

RESEARCH

New paths being explored by USGA's Green Section

PEBBLE BEACH, Calif. — Coordinating scientific literature relating to golf course management and educating the public about the benefits of golf are two primary research programs to be undertaken by the United States Golf Association (USGA) Green Section.

A research firm working with USGA to determine what issues the organization ought to be addressing recently released its findings. It called for heightened awareness in five environmental areas:

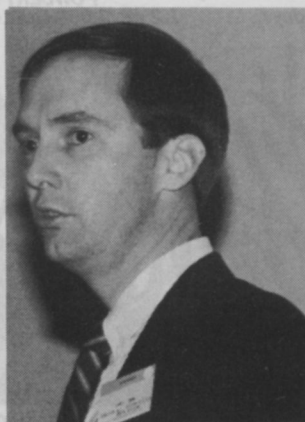
- water management issues;
- the impact of soil, nutrient, and pest management measures on golf courses that are already established;
- the impact of construction and erosion control;
- alternate methods of pest and disease control; and
- developing pro-active approaches to the benefits

of golf.

Speaking at the 44th annual meeting of the American Society of Golf Course Architects, USGA northeast region director James T. Snow said, "We decided that the most important thing to do was to put out a manual that describes things already known about the best practices for minimizing the effect of golf course management on the environment."

Snow, who will take over for retiring USGA National Director William H. Bengeyfield, said the organization will generate a 150-page technical manual that is to include all peer-reviewed scientific literature on the effects of pesticides, fertilizers, turfgrass and golf courses on the environment. A smaller manual for the media will be coordinated as well.

The second phase of the



Snow: says USGA will be looking into alternative methods of pest control for golf course membership

research program will examine the fate of pesticides in the turfgrass environment. The research report showed that there's much less information available about this subject than other areas, said Snow. "Our research is to be done in three or four areas of the

country. Based on that, maybe we can develop a good modeling system to tell us how certain groups of pesticides move within a certain soil profile."

Also, USGA will develop a manual for alternative pest control. "Biologicals are one area, but we're also talking about mechanical and cultural, maintenance, pest-resistant grasses and investigate newer methods of pest control on golf courses," said Snow.

He added that the USGA, like the GCSAA, wants to look at the benefits of golf courses on our lives and our environment, based on scientific data.

Snow added the USGA Green Section is committed to continuing its relationship with the GCSAA, including work on pest-tolerant and salt-tolerant grasses, water use and funding for environmental issues. □

RESEARCH

New uses for triazole fungicides found

BLACKSBURG, Va. — Triazole fungicides and other bio-stimulants containing cytokinins have demonstrated an ability to "keep grass plants younger," says Dr. R.E. Schmidt of Virginia Polytechnic Institute and State University.

Schmidt initiated the new research work using Banner fungicide and a seaweed extract that enhance or stimulate root growth

and overall strength of sod. He also observes that turf treated with bio-stimulants showed increased drought resistance and better growth at low soil moistures, along with a reduction in *Poa annua* seedhead development in bentgrass putting turf.

"Bio-stimulants" are materials—other than essential plant nutrients—that promote plant growth

when used in small quantities. Triazole fungicides are classified as synthetic bio-stimulants, and seaweed extracts are natural bio-stimulants. Both have shown to have a positive influence on turfgrass.

"We have also shown more tolerance to low temperatures by bermudagrass and better uptake of nutrients—which means less fertilizer use—by using

bio-stimulants," Schmidt notes. "We're stimulating a lot of enzymes within the plant."

He says that warm-season grasses seem to show better results using the seaweed extracts while cool-season grasses show better results with the triazole fungicides. He adds that results seem to be better when the grass is under stress. □

Boom slows in most areas as '90s begin

WASHINGTON, D.C. — The boom in landscaping in the 1980s is slowing slightly as the new decade begins, according to statistics from the National Landscape Association (NLA).

The NLA sees continued growth in the Great Lakes region and Florida, but is not as optimistic elsewhere in its 14th annual economic survey of member firms.

The NLA also notes that the National Association of Home Builders reports stagnant or falling prices in some former real estate hot spots on the East and West coasts. The builder's group was somewhat pessimistic about future homes sales, but this didn't totally dampen the NLA's outlook. It reasoned that if people stay in the same house longer, they'll be more apt to upgrade their landscaping.

