FILE PHOTO COURTESY OF THE UNIVERSITY OF MICHIGAN, TINA WATTSCHER

Michigan State University, Tina Wattscher of Penn State University, Dr. Richard Cooper of the University of Massachusetts and Robert Carrow of the University of Georgia, U.S. Golf Association Green Section National Director Jim Snow, and architect Thomas McBroom.

The following story has been reprinted from the METGCSA Newsletter, with permission of the Metropolitan Golf Course Superintendents Association.

Theintroduction of the triple greenwater has a single piece of equipment generated as much interest as the Toro HydroJect (HJ). Its initial attraction was that it allows you to aerify with only minimum surface disruption. But after a year-and-a-half on the market, what most superintendents are more interested in knowing is: "Does it really work?"

Thoroughly, there's still a lot to learn about the Toro HydroJect, the system that has become more and more popular among many superintendents in the past. But as the equipment is used in more and more situations, it will become easier to see what works and what doesn't. And as the equipment is used in more and more situations, it will become easier to see what works and what doesn't.

HCURRICANE RELIEF SENT

South Florida golf course maintenance employees, who stood down buildings and damaged by Hurricane Andrew are getting help from their "golf family." The Florida GCAs has established a relief fund. First financial shot was fired by the Palm Beach GCAS, which donated $1,000. West Virginia's GCAS matched that. The Carolinas and Georgia GCASs were as quick to offer assistance. Relief fund checks payable to the FCGCSA should be sent to 7000 Northwest Pine Lake Drive, Stuart, Fla., 34994; phone number is 407-962-9349.

LAKE CONFERENCE HELD

CINCINNATI — The North American Lake Management Society's (NALMS) 12th annual International Symposium, geared to protecting and enhancing surface water quality, will be held here Nov. 27. While many of the workshop topics will be technical, there will be many presentations for volunteers who monitor water quality. The symposium comes during the 30-year Clean Water Act, which is under review and may be changed in the near future. More information is available from NALMS, One Progress Blvd., Box 27, Alachua, Fla. 32615; 904-462-2554.

COURSES NAES RODGERS

FRESNO, Calif. — Gary Rodgers, superintendent at Riverside Golf Course and former board member of the Central California Chapter of the GCA of California, has been named director of maintenance for the 7,500-yard, par-72 Hale Irwin-designed course, which will be opened with all 18 holes in March. Rodgers will be responsible for the daily maintenance and irrigation of the course. He will also be in charge of the 3,000-square-foot greensmower, which is used to cut the greens. Rodgers will be responsible for the daily maintenance and irrigation of the course. He will also be in charge of the 3,000-square-foot greensmower, which is used to cut the greens.

HAYES GCSSA EDUCATION MANAGER

The Golf Course Superintendents Association of America has named Alan Hayes education manager for technical training. Hayes will conduct and refine spray technician seminars and help develop other topics for the organization's technical training.

TAEGEN HIRED AT CORDILLERA

EDWARDS, Colo. — Cordillera has named Timothy T. Taagen superintendent, according to Gerry Engle, project general manager. Taagen will be responsible for all facets of construction, operation and maintenance for the 7,000-yard, par-72 Hale Irwin-designed course, which is scheduled to open with all 18 holes in 1994. Taagen, 26, has worked for three of the top 10 courses in the country. Most recently, he was superintendent at Green Gables Country Club in Denver. Prior to this, he was Assistant Superintendent at Cherry Hills Country Club in Denver.

HydroJect's influences debated

By PAT LUCAS

HALIFAX, Nova Scotia — The speakers program and attendance is expected to be the best in years, but trade show booths are down for the 44th Canadian Turfgrass Conference and Trade Show, held here Nov. 29-Dec. 2. According to Vince Gillis, executive director of the sponsoring Canadian Golf Superintendents Association, "We anticipate the attendance will be as good or better than in years" to hear an all-star lineup of speakers, but the economy "has taken a bite this year," he said.

We're looking at the neighborhood of 50- to 60-percent capacity. We average 25,000 net square feet. Last year in Toronto we had 23,008 square feet. We were sold out, full to capacity. Exhibitors were hanging from the rafters.

"This year we were banking on 18,000 square feet and we're at 10,000," Gillis said. The registrations on the economy and distance, the Atlantic Coast location, and the fact that more attendees are coming from previous years, but full-time attendance will be greater than normal — drawn by the talks by such notables as Drs. Paul Reiley of Michigan State University, Tana Watschke of Penn State University, Dr. Richard Cooper of the University of Massachusetts and Robert Carrow of the University of Georgia, U.S. Golf Association Green Section National Director Jim Snow, and architect Thomas McBroom.

Gillis feels "a sleeper in terms of interest" will be a panel discussion Wednesday morning on where golf is headed. The panel will include Canadian PGA Pro Linden Garrow; club manager Dick Grim on of The Royal Canadian Golf Association, who has run the Canadian Open for a number of years; Canadian GSA President Paul White; and Golf

North of the border, Canada draws super to "learning show"

By PETER BLAIR

The 160 accepted papers is almost double the previous high of 98 presented at the 1989 To-kyo conference. About one-third of this year's presenters are from outside the United States. The goal is to exchange information regarding turfgrass research on an international basis every four years, said Toro Co. consultant Jim Watson, one of the organizers.

