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FUNGICIDE

LANDSCAPE MANAGEMENT

Formerly WEEDS TREES & TURF



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On the cover: Assistant editor Jeff Sobul gets a good bit of sand, along with the ball.

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Golf course maintenance exceeds \$3 billion

■ The U.S. golf course maintenance industry has reached an estimated annual worth of \$3.54 billion, according to the 80-page Golf Course Maintenance Industry report co-produced by the GCSAA and the National Golf Foundation.

The report, broken into nine geographic regions, covers irrigation sources, expenses, labor hours and wages, golf car fleet size and maintenance costs, environmental conditions and professional responsibilities for each region.

Data was collected through a 10-page survey administered in November, 1986. Information is presented in a form that allows a superintendent to make comparative analyses of operations with other courses in the region.

"For more info, NGF 1150 S. U.S. Highway 1 Jupiter, FL 33477"

Real estate development takes part in boom

■ Golf-oriented real estate developments have spread from their origin in the Sun Belt throughout the country, fueled by low interest rates allowing course construction.

According to Roger Rulewich, president of the American Society of Golf Course Architects, "the majority of new courses are tied in with real estate developments."

The reason is simple. "Golf courses add to the overall appreciation of the property," says Amy Zale, vice president for marketing for Chicago-area developer the Zale Group. "Units with golf course views are the most valuable property sites and sales for these units will always be steady," she adds.

But it might be a good idea to get reinforced glass windows.

Consumer pesticide, fertilizer markets up

■ According to an upcoming report by agribusiness consultants C.H. Kline & Co., sales of consumer pesticides and fertilizers were expected to reach \$2 billion in 1987, a 5.5 percent average annual increase from 1984 levels of \$1.7 billion.

Along with this growth has come a shift in the retail distribution patterns of the generally convenient, easy-to-use products from lawn and garden centers and hardware stores to discount department stores.

Products encompassed by the survey range from lawn fertilizers to indoor and pet insecticides.

LM Editorial Staff



Jerry Roche



Heide Aungst



Jeff Sobul

STAFF

Editor

Jerry Roche, Cleveland

Managing Editor

Heide Aungst, Cleveland

Assistant Editor

Jeff Sobul, Cleveland

Publisher

Dick Gore, Atlanta

National Sales Manager

Jon Miducki, Cleveland

Senior Vice President

Tom Greney, Chicago

Group Vice President

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Production Manager

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Graphic Design

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Graphic Coordinator

David Komitau, Cleveland

Circulation Supervisor

Jacqueline Eisenmann, Duluth

Directory Coordinator

Linda Hietala Kotera, Duluth

Reader Service Manager

Gail Kessler, Duluth

Promotion Director

Linda Winick, Cleveland

OFFICES

ATLANTA

455 East Paces

Ferry Road Suite 324

Atlanta, GA 30305

(404) 233-1817

CLEVELAND

7500 Old Oak Boulevard

Cleveland, OH 44130

Editorial: (216) 243-8100

CHICAGO

111 East Wacker Drive

Chicago, IL 60601

(312) 938-2344

SEATTLE

1515 N.W. 51st St.

Seattle, WA 98107

(206) 783-0549

DULUTH

120 West Second Street

Duluth, MN 55802

(218) 723-9200

MARKETING REPRESENTATIVES

Marsha Dover

Cleveland (216) 243-8100

Dick Gore

Atlanta (404) 233-1817

Ken Kuhajda

Cleveland (216) 243-8100

Jon Miducki

Cleveland (216) 243-8100

Robert Mierow

Seattle (206) 783-0549

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GREEN INDUSTRY NEWS

GOLF

Four-putt green? Try new Blackwolf Run



Former Blackwolf Run superintendent Don Cleamons waves from the middle of the No. 14 green at Blackwolf Run—all 20,000 square feet of it.

Nestled in a backwoods corner of Wisconsin is 6,800 yards of naked earth taking on a new shape. Construction crews are erecting what will be one of the toughest golf courses on the North American continent.

The Kohler Company hopes to have Blackwolf Run Golf Course completed in time for this summer's golf season.

It's a Pete Dye course that has been designed as a professional tournament course. When it's completed, its PGA rating should be neck-and-neck with the PGA West's 77.2, most difficult in the country.

You want length? Try the 566-yard No. 1 hole. Or the 556-yard No. 7. Or the 510-yard No. 10.

You want difficulty? Try No. 4, with its blind shot to the green. Or No. 14 with its 20,000-square-foot green bulkheaded by 400 feet of railroad ties shown here.

Blackwolf Run is a natural-appearing course, though being far from natural. It's all Pennncross bentgrass with fairways and greens surrounded by plenty of colorful wildflower mounds. Intermediate rough is bluegrass with roughs of fescue, bluegrass and prairie grass. Much of the rough will not be mowed.

