

GOLF COURSE NEWS

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Action in Asia-Pacific

Golf Asia '94 is history. Architects are busy (page 42) but questions about the show's future remain 59



TPC SUPERINTENDENT OF THE YEAR
Gary Myers (right), seen here with Tournament Players Club Director of Maintenance Cal Roth, has been named the top superintendent in the TPC system. See page 20.

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Survey: Supers applying fewer, safer pesticides

By HAL PHILLIPS

More than 60 percent of golf course superintendents surveyed by the Gallup Organization indicated they have altered their maintenance practices compared to three years ago, citing pressure from government regulation, economic factors and environmental concerns.

The 1994 Sandoz National Environmental Poll, conducted by Gallup, contacted a random sample of 2,050 professionals who apply pest control products: farmers, roadside vegetation managers, lawn care workers, pest control operators, mosquito district managers and small animal veterinarians. This year's biennial survey included, for the first time, golf course superintendents.

Question: Do people in your industry

Continued on page 61

Sandoz National Environmental Poll 1994

Superintendents Responding

.....
Compared to five years ago, are you making fewer applications of pest control products?

Yes — 61%
No — 36%

.....
Do people in your industry use safer pest control products when available?

Always — 70%
Sometimes — 27%
Not Usually — 2%
Never — 1%

.....
Compared to three years ago, are you doing things differently regarding use of pest control products?

Yes — 67%
No — 30%

Bringing new meaning to 'earth moving'

By HAL PHILLIPS

GLENDALE, Calif. — While some golfers claim their home course plays differently each time out, Shoal Canyon Golf Course almost certainly will.

Currently under construction, Shoal Canyon — an American Golf Corp. project designed by Williams, Gill & Associates — isn't your typical 18-hole, short course built on a mountain-top landfill. Portions of the 60-acre site are sinking at rates of up to six feet per year.

The recent Los Angeles earthquake dropped one green down a full foot overnight, according to Dale Siemens, president of Fresno-based Daylen Inc., which is

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THE NEW, CAREFREE ATTITUDE AT TELLURIDE

The newly formed management firm, Carefree Resorts, is upgrading its three facilities: The Peaks at Telluride (above), Carmel Valley Ranch and The Boulders. Carefree executives indicate they are actively seeking new additions in Mexico, Hawaii and the Caribbean. For story, see page 54.

Pooling results in huge workers' comp savings

By PETER BLAIS

Some Ohio course operators are enjoying an 83-percent reduction in their workers compensation insurance costs because of legislation passed in the Ohio general assembly and the efforts of the state's golf course owners association.

Bills authorizing the pooling of similar businesses for insurance purposes have

been authorized in 40 states, according to Charles Freutel, national sales manager with the Frank Gates Service Co., a research and benefits consulting firm. This grouping allows members to obtain lower workers' compensation rates than they could individually.

Golf course owners associations in Ohio and South Carolina have taken advan-

tage of the legislation to offer a reduced-rate program for their members, Freutel said. The Pennsylvania state association is considering such a program, he added.

"There may be others out there as well that I'm just not familiar with," said Freutel, whose company reviews applicants for the Ohio Golf Course Owners

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Pesticide fate model may be inaccurate

By DR. MIKE KENNA

GRIFFIN, Ga. — Researchers here at the Georgia Agriculture Experiment Station have suggested that one of the mathematical models used by environmental regulators and scientists to predict the fate of pesticides will need a major overhaul before it accurately represents what happens on golf course turf.

"Results indicate that the GLEAMS model, with the defined parameters of our study, overestimated the actual values received from lysimeters for the potential of 2,4-D to move through putting green root zones," reported Dr. Al Smith, University of Georgia.

The GLEAMS (Groundwater Loading Effects of Agriculture Management Systems) mathematical model is commonly used to help identify chemical and soil properties, as well as plant and meteorological factors influencing the transport

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SPECIAL REPORT:
POND & LAKE MANAGEMENT,
see page 33

Photo courtesy of American Industries International Inc.

Sod producers talk business

NEWPORT, R.I. — Turfgrass sod will be featured at the American Sod Producers Association's annual Summer Convention and Field Days here July 27-29. This behind-the-scenes showcase highlights equipment, products and services considered important elements of producing sod for home and commercial use. The convention opens Wednesday, July 27, with committee and annual business meetings and an educational program, all at Newport Islander Doubletree Hotel.

Thursday will be devoted to exhibitor product and equipment displays, and demonstrations and viewing of ASPA seed test plots. Friday is tour day. Attendees will travel to the University of Rhode Island Agriculture Experiment Station in Kingston, Tuckahoe Turf Farms and Washington County Turf Farms.

For more information, contact Thomas Ford, American Sod Producers Association in Rolling Meadows, Ill.

USGA REPORTS

Scientists take EPA's pesticide fate model to task

Continued from page 1

of herbicides through soils used for agricultural crops.

Using small greenhouse lysimeters, the GLEAMS model prediction was compared to actual values for a 22-inch soil profile very similar to United States Golf Association (USGA) putting green specifications.

Lysimeters are small bucket-like devices with a collection tube at the bottom to determine what

pesticides leach through the soil profile. The USGA-recommended gravel blanket and intermediate sand layer were included in the profiles.

Two different putting-green, root-zone mixes consisting of 85:15 and 80:20 by-volume ratios of sand and sphagnum peat were placed in small greenhouse lysimeters. Tifdwarf Bermuda grass was established onto the lysimeters and mowed at

putting-green height.

The 2,4-D, a broadleaf herbicide, was applied in two applications 15 days apart. Once the herbicide was applied, the lysimeters received a simulated rainfall of one inch on Fridays during the 120-day experiment. One-quarter inch of water was applied on the rest of the days of the week to simulate irrigation.