The NLA survey according to region:

Northeast. An economic slowdown. Total landscape sales for 1989, "by far" the worst reported with an

1989 ACTUAL BUSINESS							
Change from 1988							
Region	Total Gross Sales	New Residential	New Commercial	Residential Renovation	Commercial Renovation	Residential Maintenance	Commercial Maintenance
Northeast	+6.0%	-0.3%	-1.8%	+5.5%	+1.3%	+2.7%	+1.3%
Southeast	+29.1%	+21.9%	+19.1%	-2.7%	-0.8%	**	+19.8%
Great Lakes	+20.3%	+10.8%	+14.6%	+12.7%	-3.0%	+11.7%	+9.1%
Great Plains	+18.6%	+3.5%	+5.0%	+20.0%	**	**	**
Survey avg.	+16.1%	+7.1%	+6.9%	+8.9%	-0.1%	+7.0%	+7.5%
1990 EXPECTED BUSINESS							
Change from 1989							
Region	Total Gross Sales	New Residential	New Commercial	Residential Renovation	Commercial Renovation	Residential Maintenance	Commercial Maintenance
Northeast	+13.0%	+5.2%	-2.4%	+18.7%	+5.8%	+14.7%	+13.7%
Southeast	+26.5%	+18.2%	+19.4%	+8.8%	+6.0%	**	+11.1%
Great Lakes	+16.9%	+11.7%	+14.6%	+14.1%	+3.7%	+17.6%	+10.7%
Great Plains	+16.8%	+5.0%	+12.3%	**	**	**	**
Survey avg.	+16.7%	+9.8%	+7.9%	+15.3%	+5.1%	+16.1%	+12.3%

**not enough responses

Source: National Landscape Assn.

average 6 percent growth. Overall, sales, including maintenance, were up only 2.3 percent.

The NLA pointed to several factors for the slowdown: Wall Street fluctuations that caused many layoffs, continued high unemployment in some areas and early winter 1989 freezes.

Southeast. Slowing

growth everywhere but Florida. NLA's survey reports an overall growth of 29.1 percent in total landscape sales for 1989. Overall, sales, including maintenance, were up 16.3 percent.

Outlook: Hurricane Hugo devastated the Charleston, S.C., area. Demand for landscaping there should be high but it will

takes years for the area to recover.

Midwest (Great Lakes).

A resurgence. Factories are making a comeback. The farmbelt got an economic boost with worldwide demand for U.S. grain up more than 35 percent last year. Total landscape sales reflect the brightening economic picture in this area—

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RESERACH

Maryland researchers refine IPM techniques

COLLEGE PARK, Md. — Researchers at the University of Maryland are concentrating on effective integrated pest management (IPM) techniques for the green industry.

Dr. John Davidson directs a landscape IPM program for newly-installed corporate building landscapes. He is evaluating plant/pest systems, recommending corrective measures and developing an IPM program for landscape managers.

"With the large number of office buildings springing up around the state, we felt this was an important area to focus on," Davidson notes.

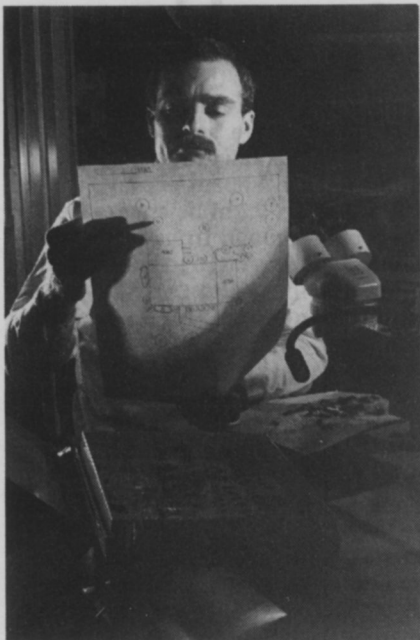
Davidson also cooperated with eight nurseries, showing that an IPM program based on frequent monitoring, evaluation and spot spraying provides equal or better plant protection than traditional practices. "One nur-

seriesman cut his pest control costs by about \$6,000 while reducing pesticide use by 96 percent," says Davidson.