The golf course is being built to help attract summer vacationers to the nearby America Club Hotel, also run by Kohler.

Says one Kohler source: "People don't play much golf in Palm Springs in June, July and August. We hope executive types on vacation from cities like Chicago, Minneapolis and Detroit come up here and play."

AWARDS

Sarazen to receive 'Old Tom' from GCSAA

Golf legend Gene Sarazen will receive the 1988 Old Tom Morris award from the Golf Course Superintendents Association.

GCSAA will present the award to Sarazen, the sixth recipient, Feb. 8 at the closing banquet of the 59th International Golf Course Conference and Trade Show, which

begins February 1 in Houston.

Sarazen was the first of just four people to win golf's Grand Slam. He is also the developer of the sand wedge.

Sarazen, now 85, joins Arnold Palmer, Bob Hope, Gerald Ford, Patty Berg and Robert Trent Jones Sr., as Old Tom recipients.

RESEARCH

Pesticides a victim of guilt by association?

Despite continued increase of pesticide use over the last 15 years, 23 of the 33 major life-threatening birth defects have stabilized or decreased, according to Dr. Stanley Shuman, medical director of the Agromedicine Program at Clemson University in South Carolina.

Shuman attributes the rise of the other 10 to heightened awareness and improved diagnostic techniques, especially for the four cardiovascular defects.

He notes, however, that only the

increases are reported by news media, sometimes resulting in removing products from the market.

Shuman reports that, statistically, one in every 100 births will result in a major birth defect, three in 100 a minor one, no matter what.

Statistics show that 25 percent of birth defects are genetic or chromosomal in nature, 10 percent environmental (not necessarily from pesticides) and 65 percent from unknown reasons. Shuman claims it is often these unknowns that suddenly

become a result of pesticides. But there is no proof.

While cancer is on the rise, Shuman says it is not a result of pesticides, but of an aging population. "The aging of cells causes cancer," Shuman says.

In addition, he notes that naturally occurring, plant-derived toxins occur in the average diet in concentrations sometimes as much as 10,000 times that of man-made pesticides.

Shuman spoke at the PLCAA convention last November.

LEGISLATION

N.Y. groups unite against legislation

Commercial pesticide users in New York have banded together, attempting to overturn the strictest proposed pesticide regulations ever written by a state agency.

If the regulations go into effect as written, everyone who applies a pesticide will have to post warning signs—everyone except homeowners.

Affected industries have spent the last six months objecting to the regulations and urging customers to write their elected officials. But the objections have not deterred the Department of Environmental Conservation.

Last spring, assorted landscape managers and nurserymen formed the New York State Green Council. This past fall, the council hired a lobbyist.

"We've been very segmented up until the last six months," notes Bill Stark, vice president of the New York State Turfgrass Association. Stark is both an LCO and a golf course superintendent.

The New York State Lawn Care Association, in addition to supporting the green council's efforts, has doubled the lobbying muscle by hiring its own lobbyist.

The regulations for lawn care applications are probably the most stringent of all. Among other provisions, LCO will have to place signs saying "Do Not Enter This Property" every 12 feet around the total perimeter after an application.

Golf courses will post at the pro shop, snack bars, bathrooms and clubhouse on every door, Stark says. Institutions and universities must post doors and two common areas, regardless where spraying is being done, he adds.

Public hearings on the regulations have been swamped with industry representatives, and input has been overwhelmingly against the regs.

One company, Lawn Medic of Bergen, N.Y., sent petitions to 400 customers. About 50 percent signed and mailed them back. The petitions have been shown to legislators.

"A number of the important people in the (legislative) assembly are coming out on our side of the regulations, mainly because they go way above the implied intent of the law," says Don Burton, president of Lawn Medic.



Woodlawn Cemetery sexton James Webber points out the cemetery map and directory used to locate plots.

CEMETERIES

Cemetery engraves plot directory on computer, gets good response

Woodlawn Cemetery in Claremore, Okla., has put its directory of deceased and pre-need plots onto a computer. According to Larry Roberts of Don Griffey & Assoc., Tulsa, the company that put the directory on line, it is the first such list in the country to be computerized.

Stored in the computer are 25,000 names, about 14,000 of which are of deceased, plus directions to grave and plot locations, displayed on a board at the entrance to the cemetery, says cemetery sexton James Webber.

The system went into operation March 1, 1987, and Webber says, has proven very successful. "It's beneficial to out-of-state people," he says. Because of the directory and the cemetery's reputation for excellent maintenance, Webber says, "People have come up from (nearby) Tulsa to buy space."

Webber adds that inquiries have come in from other cities around the country, including Denver, about installing such a directory and the cemetery maintenance program.

