

PLANT GROWTH REGULATORS FOR GOLF COURSES

STOP
#7

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Plant growth regulators are used to suppress vegetative and reproductive growth of turfgrasses and have become an area of active research and development. Most PGR applications are aimed at low maintenance turf where a reduction in quality is acceptable.

However, two PGR's seem to have properties which may make them useful to golf course superintendents. Embark (3M Agricultural Products) has been commercially available for several years and has shown good ability to suppress production of annual bluegrass seedheads. Cutless (Elanco) is not yet commercially available, but was available last year under an experimental use permit (EUP), and has shown promise as a chemical tool for selectively removing annual bluegrass from creeping bentgrass.

Embark has successfully controlled annual bluegrass seedheads from developing when applied at 50 degree days accumulated from April 1. The results of these experiments have been consistent over the last two years. Results from this years study is shown in Table 5. Embark not only controls seedheads but the treated turf takes on a darker green color for 6-8 weeks after application. The one drawback to the use of Embark is the initial discoloration that is seen following application. It is the author's belief that the discoloration can be largely overcome with the application of a fertilizer 2-3 days after Embark application.

Cutless appears to have potential for selectively removing annual bluegrass from creeping bentgrass by more severely retarding the annual bluegrass. Two studies have been initiated this year to determine the rates and frequency of application and to determine the magnitude of the population shift. The major drawback in the use of Cutless is the severe discoloration which results from application. The annual bluegrass will be more discolored than the creeping bentgrass so the greater the annual bluegrass population the more noticeable the discoloration.

The plots shown here will show the types of phytotoxic reactions seen with the use of these two materials.

Table 5. Timing of Embark to control annual bluegrass seedhead.

<u>Treatment</u>	<u>Seedheads/400 cm²</u>
Embark 1/8#/A + surf. 40 DD	27 A*
Embark 1/16#/A + surf. 40 DD	40 AB
Embark 1/32#/A + surf. 40 DD	45 AB
Embark 1/8#/A 50 DD	54 ABC
Embark 1/16#/A 50 DD	96 ABCD
Embark 1/8#/A 25 DD	135 BCD
Check	150 CD
Embark 1/16#/A 40 DD	153 CD
Embark 1/8#/A 40 DD	155 CD
Embark 1/32#/A 50 DD	158 D
Embark 1/32#/A 40 DD	168 D
Embark 1/8#/A 75 DD	172 D

* Treatments having the same letter are not significantly different at the 5% level by the Duncan's Multiple range test.