frequently mowed turf.

Bermudagrass Growth Cycle in Tennessee

In Tennessee, bermudagrass green-up usually begins in late March, and by late April most turf areas exhibit 100 percent green color. Bermudagrass grows rapidly throughout the summer months, allowing the species to recuperate quickly from the stresses of foot traffic that come with field use. Growth continues until the first killing frost, at which point the leaves start to turn brown and plants begin to enter winter dormancy.

During the fall and winter when bermudagrass is dormant, football and soccer schedules are still ongoing. Excessive field use and reduced bermudagrass growth during this time can lead to the development of bare-soil areas for annual bluegrass plants to invade. If bermudagrass athletic fields are not overseeded with a cool-season grass like perennial ryegrass (*Lolium perenne* L.), there is little competition against winter weeds like annual bluegrass from the dormant or semi-dormant turf.

Annual Bluegrass Control Options on Non-overseeded Bermudagrass Athletic Fields

Preemergence Control

Numerous preemergence herbicides are available for annual bluegrass control (Table 1). In Tennessee, annual bluegrass generally begins to germinate in early September. Keep in mind that preemergence herbicides act by preventing germinating seedlings from developing into mature plants. These herbicides must be applied prior to seed germination. For preemergence control of annual bluegrass, target applications for late August. Preemergence herbicides should not be applied if there is any consideration of overseeding the



Figure 2. Annual bluegrass (*Poa annua*)



Figure 3. Annual bluegrass (*Poa annua*) leaf blade



Figure 4. Annual bluegrass (*Poa annua*) seedhead

field with a cool-season turfgrass species (unless otherwise stated on the label).

Postemergence Control

Postemergence herbicides options also exist for annual bluegrass control (Table 1). Postemergence applications can be made any time after germination of annual bluegrass seed. However, certain environmental conditions will even allow additional germination of annual bluegrass to occur after a postemergence herbicide application. Tank-

mixing a preemergence herbicide with a postemergence product will extend the length of control provided by a single herbicide application. See label for available tank mixes. Caution should be used when applying postemergence herbicides close to the end of bermudagrass winter dormancy.

Dormant Bermudagrass Glyphosate Application

Glyphosate can be applied to dormant bermudagrass to provide postemergence control of annual bluegrass (Table 1). Glyphosate can be tank-mixed with a preemergence herbicide to extend control. If a glyphosate + preemergence herbicide tank mix is applied in late winter, it can also provide preemergence control of crabgrass (*Digitaria* spp.) the following spring.

Final Thoughts

Multiple preemergence and postemergence options are available for controlling annual bluegrass on non-overseeded bermudagrass athletic fields. Applying tank mixes of both preemergence and postemergence herbicides can help extend control throughout the winter and potentially into the spring. For more information on annual bluegrass control visit <http://tennesseeturfgrassweeds.org>.

Table 1. Preemergence and postemergence herbicides for annual bluegrass (*Poa annua*) control

<i>Herbicide</i>	<i>Formulations</i>	<i>Active Ingredient</i>	<i>Rate/a</i>	<i>Comments</i>
<i>Preemergence Herbicides</i>				
Barricade, others	65WG, 4FL, others	prodiamine	0.6 - 1.5 lb ai	Do not apply if considering over-seeding.
Dimension, Dimension Ultra	1EC, 40WP, 2EW, others	dithiopyr	0.5 lb ai	Do not apply if considering over-seeding.
Pendulum Aquacap, others	3.8L, others	pendimethalin	1.5 - 3 lb ai	Do not apply if considering over-seeding.
Ronstar	2G, (50WSP Dormant Turf Only)	oxadiazon	1 - 2 lb ai	Do not apply if considering over-seeding. Do not apply to wet turf.
<i>Postemergence Herbicides</i>				
Monument	75WG	trifloxysulfuron	0.26 - 0.4 oz ai	Repeat applications may be necessary for complete control.
Revolver	0.19SC	foramsulfuron	0.2 - 0.4 lb ai	Repeat applications 4 to 6 weeks later may be necessary for complete control of difficult-to-control species.
Tranxit	25DF	rimsulfuron	0.125 - 0.5 oz ai	Should not be applied in areas where children can contact turf. Repeat applications may be necessary for complete control.
Roundup Pro, others	4L	glyphosate	0.5 lb ai	DORMANT BERMUDAGRASS ONLY. Apply prior to initiation of green-up.

Disclaimer

This publication contains herbicide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the herbicide applicator's responsibility, by law, to read and follow all current label directions for the specific herbicide being used. The label always takes precedence over the recommendations found in this publication.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), the University of Tennessee Institute of Agriculture and University of Tennessee Extension assume no liability resulting from the use of these recommendations.

Visit the UT Extension Web site at
<http://utextension.tennessee.edu>

W203 11/10 (Rev) 09-0118