RESEARCH

N: no more 'pour-it-on,' Dr. Beard says

A number of trends are developing in turfgrass nutrition strategies as the decade nears its completion, says James Beard, Ph.D., Texas A&M University.

Beard cited four developing trends in a speech to attendees of the Professional Lawn Care Association of America's annual conference in San Antonio in November.

The first trend is toward lower application rates of nitrogen. This is a move away from the "pour-

it-on" philosophy of the past. New research shows that over-applying N can result in loss of carbohydrates needed for winter hardiness in cool-season areas, plus a greater susceptibility to disease as a result. Also, the increased shoot growth would result in more mowing and the removal of nutrients with clippings.

Beard also noted that applications of potassium will increase. He currently recommends applying it at rates of 65 to 85 percent of N once the soil has been raised to the optimum K level, then eventually going to a 1:1 ratio of N to K.

He suggests applying K every three to four weeks during the summer on cool-season turf because it will help



Dr. Beard

SHORT CUTS

SAND, SAND EVERYWHERE...But not a drop to use. Most golf courses in Hawaii use manufactured sand because of a 1975 state law prohibiting use of natural coral sands from the beaches. The other alternative is to use volcanic cinder in greens. "Sands are not all the same," says Charles Murdoch, Ph.D., of the University of Hawaii.

SAME THING WITH TURF...Not only is sand scarce in the islands, but so is sod. Hawaii has only about 25 acres in sod production for the entire state. Many new turf varieties must be quarantined for up to two years before they can be brought from the mainland to the islands. Sugar cane is susceptible to the same viruses as turf, and it would take just one virus to wipe out the entire crop.

NEBULUS NEMATODES...It appears that the pest-fighting nematodes which infect Florida housecrickets is a different, previously unidentified species. Grover Smart, Ph.D., of the University of Florida's entomology department told the Florida Turfgrass Conference that research proving the nematode's identity will be released shortly.

CONGRATULATIONS...Gayle Jacklin, domestic marketing representative for Jacklin Seed, Post Falls, Idaho married Scott Ward on December 5. Ward is a management-trainee with lumber/paper company Boise Cascade. Gayle will use the last name Jacklin-Ward professionally.

BALANCING THE BUDGET...Marvin Gross, owner of Marvin's Gardens, Sarasota, Fla., has a favorite term when it comes to balancing the old budget. The word is "wobble-ate," and it means doing some fancy fudging of numbers when appropriate. From what was said at a panel session presented by the Associated Landscape Contractors of America, most landscape contractors are adept "wobble-ators."

A PERFECT FIT...Golf courses and homebuilding go hand-in-hand, as housing developments are proving across the land. According to the Urban Land Institute in Washington, D.C., a residential lot located on a golf course is worth up to 50 percent more than a "no golf" alternative.

recovery in high traffic areas.

Beard feels regular use of iron for rooting will be the norm down the road. While he says that iron exists in the soil, it is rarely in usable form. Thus applications in small amounts will benefit shoot and root growth, color and drought hardiness. He notes that visible results of iron are quick, often less than a half hour.

The trend farthest in the future, Beard believes, is fertilization based on tissue analysis. New technology, he says, will be able to analyze tissue for nutrient content and return results within two days. The cost will be high initially, though, he says.

RESEARCH

Runoff control affects groundwater

The degree of runoff control has an impact on groundwater quality, says Thomas Watschke, Ph.D., Penn State University.

Watschke notes that the main collection points for runoff water are watersheds, which land development often takes away. Not only is the water not given a chance to percolate and filter through the watershed, it is often lost as a resource because it runs off into creeks and rivers and eventually out to sea.



