

District says it works about as well as it did when it was impounded. They don't have to use pesticides within the saltwater marshes to control mosquitos, any more than they did when it was impounded."

The open marsh water management system uses the the tidal influences of the Indian River to penetrate all the parts of the marsh, and to insure that there is no isolated puddling that will encourage mosquito propagation. "Then, if you can get the fish there, especially in the early life cycle of the mosquito," Andrews said, "the fish will eat the very young, small mosquito larvae."

Andrews adds, however, that not every impoundment area is a candidate for this type of program.

"For one thing, it is very expensive," he said. "For another, you need some place to put the fill that comes out of the berms that were part of the impoundment areas. In addition, there is a lot of research going on right now about mosquito impoundment areas. The mosquito control districts are looking into the possibility of opening some of these impoundments part of the year. So there are a lot of things to consider concerning mosquito impoundments."

In the process of creating two golf courses at Grand Harbor, 12 acres of wetlands were filled in. Andrews said the areas filled in were not pristine, but were heavily impacted wetlands.

"And," he added, "keep in mind that the citrus grove was not native land, and there was little wildlife on that portion of the property before construction." However, as part of the permitting, 48 acres of wetlands were created to offset the in-filling.

"Basically, we rehabilitated those 73 acres of salt marsh, except for the 12 we filled, created 48 more to add to that; and rehabilitated the whole thing. In addition, we created 74 acres of freshwater wetlands. Doing the wetlands work and integrating it with the golf courses were our biggest challenges."

The River Club course was built on citrus groves, and in creating it, 28 acres of upland lakes were built. At the Grand Harbor course, the impoundments were rehabilitated and freshwater lakes were constructed. All this work has created an environment that attracts fish and birds, Andrews said.

"We filled the marshes with fiddler crab,

snook and a lot of different fish," he said. "In our testing, we've collected a very high number of other fish. If you keep track of the fish, it's a very good way to see the success of a created marsh. Also, I can go out on the course and see a number of birds, such as tri-color herons, ibis, blue herons and wood storks. And there is other wildlife here, such as frogs, snakes, river otters, raccoons and bunnies—we're bunny huggers like everyone else."

"It is expensive to preserve, rehabilitate and create wetlands," Andrews said. "We probably had something in the neighborhood of \$2 million in the saltwater mitigation, and about \$400,000 alone in plants used in the freshwater. In addition, if you take 30 percent of a lake and make it marsh, you lose 30 percent of the fill that could come from the lake. So there is a hidden cost of mitigation, because it makes you use dirt from off the property. The only people who could afford this type of project is a developer. The value, however, is that it lets people know that mitigation can be done successfully."

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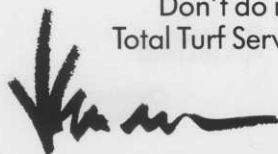
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*“When outright preservation of the land is not possible, then the next best scenario is to work with golf courses — courses are open space by their nature — and with residential developers, because they can put money into preserving bits of the native ecosystem.”*

The expense of either preserving wetlands and uplands or rehabilitating these properties is extensive, but Fitzpatrick believes that environmentally sensitive development can be valuable in the preservation or restoration of Florida’s lands.

“When outright preservation of the land is not possible, then the next best scenario is to work with golf courses — courses are open space by their nature — and with residential developers, because they can put money into preserving bits of the native ecosystem,” Fitzpatrick said.

“John’s Island West is clearly in the vanguard because they made a special effort to protect pieces of a native system exactly as it used to be. My genuine belief is that golf courses have a real potential for being ecologically important. They are important places for environmentally-minded people who decry any human use of the land. It is possible for development and the environment to live side by side.”

Andrews agrees. “Good golf course superintendents have always been environmentalists,” he said. “We spend a big part of our day on the golf courses. We’ve got to deal with the pests of nature, but we enjoy the good side of nature just as much as the next guy and we work hard to minimize the impact the golf course has. I think that often a golf course doesn’t get enough credit for the positive things it can do for the environment.”

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## Two from Florida win GCSAA scholarships

Two of the first 10 GCSAA Legacy Awards for outstanding scholarship have gone to Florida women.

Jennifer Jackson, daughter of Joel Jackson, CGCS, Orlando, and Melissa Marie Sohn, granddaughter of Louis Earl Trapp, Lake Placid, each have received \$1,500 stipends to further their collegiate education.

Legacy Awards, financed by GCSAA Scholarship and Research fund, are available to the children and grandchildren of active and retired GCSAA members.

Candidates must be enrolled full-time at an accredited institution of higher learning with a cumulative grade point average of at least 3.0 (on a 4.00 scale), demonstrate a broad base of interests including community involvement, volunteer activities and outside work, and complete a short essay on his or her parent's (or grandparent's) involvement with the GCSAA.

"The selection committee members were very impressed with the caliber of the candidates, particularly the essays," said Pat Jones, GCSAA director of communications. "These stipends were made solely on the basis of merit under the criteria, not on the basis of need."

The selection committee was comprised entirely of educators and collegiate administrators who had no connection to the GCSAA or the golf course management industry.

Jennifer Jackson will enter Wake Forest University near Winston-Salem, N.C. this

fall as a freshman. Her father, editor of the the Florida Green and past president of the FGCSA, is a superintendent at Walt Disney World.