Another urban entomologist, Dr. Michael Raupp, recently completed a three-year project with the National Park Service at historic sites like Fort McHenry, the battlefields at Gettysburg and Independence Mall.

"Basically, we assisted Park Service personnel in implementing an approach that will protect important ornamental plants while reducing the loss of beneficial insects," Raupp says.

He and graduate student Nancy Owen hope the project will have long-term benefits for the Park Service, landscape managers and home gardeners. A document being written by Owen will offer guidance on how to use IPM at park sites and managed landscapes. □



Dr. Michael Raupp, a Maryland extension entomologist, inspects a landscape diagram identifying pest/plant symptoms. Such diagrams can help develop site-specific IPM.

California's landscapers take advantage of drought

SACRAMENTO, Calif. — Landscape contractors in this drought-riddled state are taking advantage of the lack of water this year to further service customers' lawns and landscapes.

Walter Barrows' company in Santa Barbara, where lawn watering is restricted, is using green paint on brown, dormant turf.

"California's rainy season really ends in April," notes Larry Rohlfs, communications director for the California Landscape Contractors Association (CLCA). "So we don't expect any more rain until fall this year."

The CLCA's position on water states, in part: "The key is efficient irrigation management. Far more water can be saved by im-

proved irrigation management than by other water-conserving landscape practices."

Rohlfs says that the CLCA has been busy disseminating water-saving hints to the public through the mass media.

"This is the fourth year of drought," notes horticultural extension agent Janet Hartin of San Bernardino County. "People are beginning to water more intelligently—in the morning and on a schedule. We've put together a lawn watering guide for homeowners with minimums and forty commonly-asked questions and their answers.

"We are all in total agreement out here: do the grunt work on your irrigation system and save 10 to 20 percent of your water." □



Real or artificial?

KANSAS CITY, Mo. — It's real, explains turf expert George Toma (left, with Jonathan Harmer of Great Britain). Noting that dirt tends to accumulate in artificial turf, Toma decided to sow some Ph.D. ryegrass into the mat and dust it lightly with sand. The pre-germinated seed sprouted within four days and is nourished with Bov-A-Mura organic fertilizer and Ferramec liquid iron. The real grass/turf mat can be playable within a couple weeks, after which a high pressure hose can be used to blast the grass out, says Toma. This novel grass-growing approach is one of several possibilities for re-turfing artificial surfaces to meet the World Cup Soccer standards.

GOLF

Golf courses offer answers to problem

PEBBLE BEACH, Calif. — The golf industry needs to convince the public that golf is part of the solution to environmental problems, not part of the problem, says Perry Dye, president of the Golf Course Builders of America.

"Whether it's building environmental habitat or taking care of water problems, golf courses are part of the solution, not part of the problem," says Dye.

"The studies we need to compete in today's environmental arena have to be three to five years old, they have to be very well documented, and they're very expensive," says Dye. "The environmentalists have spent the money, so we're behind in our research in order to provide that one piece of information that

proves that golf courses are part of the solution."

Dye says an important "buzzword" in 1990s will be "spoon-feeding."

"I think spoon-feeding through irrigation is something that's going to help us in the future," he says. "We need to spoon-feed our grasses instead of using heavy applications and do soil balancing and soil mixing at the time of construction. Sites will then be environmentally safe for a long, long time and require less chemicals for maintenance."

Dye notes reports from Japan that more than 90 caddies have developed skin problems and rashes due to mis-application of pesticides. Such incidents demonstrate the need to export our knowledge of turf management.

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management.

"Today it's a major sales job on our behalf to prove that we're part of the solution, not part of the problem," says Dye. "I'm an eternal optimist. I think we've done major things for the environment. It's a major give-and-take today, and we give up a lot more than we get to take, but we have to be perceived as part of the solution." □

ACADEMIA

Japanese visit Virginia Tech

BLACKSURG, Va. — The turfgrass research and Extension programs at Virginia Tech and Michigan State Universities were recently shown to a contingent of 30 turfgrass professionals from Japan.

Among the group visiting was Dr. Yoshisuke Maki, past-president of the International Turfgrass Society. Others included Japanese academics, industrialists, golf club owners and golf course superintendents. □

EQUIPMENT

Haul Master buys vehicle maker

MENDOTA, Ill. — Haul Master, Inc. has acquired C.H.I. Industries, an original equipment manufacturer of general-purpose utility vehicles.

