

BRIEFS



MID-AM AWARDS CASH

WAUCONDA, Ill. — Four colleges and universities received cash awards for participating in a career fair at the Mid-Am Trade Show, one of the nations leading horticultural expositions. The College of DuPage received \$600 for highest attendance with 25 students. The University of Illinois was awarded \$450 for second best attendance. Joliet Junior College and Iowa State University each got \$225 for third and fourth best attendance. A total of 153 students from 15 schools met with representatives from 76 companies.

ENVIROTRON GETS \$35,000

HOMOSSA SPRINGS, Fla. — The third annual Envirotron Golf Classic at World Woods Golf Resort raised \$35,000 for the University of Florida's Envirotron Research Laboratory.



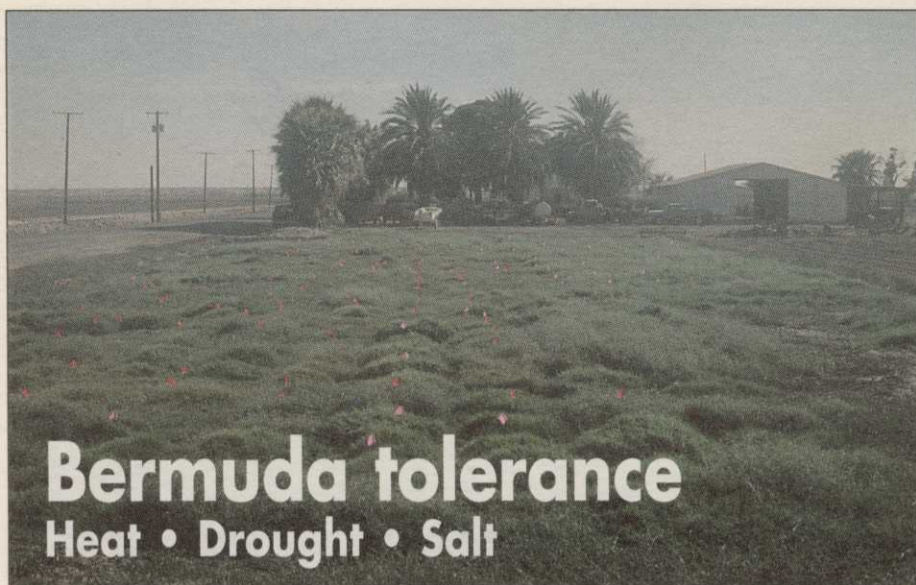
Envirotron is a 3,100-square-foot state-of-the-art research lab that includes a greenhouse, four climate-controlled glass houses, two walk-in growth chambers, labs, study areas, classrooms and offices. Scientists there study turfgrass systems from root to blade and issues like temperature modification, noise abatement, pollution and water purification, and general turfgrass culture.

GCSAA CERTIFIES FIVE

LAWRENCE, Kan. — Kicking off its Environmental Management Program, the Golf Course Superintendents Association of America has cited Certified Golf Course Superintendents David R. Davies, Matthew W. Henry, Keith A. Ihms, Jim B. Key and Evonne K. Sandras. Key, of Pointe and Hilton Resorts in Phoenix, Ariz., completed course work for certificates in the Water Quality, Integrated Plant Management (IPM) and Underground Storage Tanks specialties. IPM certificates were awarded to Davies of Palo Alto (Calif.) Municipal Golf Course; Henry of Dixon (Ill.) Country Club; Ihms of Bent Tree Country Club in Dallas; and Sandras of C.W. Ditto Golf Course in Arlington, Tex.

LATHAM JOINS JACKLINGOLF

James M. Latham, who retired this year as a regional director of the U.S. Golf Association Green Section, has joined JacklinGolf as technical agronomist, working on projects worldwide. A graduate of Texas A&M with a master's degree in agronomy, Latham worked 14 years for the USGA after 24 years with the Milorganite Division of Milwaukee Sewerage. He will work with another former USGA agronomist, Jim Connolly, Jacklin's senior technical agronomist.



