

**POSTEMERGENCE ANNUAL BLUEGRASS CONTROL**  
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## **ANNUAL? BLUEGRASS**

Turfgrass management professionals, including golf course superintendents, sports field managers, sod producers, and lawncare operators, have spent years trying to eradicate annual bluegrass from their turf swards. Annual bluegrass (*Poa*) is one of the most invasive weeds in turfgrass stands. It is also one of the most difficult to control.

Annual grass herbicides generally have activity on *Poa*, but typically fail to provide a long-term control solution. Efforts to find chemical controls for *Poa* have been thwarted by its diverse genetic make-up. *Poa* is officially described as a cool-season winter annual. Winter annuals are plants that germinate in late summer to early-fall, overwinter, and produce seed in the spring. Typical winter annuals die soon after seed production as daytime air temperatures increase. *Poa*, although commonly referred to as annual bluegrass, is actually a diverse group of different biotypes with varying characteristics. Annual bluegrasses in warmer climates like the southern U.S., do indeed perform as a typical winter annual. These ‘annual’ bluegrasses are classified as *Poa annua* var. *annua* L. Timm. In the northern part of the U.S. and much of Canada there are biotypes that produce seed in the spring and then continue to grow as perennials. This somewhat peskier bluegrass is termed *Poa annua* var. *reptans* (Hauskn) Timm. The fun doesn’t stop there. Somewhere between true bunch-type annual bluegrass and stoloniferous [perennial] annual bluegrass are hundreds if not thousands of different biotypes. Clearly, identifying chemical controls that have excellent activity on *annua*, *reptans*, and everything in-between has been difficult for good reason. These biotypes are not just segregated by climatic region or area of the country. It is possible, in-fact likely, to have several biotypes of *Poa* on the same property. The segregation is not only determined by climatic zone, but also by management and cultural conditions such as irrigation, mowing height, and compaction. *Poa* populations are so diverse that they can easily adapt to everything from unirrigated roughs to closely maintained putting greens. This diversity makes *Poa* a bit of a moving target. Predictable *Poa* control would likely exist if 100 percent of the *Poa* population was truly annual.

## **CURRENT MSU RESEARCH**

Research plots were established on an 80-90% *Poa annua* fairway at the Hancock Turfgrass Research Center. Treatments included commercially available and experimental PGRs and grass herbicides. Treatments were applied three times in both 2000 and 2001 to determine the long-term effects of these products on the composition of the fairway turf. Bentgrass plugs were placed in each plot at the beginning of the experiment. These plugs were used to determine the safety of each treatment and to measure spread of the bentgrass into the plots. It is widely recognized that plant growth regulators suppress certain grass species more than others. Rates for *Poa* suppression are listed on the labels of TGR, Trimmit (paclobutrazol), and Primo

(trinexapac-ethyl). The idea is that the PGRs will suppress/injure the Poa and allow the bentgrass to fill in. After two years, several plots are showing a dramatic increase in bentgrass. The most effective treatments have been the Scott's TGR on fertilizer and an experimental herbicide V-10029. These plots now contain 80-95% bentgrass. Unfortunately, the transition happened very quickly, consequently the plots were quite ugly for much of 2000. Managing Poa with these products may be more appropriate where the infestation is 20% or less. Conversely, the plots treated with Proxy have not transitioned at all. The Poa in the Proxy treated plots has shown increased vigor, uniformity, and density over the duration of the experiment. Dollar spot incidence was reduced in the Proxy treated plots during the summer of 2000. Seedhead production was also reduced in these plots in the spring of 2001. The research effort with Proxy, Trimmit, and V-10029 was expanded in 2001 to elucidate activity at different mowing heights and tolerance of common turfgrass species. These results have something to offer all turf professionals, whether you choose to favor, irritate, or eliminate your Poa.