

**Research Topic:
Seed-head Suppression of Annual Bluegrass (*Poa annua*) on a Putting Green
(2007), J.A. Borger and M.B. Naedel, The Pennsylvania State University**

Abstract: Annual bluegrass seed-head production on golf course putting greens is often undesirable due to the negative effect of seed-heads on ball roll, green speeds, and aesthetics. In addition, excessive seed-head production can lead to weakened annual bluegrass plants and a subsequent decrease in overall quality and stress tolerance. Plant growth regulations (PGR's) such as Embark T&O (mefluidide), Primo (trinexapac ethyl), and Proxy (ethephon) are used by golf course superintendents in an attempt to limit seed-head product of annual bluegrass, although phytotoxicity has been documented to occur after application. Foliar fertilizers containing iron (Fe) have traditionally been used to safen selected PGR's, but at the same time often compromise their efficacy. The research project was initiated to determine the effect of different foliar tank mix partners with selected commercial PGR's on turfgrass phytotoxicity and seed-head suppression. Treatments were applied on April 21 (boot-stage), and May 15, 2007 (3 weeks after treatment-those containing either Primo or Proxy). Phytotoxicity was rated five times during the study and seed-head suppression (% cover) was rated on June 1, 2007. No phytotoxicity was below the acceptable level (7.0) on any rating date (Figure 1). On the last two rating dates all treatments were rated 10 on a scale of 1-10. This was unusual compared to previous years when PGR's were applied at the same rate(s). Primo MAXX plus Proxy alone and Proxy alone were not statistically different from Embark T&O, which is unusual and not typical of data observed in prior years at this site. In addition, the test site was determined to have "light seed-head production" in 2007. The non treated turf had only 20% coverage of annual bluegrass seed-heads in contrast to 90% or more in previous years. All treated turfgrass had significantly fewer seed-head cover than non treated turfgrass except for the Eco-N only treated turfgrass (Figure 2). Based on the "light" seed-head production at the test site in 2007, limited meaningful conclusions can be made.