Bermuda tolerance
Heat • Drought • Salt

Breeders advance on cold, seed challenges

By MARK LESLIE

As dominant a turf as Bermudagrass is on golf courses in the South, plant breeders would like to improve certain characteristics and introduce it further north. Fulfillment of their quest appears imminent. "We're there," said Farmers Marketing Corp. (FMC) plant breeder Jeff Klingenberg, Arden Baltensburger's understudy. "We have a series by hybrids under the Princess brand that has the quality of a Tifway."

"We're looking to release one or more varieties within the next year," said Dr. Charlie Taliaferro, a pre-eminent scientist from Oklahoma State University.

Plant breeders have made great advances in meeting their two key challenges: developing seed-propagated Bermudagrasses and vegetative types that are cold-tolerant.

"A great deal of breeding work is being done by private seed companies, and they already have succeeded in putting products on the market," said Taliaferro, whose vegetatively propa-

gated Midlawn and Midfield have been at the top of the national trials.

"Our emphasis has been on development of seeded varieties that have cold tolerance in addition to reasonable turf quality. And in some of the tests in Northern locations, OKS 91-11 certainly survived, persisted and demonstrated cold tolerance."

Saying that the turf quality of the cold-hardy seeded Bermudagrasses is not yet as good as that of the best vegetatively propagated types, Taliaferro explained: "Breeding of seed-produced Bermudagrasses is relatively young. It's been in process only about 10 years, so quite remarkable progress has been made by both public and private sectors."

"We're doing something instead of nothing now. For years, nothing was being done [in seeded Bermudagrass research]," said Ronnie Stapp, senior vice president of Pennington Seed.

Indeed, Pennington has just introduced Yuma. A year ago Seed

Continued on page 24



OFF THE RECORD

Insecticides difficult to rub off turfgrass

By MIKE KENNA

Do pesticides come off on your shoes or clothing when they come in contact with the turf on a golf course? This is the question researchers at the University of Florida and University of Massachusetts addressed in projects sponsored by the U.S. Golf Association's Environmental Research Program. Preliminary results indicate that very little rubs off the turf.

The amount of pesticide which can be rubbed off the turf is referred to by scientists as a dislodgeable residue. At the Ft. Lauderdale Research and Education Center, chlorpyrifos (Dursban 2E) was applied at the label rate of 0.75 ounces per 1,000 square feet to a Tifgreen Bermudagrass green around 11 a.m. Immediately after the application, small four-inch squares of cotton cloth were pressed onto the treated turf with a pressure of 1.5 pounds per square inch. A second sample was taken in the same manner following a light

Continued on page 19

Research on PGRs and algae urged

By MARK LESLIE

GRIFFIN, Ga. — Saying that golf course superintendents trying to prevent algae on their greens actually may be increasing it, a plant pathologist here believes the summertime effect of plant growth regulators (PGRs) should be studied.

Dr. Lee Burpee of the University of Georgia, whose research plate is full, called on someone in the scientific community to investigate the PGR effect "a little more closely."

Burpee, who has worked on bentgrasses with triazole-based fungicides, said triazoles also are active ingredients in PGRs — and therein lies the rub.

"PGRs can increase root development but decrease foliar elongation," he said. "The detrimental effect is that the canopy of the bentgrass becomes more open and allows light to the soil surface, and you get a tremendous growth in algae. That's what we're concerned about, because when algae comes

Continued on page 23

Pinehurst first in on Safe Harbor

PINEHURST, N.C. — Pinehurst Resort and Country Club has helped Secretary of the Interior Bruce Babbitt kick off a first-of-its-kind conservation plan to help endangered red-cockaded woodpeckers find safe homes on private lands.

"This proposal uses the flexibility of the current Endangered Species Act to introduce a new conservation concept that we call Safe Harbor," Babbitt said. "It offers private landowners an incentive to be good stewards of their land and provide habitat for endangered and threatened species. In exchange they get an ironclad guarantee that they will not be subject to restrictions later on if they succeed in attracting endangered species to their land."

Joined at the announcement by Pinehurst superintendent Brad Kocher and Environmental Defense Fund Chairman Michael Bean, Babbitt said Safe Harbor serves as a model for new ways to



Pinehurst's Brad Kocher

work with private landowners to resolve concerns about endangered species.

The plan "removes the disincentives that currently prevent most landowners from carrying out actions that could benefit the woodpecker," Bean said.