Dr. Watschke



Dr. Sullivan

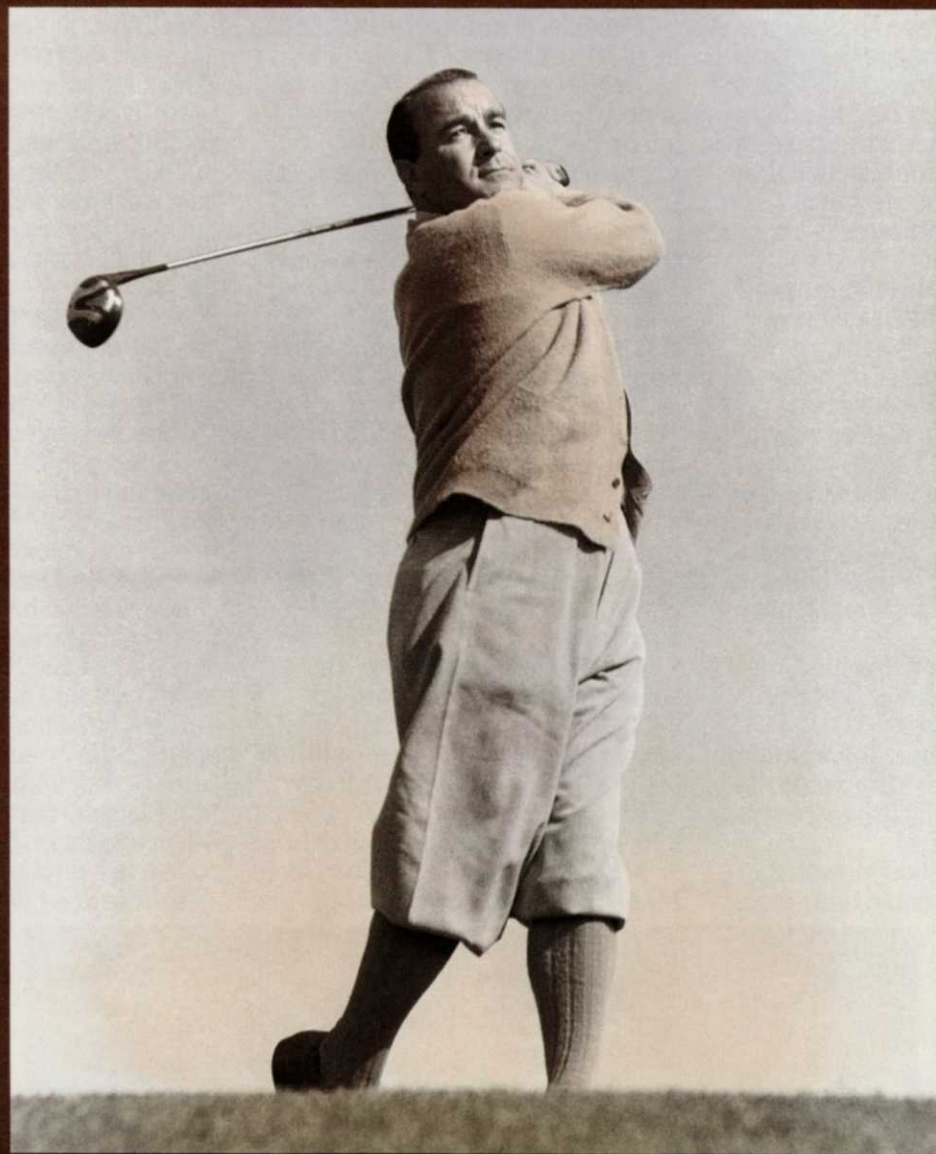
Michael Sullivan, Ph.D., University of Rhode Island, says that pesticides often gather along with other toxins. Both Watschke and Sullivan agree that periodic flushings, or alternate periods with and without rain, result in higher concentrations of toxins in runoff water because they are allowed to build up on surfaces like curbsides and roofs. When the built up material is flushed, the concentrations are thus higher.

Research performed by Watschke shows that established groundcover will go a long way toward reducing runoff and filtering out dirt particles holding toxins.

Ideally, sod presents the best solution, if affordable. It is immediate and most effective, able to handle the equivalent of six inches of rainfall per

Continued on page 15

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New walk-behind units include the 22R Greens Mower and the 529 Vacuum/Blower.

The 22R Greens Mower makes quality cuts more affordable. Its enclosed differential drive delivers excellent tracking.

Like the 22 Greens Mower, the 22R has cast aluminum alloy drive rolls and a standard high-speed, tool-steel bedknife for durability. An optional tournament bedknife delivers precision cuts down to 7/64-inch.

The 529 is unique because it can be used as either a vacuum or a blower. You get the best of both by simply turning a lever. It features a 5-hp Kawasaki engine, 30-inch vacuum nozzle and a durable 8.4 cu. ft. synthetic felt bag.

For bigger cleanups, there are the new 141, 151, and 161 Vacuums. Machines designed for work on turf and pavement—wet or dry.

The 141 and 151 Vacuums are engine-powered units that clear 4- and 5-foot swaths, respectively. Both have electronically balanced impellers that crush and mulch debris before it gets to the hopper—a hopper you can empty without leaving your seat.

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Two new blowers, the 30 and 230, help clear and windrow debris.

The 30 Blower fits on John Deere F930, F932, or F935 Front Mowers.

The 230 attaches to any Category 1 3-point hitch on tractors with 20 horsepower or above.

Both generate air velocities up to 250 mph with balanced, 6-blade impellers. They also allow you to easily change blower direction without leaving your seat. (A 90-degree front deflector is also available for the 30.)

And the story doesn't stop here. **Two new spreaders**, the 206 and 209, are now available for top dressing and other solid material spreading.

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