

PATIENCE KEY TO ANNUAL BLUEGRASS CONTROL WITH ENDOTHALL

Controlling annual bluegrass (*Poa annua* L.) in bentgrass putting greens is a perennial problem. There are a number of pre-emergence herbicides that effectively control annual bluegrass. However, the continuing problem has been to achieve control without damaging the bentgrass' shoot or root system. Injury to the root system is particularly noticeable. Also, Bentgrass damage can be aggravated by poorly drained soil and heat stress.

American golf course superintendents have attempted to control annual bluegrass with quick acting herbicides. Different pre-emergence herbicides have been applied in the past 30 years with marginal success and often unwanted consequences.

Australian golf course superintendents have tackled the problem differently. In 1976 several Australian superintendents began a long-term experimental program of endothall usage that resulted in bentgrass putting greens free of annual bluegrass. Other superintendents using a similar control program are currently achieving the same results.

Endothall has been available for many years; however, the approach in the United States has always been to use it as a short-term treatment at high application rates with the objective of quick eradication. The Australians are doing just the opposite: They are pursuing a program of light, repeated applications appropriately scheduled. Continual application has resulted in complete control of annual bluegrass.

The endothall formulation being used is the sodium salt that contains 17.5 grams of active ingredient per liter. It is sprayed at a rate of 1/4 to 1/3 ounce to 2-1/2 gallons of water per 1,000 square feet. Typically, two applications at 2 to 4 week intervals are made in both spring and fall when temperatures are between 50° and 70°F. The result has been a gradual elimination of annual bluegrass over a 2 year period. There is evidence that perennial types of annual bluegrass are not as easily controlled with endothall as are the annual types.

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right places.**



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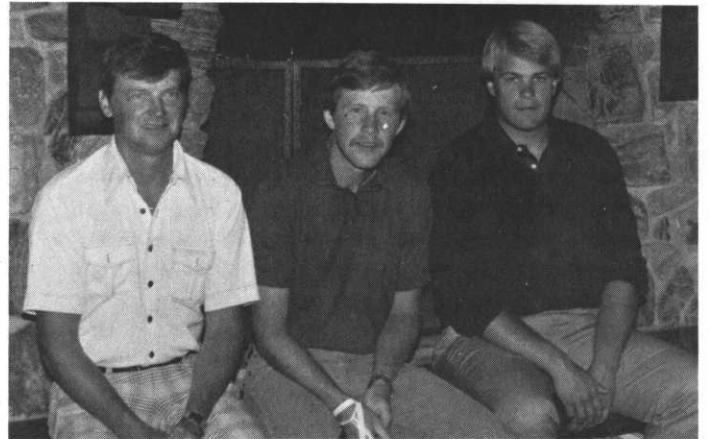
It is important to avoid treatment when the turf is under heat, drought or wear stress. Early morning or late evening treatments have been most effective. Endothall treated bentgrass turfs possess substantially reduced wear tolerance; thus, application should be avoided five days before intense traffic is expected.

An error in application, such as applying when temperatures are too high or at too high a rate, can result in some foliar burn to the bentgrass. However, the turf readily recovers because endothall has no long term soil residual that can cause toxicity problems for bentgrass, especially the root system.

The specifics on how such a long term endothall program might be used in the United States are not established. The rates and timings may vary slightly depending on the location's specific conditions. Those interested in experimenting with such a program should start on a nursery green with a rate of 1/8 ounce per 1,000 square feet and slowly increase the rate until the bentgrass' phytotoxicity rate is established. Annual bluegrass control should be attempted only on greens that contain an adequate stand of bentgrass.

NEW MEMBERS

Pictured below are M.G.C.S.A.'s three newest members who were present at the August meeting at Voyager Village and welcomed into membership at that time. Left to right, they are Melvin Miller of the Miller's Crestwood Golf Club, Class A; Jeff Bond of the St. Cloud Country Club, Class C; and Pat Walton from the Minneapolis Golf Club, Class C. We welcome all three of these gentlemen into our organization and hope they make the most out of all of the valuable services it has to offer.



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