"Pinehurst is excited to be the first private landowner to sign on to this ... plan," Kocher said. "We knew the golfers like our

courses but we were happy to learn that woodpeckers find them a good substitute for their disappearing natural habitat."

Pinehurst will work with the U.S. Fish and Wildlife Service to enhance the woodpeckers' habitat.

Officially known as the North Carolina Sandhills Habitat Conservation Plan (HCP), it differs from other habitat conservation plans because it is designed to encourage positive habitat improvements, in advance of any specific project that could adversely affect an endangered spe-

Continued on page 17

Insecticides don't rub off

Continued from page 15

irrigation of 0.2 inches of water. The third sample was taken five hours later at the end of the day. The next day, a fourth sample was taken.

As one would expect, most of the pesticide was dislodged from the turf onto cotton cloth immediately after the application was made. Think of a small four-inch square of treated turf with which your knee may come in contact. Immediately after the pesticide

application, 0.26 percent of the chlorpyrifos would come off onto cotton cloth. This amount is equal to 1.5 micro grams of pesticide. After the light irrigation following the application, approximately 0.04 percent or 0.24 micro grams was dislodged. The amount dislodged at the end of the day was 0.02 percent or 0.11 micro grams, and 24 hours later, no chlorpyrifos was detected at all.

It should be noted that the amount of pesticide dislodged is a very, very small amount. For example, the chlorpyrifos was applied at the label rate of 0.75 ounces of active ingredient per

1000 square feet or 0.057 grams of active ingredient per square meter, which is the same as 57,000 micro grams per square meter. The maximum amount dislodged immediately after application was 1.5 micro grams or 0.26 percent of the total amount applied. To put 1.5 micro grams into perspective, consider that a small paper packet of Sweet'n Low weighs about one gram or the equivalent of one million (1,000,000) micro grams. How small is a buck and a half compared to a million dollars?

At the University of Massachusetts in Amherst, dislodgeable residues were determined

by vigorously wiping a one square foot area of pesticide treated turf with a piece of moist cheese-cloth to remove pesticide residues. The samples were taken 15 minutes, three hours, and eight hours after application on the first day; and at noon on all other sampling days during the studies.

The largest amount of dislodgeable residue for MCPP was measured 15 minutes after application and amounted to less than 1 percent of the total amount applied. At three hours after application, when the leaf was dry, residues had dissipated to only 0.14

percent of the total application.

Fifteen minutes after application, dislodgeable residue found for triadimefon (Bayleton) was 2.4 percent of the total amount of applied product. Residue levels decreased to about 1 percent at three hours after application. As with MCPP, dislodgeable residues were substantially reduced once the spray solution had dried.

Irrigation following the isazofos (Triumph) application reduced dislodgeable residues from 1.8 percent of the application when measured 15 minutes after application to almost none (0.01 percent) three hours later. Immediate post-application irrigation of trichlorfon (Proxol) provided a rapid decline in dislodgeable residues similar to that observed with isazofos. Trichlorfon applied without irrigation resulted in dislodgeable residue levels four times higher than for the same pesticide treatment receiving a light irrigation after application.

Be sure to water-in pesticides immediately after application if the label says to do so. Light applications of water move the pesticide deeper into the turf where it can bind to thatch and soil. Allowing the turf to dry thoroughly before golfers use the area will further reduce the amount of pesticide that will rub off the leaves.

Dr. Michael Kenna is director of Green Section research for the United States Golf Association. He works out of Stillwater, Okla.

CORRECTION

The headline for the May *Off the Record* column erroneously stated fungicides were found in runoff when applied before a heavy rain. The study was performed on three herbicides — 2,4-D, mecoprop and dicamba.

