

GCSAA Water Study Reflects Positively on Golf Courses

A Golf Course Superintendents Association of America (GCSAA)-funded water quality study confirmed the results of previous research that pesticide runoff and leaching to ground water from golf courses is minimal, and when detected, at levels that are usually well below health advisory standards.

Researchers Stuart Cohen, Ph.D., Amelia Svrjek, Tom Durborow and N. LaJan Barnes analyzed data from 36 golf courses, all in the United States with the exception of one on Prince Edward Island, Canada. The group analyzed water quality monitoring data for the pesticides, metabolites, solvents and nitrate/nitrogen used on courses. Summaries of data were also obtained from Guam and Japan, but were treated separately.

The study determined that just nine of 12,101 analyses for pesticides in groundwater samples were in excess of drinking water health advisory levels. Only eight of 2,731 analyses for pesticides in surface water samples exceeded their respective drinking water limits, and 25 exceeded guidelines for aquatic organisms. In the surface water samples, there were no readings of nitrate/nitrogen levels above the federal drinking water standard, while just 31 of 849 groundwater samples exceeded the standards. The results from Guam and Japan were similar.

GCSAA Director of Research Jeff Nus, Ph.D., said the study was the first attempt at a comprehensive examination of water quality on golf courses. Past research, with similar results, was limited to just one geographic region. Still, Nus said this most recent study was not meant to be national estimates for golf course impacts on water quality.

"Based upon previous scientific research funded by the United States Golf Association, GCSAA had contended that properly managed golf courses do not pose a discernable

health risk, and in many cases improve the quality of water," Nus said. "This latest study is important because the data analyzed from surface and ground water from golf courses support the results of the previous USGA-funded studies under carefully controlled laboratory conditions."

Nus said three factors largely explain the positive results of the study:

1) Golf course superintendents are educated, licensed and regulated in the application of golf course chemicals — therefore they judiciously employ their use and adhere to science-based course management practices.

2) Healthy turfgrass acts as a good filter of water, thereby removing pollutants. Additionally, chemicals in water are broken down by microbes in the turfgrass ecosystem before they reach water sources.

3) The U.S. Environmental Protec-

tion Agency intensely scrutinizes all pesticides before they are registered for use.

"These results should not be used to support a relaxation of environmental stewardship by superintendents, especially when one considers the geographic data gaps," said Cohen, president of Environmental & Turf Services and principal investigator of the study. "However, these results *invalidate* the claims by some that golf courses should be treated as if they are hazardous-waste sites."

While this study is significant, Nus said additional scrutiny is likely. The issue of water quality for all uses (golf courses, industry, agriculture, etc.) is receiving considerable attention from researchers. He indicated that the United States Golf Association has contributed major funding to the issue of pesticide and nutrient fate.

GCSAA College Guide Outlines Golf Course/Turf Management Programs

The GCSAA has released a new and exclusive publication providing a concise profile of turfgrass management programs offered by two- and four-year colleges and universities.

The "GCSAA College Guide to the Golf Course Management Profession" is designed to assist individuals in selecting a turfgrass management program that best fits their needs. The 300-page publication provides information on faculty, special research and laboratory facilities, type of degrees offered, number of hours required for a degree, internships required, career-placement assistance, tuition costs and much more. It is organized into four sections, including:

- A description of the golf course superintendent profession and the role of superintendents play in the operation of a golf course;
- Examples of course/curriculum

outlines for two- and four-year turfgrass programs;

- In-depth profiles of U.S. institutions offering two- or four-year turfgrass programs;

- A geographical listing and chart of U.S. and selected international turfgrass programs, plus a quick reference chart that depicts the degrees and majors offered by each U.S. institution.

Students, parents and career counselors will benefit from the information contained in the College Guide.

The "GCSAA College Guide to the Golf Course Management Profession" is offered exclusively through GCSAA and is available for \$18. Copies may be ordered through the GCSAA Bookstore at 800/974-2722. For additional information, contact the GCSAA Career Development department at 800/472-7878, ext. 612.