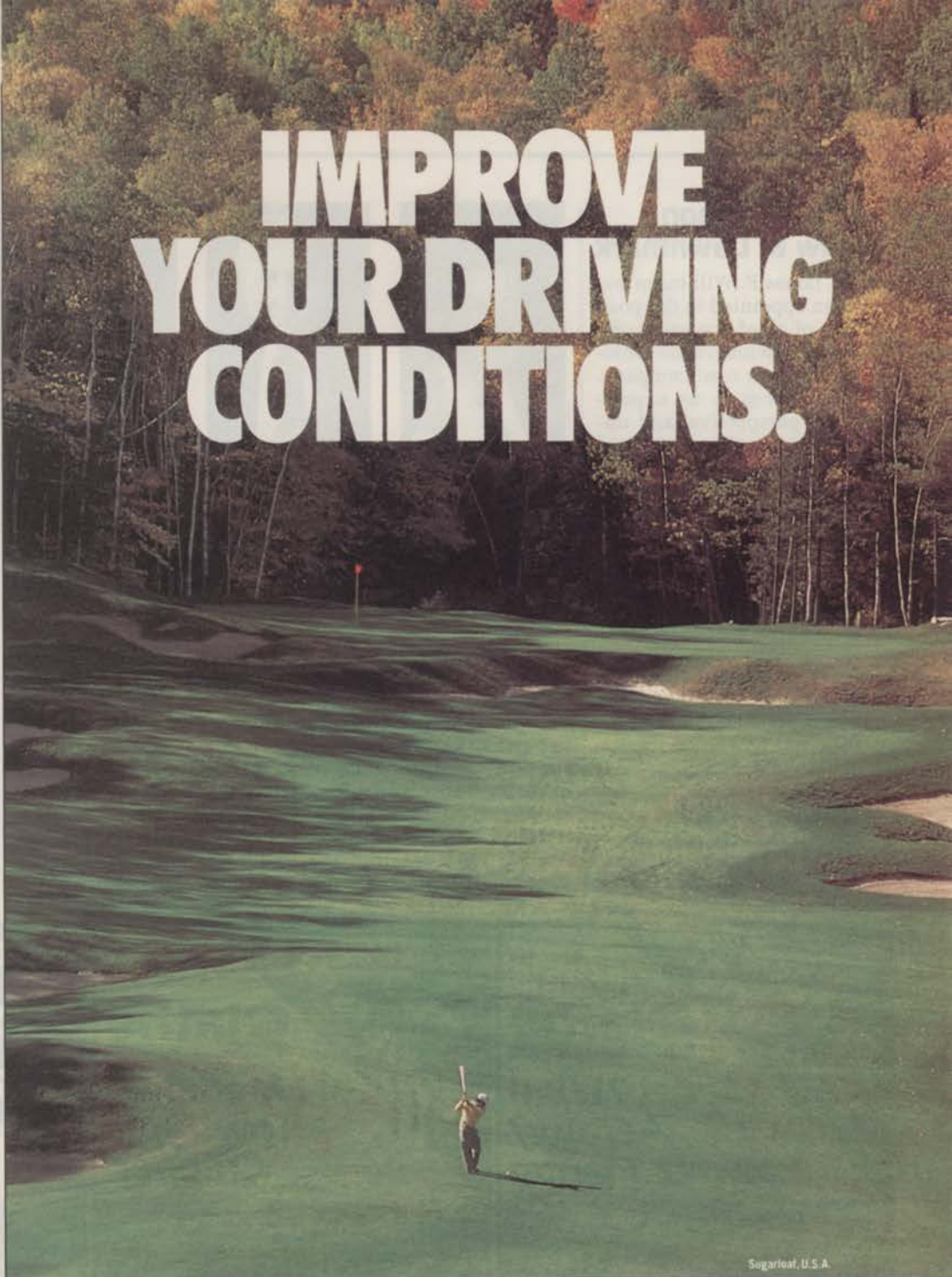
Claude W. Martinez, president of Haul Master, says the acquisition brings enhanced engineering and manufacturing support to Haul Master's established product line of rugged, dependable, and economical utility vehicles.

C.H.I. Industries' operation has been combined with Haul Master's manufacturing facilities in Mendota, Ill. □

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