Moraghan

Continued from previous page

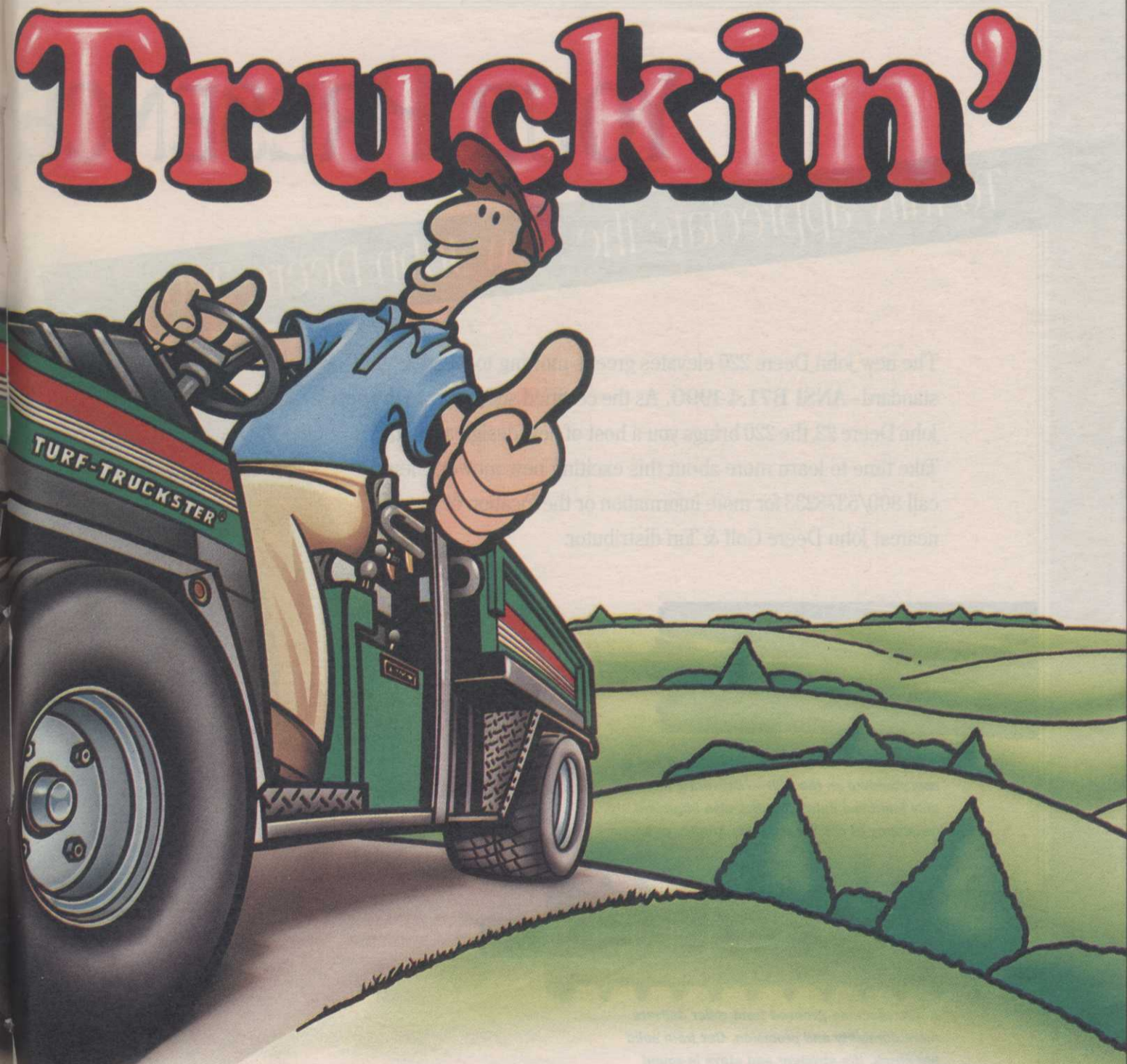
TM: Working with golf course superintendents such as Bill Spence from The Country Club, Patty Knaggs from Hazeltine National Golf Club, Mark Kuhns from Oakmont Country Club and Paul Latshaw from Congressional Country Club. They are individuals who are so meticulous and professional that their job is done well before the event arrives and it makes it very easy on me.

SS: How involved do you get with David Eger, senior director, Rules & Competition, regarding golf course setup during any of the championships?

TM: I work very closely with David Eger in all areas of preparation for each event. I have David's proxy on all golf course-related decisions.

SS: Tell us a funny story about something that happened during any one of the USGA Championships.

TM: Without going into too much detail, it involved an assistant golf course superintendent, several volunteers and a television tower.



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