Aquatic Herbicides In Irrigation Water
By ROBERT C. HILTIBRAN

AQUATIC WEEDS can present serious problems in irrigation ponds by clogging irrigation lines and pumps, interfering with play on golf courses and detracting from the aesthetic value of the landscape. Attempts at controlling aquatic weeds with herbicides are limited by the subsequent use of the water for irrigating putting greens and other turfs. This experiment was designed to evaluate the suitability of various aquatic herbicides in terms of their safety to intensively cultured turf.

The herbicides were added to barrels of water at normal treatment concentrations and the water was then applied to 'Penncross' creeping bentgrass, maintained as putting green turf, at 9.8 gallons per 30 square-foot foot plot (equivalent to 1/2 inch of irrigation). Applications were made twice in the spring study (May 31 and June 3), four times each in the spring-summer (May 31, June 3, July 29 and 30) and summer-summer (July 30 and 31, August 7 and 8) studies, and twelve times in the multiple summer study (from August 14 to September 17).

Turfgrass injury varied with type and formulation of herbicide and timing, rate and number of applications (see Table 1). No injury was observed in plots treated with any of the copper compounds, diuron, fenac, 2,4-D amine, or endothall formulations. Diquat, and 2,4-D ester were slightly to moderately injurious depending upon rate and number of applications. Silvex, dichlobenil and simazine were moderately to highly injurious resulting in complete loss of turf in some instances.

An additional consideration when using herbicide-treated water for irrigating turf is the residual toxicity of the herbicide in water. The relatively short residual activity of diquat in the aquatic environment would allow for safe use of diquat-treated water soon after treatment. In contrast, 2,4-D ester, silvex, and dichlobenil have a longer residual life in the water requiring a longer waiting period between treatment and use of the water for irrigating bentgrass turf.

Cultural Practices And Yellow Nutsedge
By A. J. TURGEON

YELLOW NUTSEDGE is a serious weed of lawns and intensively-cultured turfs which has increased in occurrence and distribution in recent years. Studies were undertaken to determine the effects of cultural practices and Kentucky bluegrass competition on the growth and development of yellow nutsedge.

In a greenhouse study, six yellow nutsedge plants were planted in glass-sided boxes with and without Kentucky bluegrass, and additional boxes were planted with Kentucky bluegrass alone. Half of the boxes were mowed weekly while the other half were unmowed for the first 12 weeks, then mowed weekly for the remainder of the 32-week experimental period.

Observations were made on shoot density, below-ground development and tuber formation. Nutsedge density was highest in boxes in which nutsedge was planted alone and not mowed. Mowing or competition with Kentucky bluegrass substantially reduced nutsedge density during the initial 12 weeks of the experiment. However, the combination of mowing and compe

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