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ID and Control of Annual Bluegrass and Rough Bluegrass in Lawns

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Annual bluegrass (*Poa annua*) and rough bluegrass (*Poa trivialis*) are common weeds on golf courses, but are now becoming a problem on higher mowed turf areas such as lawns and athletic fields. Both of these grasses are considered weeds because they are lighter colored than Kentucky bluegrass and perennial ryegrass. Plus they both tend to thin and die out during the heat and drought of August in Indiana. *Poa annua* is especially noticeable in May and June because of it's prolific seedhead production. *Poa trivialis*, on the other hand, rarely produces a seedhead when mowed. Control of *Poa annua* and *Poa trivialis* in lawns is difficult, and relies on both cultural and chemical control. However, control might not be economically feasible or practical, and it might be better to attempt to manage these weeds to keep them alive during the summer.

Poa annua Biology

Poa annua is a winter annual that germinates in the late summer/early fall once soil temperatures fall below 70° F. Seedlings mature in the fall, overwinter in a vegetative state, and produce seed in late spring and early summer. Annual bluegrass is a prolific seed producer. An individual plant is capable of producing more than 360 viable seeds. The seed may lie dormant in the soil for many years before germinating. Annual bluegrass flowers and produces seed over several months and at any mowing height. *Poa annua* grows well under short days and cool conditions, and it will out-compete all other turf species during late fall and early spring. *Poa annua* often dies in the heat of the summer (but may survive the stress). However, we now know there are also perennial types of *Poa annua* that will live through the stress of the summer, primarily in northern Indiana.

Chemical Control

Chemical control of annual bluegrass can be attempted with either preemergence herbicides and/or with a postemergence herbicide called ethofumesate (Prograss®). Ethofumesate is applied mainly as a postemergence herbicide, but it exhibits some residual preemergence control. Ethofumesate can be applied to Kentucky bluegrass and perennial ryegrass lawns, but it must be applied by professionals only. Two or three applications of ethofumesate applied between September and December are recommended per year. The applications should be approximately four weeks apart. Results may be seen that fall, but they are usually observed the following spring. Refer to label recommendations for specific instructions. There are a number of herbicides currently under investigation for controlling *Poa annua*, but none are available as of January 2004. Growth regulators are sometimes considered for *Poa annua* control, but these have not proven effective in homelawns or athletic fields.

Most preemergence herbicides on the market can be used in *Poa annua* control programs. Application timing is very important, so herbicides must be applied in early fall (early-September) prior to *Poa annua* germination. A second application will be needed in the spring to control spring germinating *Poa annua*. This technique may take many years to reduce the *Poa annua* populations, and it will not be effective on the perennial type of *Poa annua*. The most effective combination of treatments is to let the lawn go dormant from drought followed by application of a preemergence herbicide. The drought will kill the existing annual bluegrass and the preemergence herbicide will prevent it from regerminating, but it will not prevent the

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Summary of practices that will encourage or discourage *Poa annua*.

Maintenance Practice	To encourage *Poa annua*	To discourage *Poa annua*
Irrigation	Light and frequent	Deep and infrequent
Mowing height	2 inches or below	3 inches or above
Fertility	Spring N, High N and P when *Poa annua* is germinating	Fall N, Low N and P
Aerification	Avoid, *Poa annua* is favored under compaction	Aerify as often as possible

desired turf from greening up again. and thus killing the annual bluegrass.

Poa trivialis Biology

Poa trivialis is a perennial grass that spreads by stolons forming light green patches in the turf. It is best adapted to shady, moist, or over-watered sites, and because of this, it often appears in mixtures with Kentucky bluegrass and perennial ryegrass recommended for shady areas. Two theories persist about how *Poa trivialis* is introduced to a turf stand. Some believe that *Poa trivialis* grows naturally over most of the world and *Poa trivialis* seeds or stolons can germinate after lying dormant for many years, thus contaminating a turf stand. Most believe that it was introduced as a contaminant in turf seed and seed producers have since self-imposed *Poa trivialis* growing and shipping restrictions to help prevent this.

Control

Currently, nonselective control with glyphosate followed by reseeding may offer the best chance of control of *Poa trivialis.* A herbicide called sulfosuron is currently being developed with the hopes of controlling *Poa trivialis* selectively. However, there is no selective control of *Poa trivialis* available as of January 2004.

Summary of practices that will encourage or discourage *Poa trivialis*.

Maintenance Practice	To encourage *Poa trivialis*	To discourage *Poa trivialis*
Irrigation	Light and frequent	Deep and finrequent
Mowing height	2 inches or below	3 inches or above
Drainage	Poor drainage favors	Good drainage to remove excess water
Traffic	Limit all traffic	*Poa trivialis* cannot withstand traffic

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Annual bluegrass (*Poa annua*)	Rough bluegrass (*Poa trvialis*)
	
Boat-shaped leaf tip Absent auricles Folded vernation long, membranous ligule Light green color Bunch-type growth	Boat-shaped leaf tip Absent auricles Folded vernation Short, absent ligule Light green color Stoloniferous growth

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

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