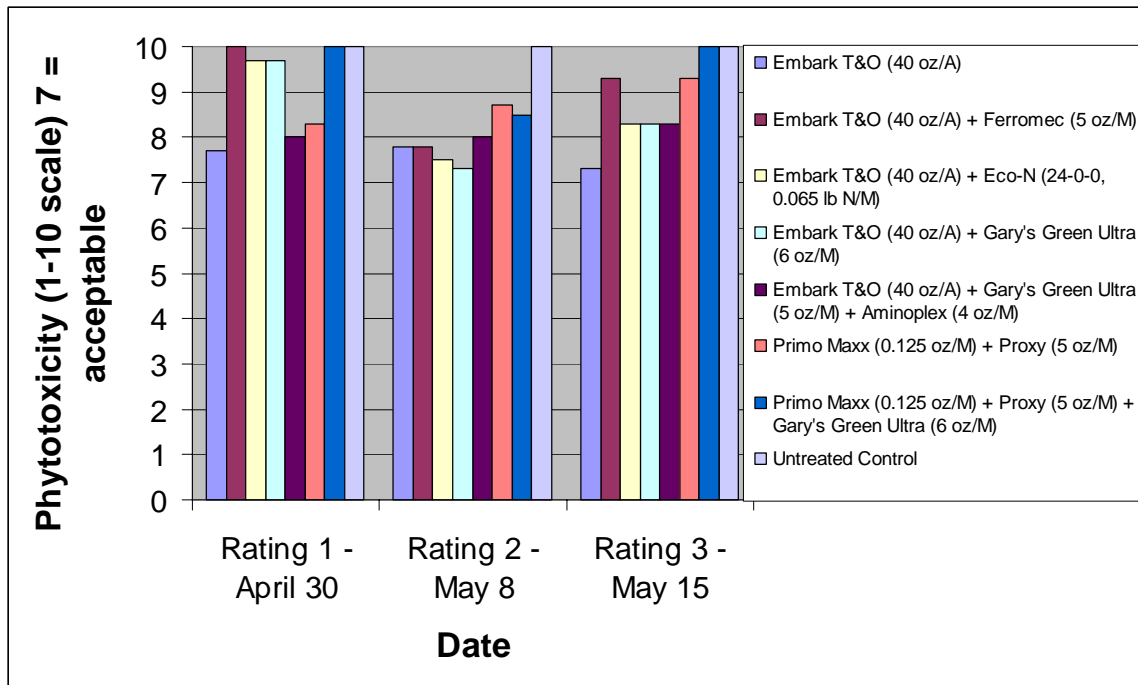


Figure 1. Phytotoxicity of annual bluegrass/creeping bentgrass putting green on a scale of 0-10 where 0 = complete phytotoxicity, 7 = acceptable, and 10 = no phytotoxicity in 2007.

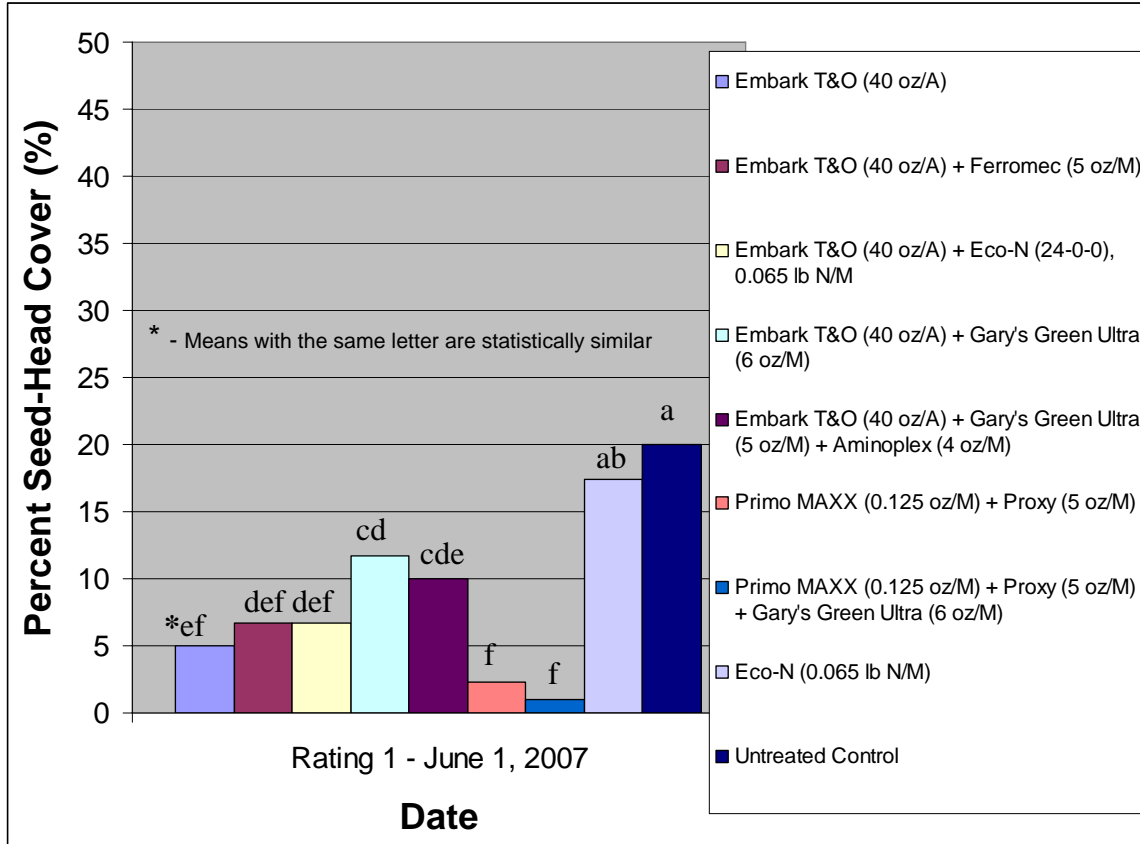


Figure 2. Percent seed-head cover of annual bluegrass/creeping bentgrass putting green in 2007