

Reduction in Annual Bluegrass (Poa Annua) Populations  
using Plant Growth Regulators

A study was initiated in 1983 to determine if certain plant growth regulators have any herbicidal action towards annual bluegrass. Many herbicides and cultural practices have been used to attempt to eliminate annual bluegrass from other more desirable cool season turfgrasses. To date there is no acceptable means of eliminating annual bluegrass from other desirable turfgrasses. This study used three plant growth regulators, Embark, MON-4620, and EL-500, applied on May 21. Several of the EL-500 and MON 4620 treatments used a reduced rate of the growth regulator with three sequential applications at four week-intervals. Embark was applied at a reduced rate with one sequential application six weeks after the initial treatment.

The results seen in Table 3 are somewhat surprising. EL-500 does seem to reduce annual bluegrass populations. The fact that the mowed check plot and the unmowed check plot were the third and sixth best treatments, respectively, illustrates that these results must be interpreted with caution. However, since seven of the top eight chemical treatments were EL-500 treatments, research with EL-500 in this area should be continued.

Table 3. PGR Effect on Annual Bluegrass Populations. Treated: 5/27/83.  
Rated: 11/4/83.

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Treatment	Rating*
EL500 1.5 lbs/A	58.7 A
EL500 0.5 lbs/A 3 apps.	56.3 A
Mowed Check	54.7 AB
EL500 0.75 lbs/A	52.8 A-C
EL500 0.375 lbs/A 3 apps.	46.0 A-C
Unmowed Check	41.7 A-D
EL500 0.125 lbs/A 3 apps.	39.3 A-E
Embark 0.25 lbs/A 2 apps.	36.7 A-F
EL500 2.5 lbs/A	35.3 A-F
EL500 0.25 lbs/A 3 apps.	21.0 BC-F
Embark 0.25 lbs/A	18.4 C-F
MON 4621 1.5 lbs/A	11.1 D-F
MON 4621 1.0 lbs/A 3 apps.	5.1 EF
MON 4621 2.5 lbs/A	4.7 EF
Embark 0.5 lbs/A	3.1 F

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\* Percent reduction of annual bluegrass populations