It has been dominated by the United States in the past, but each time the international segment has become more and more important.

The meeting is being divided into two symposiums, according to program chairman Bob
Market-bounded products handle their tasks differently

By Mark Leslie

Nearly a decade of research has been done on the pioneering subsurface injection machines. So, what are the differences?

Prof. Mark Sears of the University ofGuelph in Ontario said, "I think they're comparable."

The ground, causing probes that look similar to aeration holes.

Rogers Innovative's Liquid Pulse Injector (LPI) is "a Cadillac unit," Sears said. "You can set all the variables. It's larger than the Toro Hydroject — 48 versus 53 inches. It runs on hydraulic pressure and you need a good-sized tractor. It also has a 300-gallon tank, so you don't have to carry a hose around like the Hydroject."

Calling the LPI "big and a bit cumbersome," Sears noted that Rogers is working on a smaller unit that mixes chemicals into water.

Units on the Pattison Brothers Agro's Spoke Injector, according to President Rick Pattison, can be joined to make it anywhere from one to 50 spots wide.

Rogers President R. Barry Rogers said his LPI pulsed liquid electronically, compared to the mechanical operation of the Hydroject and Spoke Injector.

"The greater flexibility in pressure, plus makes it easier to adjust the length our valves are on as we go along," Rogers said. "You have to dig in (the ground) and find out the depth the water has gone. That will vary according to type of soil, but you can regulate it by pressure and by the size of the jet stream, which we can reduce as low as 13/100ths of an inch."

The Hydroject is set up so that the operator must use most of the volume. The LPI volume is adjustable. The Spoke Injector operates on 20 to 50 pounds pressure.

"Our unit is electronically controlled by a digital computer," Rogers said. "In the future it will be made to sense the color of the grass and adjust the application." He said the LPI can put down insecticides at one gallon per one square foot, or go as high as 28 gallons of water per 1,000 square feet for aeration.

"The more water you use, the more aeration, friction and lift in the soil," he said.

The LPI can speed along at fast as 3.4 mph, which equates to 72,000 square feet per hour for insecticide. It can pump nine. A gallon per minute. Rogers America's Liquidator was born in the LPI.

Marvin Jaques, director of engineering and technology at Ransomes America, was reluctant to discuss specifics about the Liquidator. It will use the same chassis as that used on Cushman's deep aerator, Jaques said. Jaques said the Cushman/Spoke prototype using a colter is "on our palette of things we're looking at and we're working on. There are two distinct markets; the golf course and large turf areas; and the home lawn maintenance. The requirements are different for the products and what they do. You can break that up into liquids and granular. We're trying to address the needs of everyone." Patterson's Spoke Injector is a pull-behind unit equipped with a round wheel and 12 wheels on it that come from a center hub. When the spokes enter the ground in the down position, the hub injects liquid into the soil under pressure. When the spokes leave the ground, they seal up.

It injects on a six-inch grid and can inject from 1-1/2 to two inches deep with one set of spokes and three inches with a second set.

Pattison said the Spoke Injector has been sold since 1990 in the agricultural market for fertilizer applications. It has had to undergo modifications for a pesticide application.

While not a lot of testing has been done on white grubs with these machines, Rogers said he has "shot polymers into the ground" with the LPI and Dr. Drew Smith at the University of Saskatchewan is testing its use of fungicide for fairy rings.

Manufacturers trying to perfect systems to inject below ground

Continued from page 1

Department of Environmental Biology has done tests with the Hydroject, Spoke Injector and LPI and says there are two areas of "great potential" for these machines.

"One is that [subsurface injection] gets the pesticides right at the grubs, where they live..." D. Cabot Trail will entertain at the closing banquet.

Professor Emeritus at Ohio State University, who has been studying subsurface injection in 1992 Superintendent of the Year, Marvin Jaques, director of engineering and technology at Ransomes America, said that subsurface injection is perfected. "The big gain will be in the public. We hope for commercial success, but we also hope it will evolve into an environmentally sound product. That way, everyone wins."

Continued from page 11

Course Superintendents Association of America President Bill Roberts, Peter Hope, past president of Royal Canadian Golf Association, will be the moderator. A special companions program and special nights will add spice to the program, which includes the Grey Cup party and opening reception Sunday night, Nov. 29, a loser party Monday, skating party and East-West hockey game Tuesday, and banquet with dancing Wednesday.

Halifax, the venue for Canada's annual conference

Also, the 1992 Superintendent of the Year, Thom Charters (see story, page 12), will speak, broadcaster Danny Callahan will deliver the keynote address, and General John Cabot Trail will entertain at the closing banquet.

Deaths illustrate importance of protection

TEXARRANA, Texas — The importance of workers being provided — and wearing — protective clothing and equipment when working in confined spaces was emphasized after the recent deaths of three local workers overcome by toxic fumes from an underground storage tank.

One man was overcome by fumes as they cleaned the tank, the others when they attempted rescue.

Edward K., "Red" Haye, Texas Workers' Compensation Commission chairman, said the three men and four others who recently died in Texas while working in confined spaces might still be alive had they been wearing respirators or safety harnesses.