Daily temperature changes were carefully monitored so this information, along with the rest of test parameters, could be entered in the GLEAMS model.

The results demonstrated the GLEAMS model over-predicted the amount of 2,4-D that would leach through each putting-green root-zone mix. Only minute quantities of 2,4-D were detected in the water that leached from the lysimeters.

The extraction and analytical methods were developed to detect levels of 2,4-D at 5 micrograms per liter (5 parts per billion or 5 ppb) or higher.

Peak 2,4-D amounts of 2 micrograms per liter (2 ppb) or less were found in the water samples removed from the bottom of the lysimeters.

Only a trace of 2,4-D percolates through the rooting media, and the concentration is several orders of magnitude less than the MCL (maximum contamination level) standard of 70 micrograms per liter established by the Office of Drinking Water, U.S. Environmental Protection Agency, explained Smith.

"Even though the GLEAMS model greatly overestimates the observed herbicide load," he added, "the maximum predicted concentration of 40 micrograms per liter is less than the MCL standard established for 2,4-D."

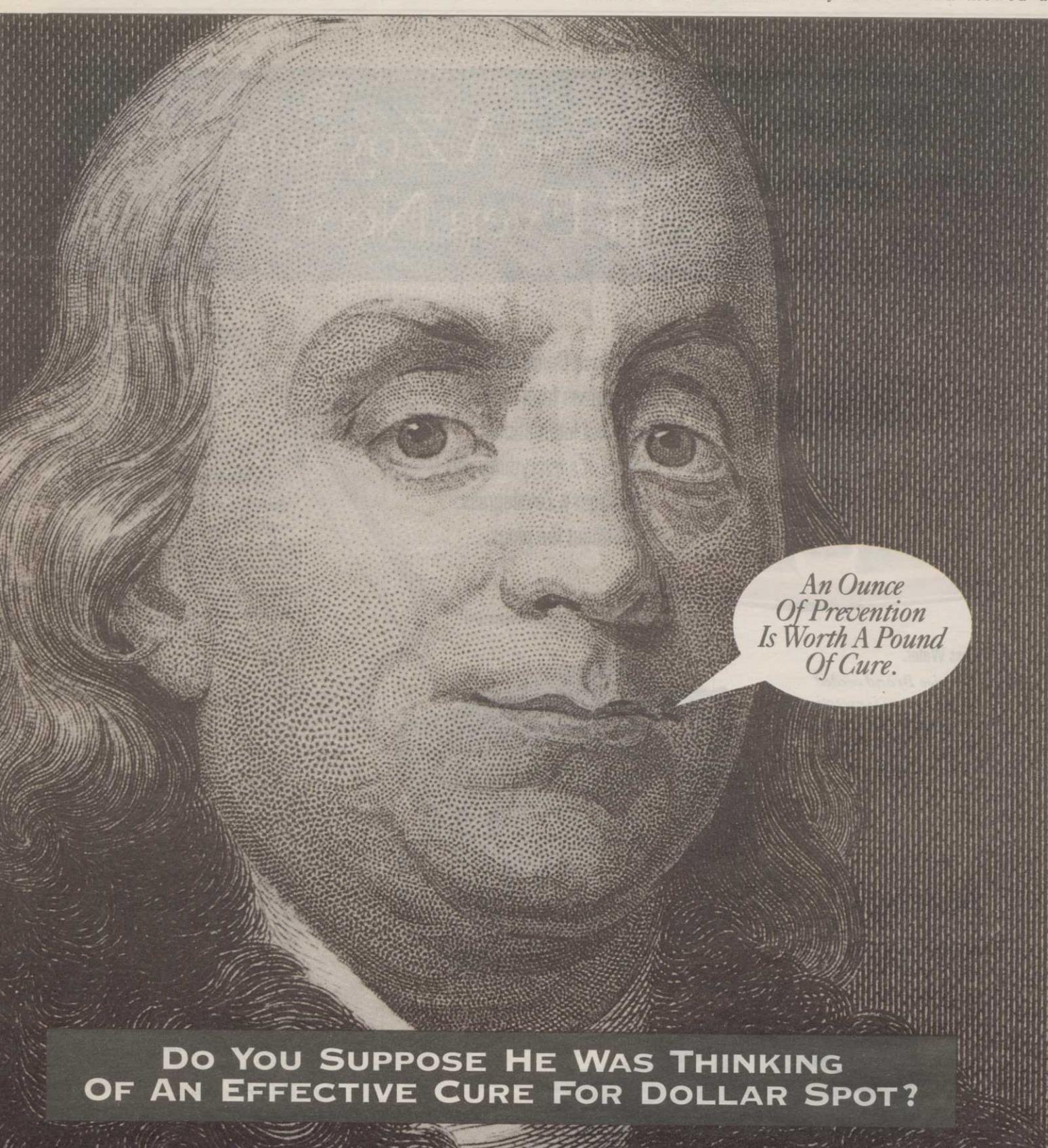
Differences between the measured and predicted percolation of 2,4-D may be due to a lack of understanding of herbicide fate on the dense surface of turfgrass leaves and the role of thatch, Smith said.

The inability of the current GLEAMS model to adequately predict surface evapotranspiration (ET) and water movement through the turfgrass/soil system are additional cause for concern.

"Our data indicate that the dynamics of the sod and rhizosphere, immediately below the soil surface, have not been thoroughly defined," concluded Smith.

"There is an urgent need to take the results from USGA-sponsored pesticide fate research projects, as well as other pertinent research, and overhaul the mathematical models for use on golf courses."

Mike Kenna, PhD, is director of Green Section Research for the United States Golf Association. He works from the USGA office in Stillwater, Okla.



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