

Unwanted Friend at the TDL This Year - *Poa trivialis*



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This year, an unwanted old friend, rough bluegrass (scientific name, *Poa trivialis* L.) visited the Turfgrass Diagnostic Lab (TDL) more frequently than in previous years. That is likely because of a long period of cool, wet weather in spring followed by a hot and dry summer.

The samples were received from golf course fairways as well as homeowners. The cool, moist weather allows rough bluegrass to thrive but hot, dry conditions cause it to go dormant and the leaves turn brown. As a result, some patches that looked like dis-

ease appeared and worried some Wisconsin superintendents.

Another possible factor contributing to increase of rough bluegrass samples at the TDL could be due to increased use of plant growth regulators (PGRs) in recent years. The PGRs are initially applied for improving color, enhancing quality, reducing mowing frequency, and reducing annual bluegrass seedhead production. However, as we all know, growth regulators have the ability to allow or enhance lateral shoot growth (rhizomes, stolons, and tillers). For example, some PGRs inhibiting gib-

berellic acid (GA) biosynthesis usually make grasses shorter in height and denser in leaf number.

GA is a plant hormone responsible not for cell division but for cell elongation. Therefore, sturdy and dense leaf canopy results from GA-inhibiting PGRs. Plants treated with certain growth regulators are more tolerant to stresses such as heat and drought stress. The use of growth regulators may allow the rough bluegrass to survive all but the most hot and dry summers, such as this summer. This is just one theoretical interpretation, but a carefully designed research

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experiment should be carried out.

For these reasons, I thought that it is time for us to look up a turfgrass textbook collecting dust from a bookshelf and refresh our memory on this old friend. Rough bluegrass is one of over 200 *Poa* species. The most widely utilized *Poa* species are Kentucky bluegrass (*Poa pratensis* L.), Canada bluegrass (*Poa compressa* L.), Supina bluegrass (*Poa supina* Schrad.), and Annual bluegrass (*Poa annua* L.). *Poa trivialis* is a perennial, stoloniferous grass just like creeping bentgrass, that appears in dense, yellow-green patches and adapts well to wet, shaded areas. Therefore, rough bluegrass has been used as a desirable turfgrass for those places. On the other hand, it is extremely sensitive to dry and hot weather condition as well as heavy traffic probably due to its shallow root system.

A number of distinct characteristics, which differentiate rough bluegrass from other *Poa* species are its fine texture, shiny, greenish-yellow leaves, high shoot density, and aboveground, creeping stolons. Furthermore, certain morphological traits such as a larger ligule and a more scabrous leaf sheath are characteristics in rough bluegrass differentiating it from Kentucky bluegrass.

In addition to the fact that this grass is susceptible to summer stresses, rough bluegrass is also extremely susceptible to brown patch, leaf spot, and dollar spot. In some cases, other diseases such as snow molds, Pythium blight, summer patch, rust, and powdery mildew can become a problem.

Surprisingly, rough bluegrass is very popular for winter overseeding of dormant bermudagrass greens, in warm and humid regions of the south. Because of the popularity, a number of research papers on rough bluegrass have been published. In recent years, researchers from Clemson University carried

out an interesting experiment to answer a question, "The effect of fungicides on rough bluegrass germination and seedling development." Two fungicides, fenarimol (Rubigan) and cyproconazole have shown inhibitory effects on seedling establishment consistently in field and *in vitro* studies. Little or no noticeable effects on seed germination and seedling development were observed using iprodione, chlorothalonil WS, chlorothalonil Zn, mefenoxam, and azoxystrobin.

The only cultural management practices to limit the spread of rough bluegrass on golf courses is to avoid persistently moist soils, apply heavy traffic, and ensure only high quality seed mixtures are used. Rough bluegrass is sometimes a contaminant in seed production fields and, once it's started in a favorable environment, is virtually impossible to eradicate without chemical controls. The trick is to identify infestations early while the patches are small and few in number. If left untreated, new patches will develop as stolons are moved around by equipment and existing

patches may grow larger. No selective chemicals are labeled for rough bluegrass control, requiring non-selective herbicides such as glyphosate (Roundup). Due to the stoloniferous growth habit of the grass, more than one application may sometimes be required to completely kill the plants. Herbicide applications should only be made when the grass is green and actively growing. Spot treatments with non-selective herbicides will kill all the grass in the treated area so be prepared for some comments from the golfers. Use only high quality, certified seed when replanting areas after the rough bluegrass has been eradicated.

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