Melissa Sohn has attended South Florida Community College on a part-time basis during her junior and senior year of high school and is enrolled for the fall term at Troy State University in Alabama.

Thus, although she just graduated from Lake Placid High School, she'll probably carry sophomore hours into Troy State. Sohn's grandfather was superintendent at Dayton (Ohio) CC from 1935 to 1974.

Other GCSAA Legacy Award scholarship winners :

- Mary Flaherty, Berkeley Heights, N.J., daughter of Joseph R. Flaherty, CGCS.
- Amy Jo Miller, Middleton, Wis., daughter of Monroe S. Miller.
- Jennifer Jane Shermer, Folkston, Ga., granddaughter of Edwin T. Mattson.
- Vincent R. Streiff, Middleton, Ohio, son of Thomas R. Streiff III, CGCS.
- Grier Wallace, Unionville, Conn., son of Michael Wallace, CGCS.
- Ian K. Wallace, Unionville, Conn., son of Michael Wallace, CGCS.
- Ty Townsend Webb, Memphis, Tenn., son of Lee Archer Webb, CGCS.
- Laurie Ann Wilcoxon, Stillwater, Okla., daughter of Stephen N. Wilcoxon.



Jennifer Jackson

## GCSAA forms service for international members

The GCSAA has formed a new department to develop and implement programs for international members.

Tom Akins, GCSAA director of planning, will head the department and assume the new title of director of planning and international programs.

"International requests for assistance and information have steadily increased over the last several years," Akins said. "We're excited about the opportunity to provide tools for superintendents outside the United States.

"Many countries already have established golf federations and associations that are providing quality professional development for their membership. Our desire is to work cooperatively with those associations, lending our expertise while learning from their unique methods."

Of the more than 10,800 GCSAA members, 734 live and work in 47 different countries outside the U.S.

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"Keeping Golf Courses Green"

BY KARL DANNEBERGER

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GCSA

**D**espite what club members might say, there's more to a quality green than speed. Here are some management tips to keep your greens looking good.

The word fast has become synonymous with success. Fast cars, fast-track careers, even fast foods are associated with the good life. Speed also is important in sports. Baseball pitchers are evaluated on how fast they throw and football players on how fast they run the 40-yard dash.

In golf, successfully managed greens are often associated with speed. However, speed alone does not make for a good green. If a wide receiver cannot catch a football, his time in the 40-yard dash is meaningless.

The same is true in golf: the ultimate fast green would be as hard as a rock, smooth as glass and void from grass. No golfer would want to play on this surface. The terms "feel" and "touch" would be meaningless since making a putt would be a function of luck.

Clearly, green speed is important, but it's not the only component of a good putting surface.

Important elements of a good putting green are uniformity, smoothness, firmness and resiliency. The first three are associated with speed while resiliency governs the green's ability to hold golf shots.

Uniformity implies that each green putts the same. Nothing is more discouraging than putting on a fast green followed by a slow one. Uniformity is often difficult to achieve.

Variables such as location, construction, micro-environments and grass species make perfect uniformity unattainable. For example, greens may dry out at different rates or greens in the shade might putt faster due to the thinner less dense turf.

# Speed alone does not make for a good green

Smoothness is a major factor affecting speed. The smoother the surface, the less resistance to roll. If a green is not smooth, the ball will tend to bounce, thus stop quicker.

Firmness is associated with hardness. The firmer the surface, the faster the green. For example, a ball will roll a greater distance on the floor than on a mattress. Difficulty arises in attempting to maintain greens firm enough to promote speed, yet soft enough to accept a well-struck shot. Balancing these two qualities requires an understanding of your golfers' expectations.

In addition to uniformity, smoothness, firmness and resiliency, contour also must be considered in determining proper green speed. What constitutes fast greens on one course may not be the same on another.

**F**or example, if two greens each roll nine feet as measured by the stimp meter, and one is flat and the other severely contoured, the latter will be much more difficult to putt than the former.

Managing greens for proper speed means achieving a happy medium. Greens that are too slow are not fun to putt. Nor are

greens that are too fast so that they eliminate the skill level required of golfers.

## Management Strategies

Good putting greens have a number of components. To achieve fast uniform greens, proper cultural programs need to be practiced.

Reducing the mowing height will increase the speed. Lower mowing heights promote uniform and smooth surfaces.

Often the question is asked "How low can we mow?" A more proper question would be: "How long can we stay?" In other words, the lower the mow, the shorter the interval at which the putting greens stay healthy.

The shorter you mow greens, the more likely the turf will become susceptible to

temperature and moisture stress, disease pressure and damage through wear. Putting greens cannot be maintained at championship cuts indefinitely without turf loss or spending considerable money trying to prevent loss.

Care should be taken when mowing heights are reduced from normal cutting heights. An abrupt change can result in scalping and kill the turfgrass.

If mowing heights are lowered for a tournament under non-stress conditions, return to normal height when the event is over.

Care should be taken if height is to be increased under stress conditions. Research from the West and the Southwest has shown that increasing the height increases the water use rate.

Low mowing heights can cause restricted root systems. By raising the height under stress conditions, the root system may not be able to supply enough water to the additional tissue. It may be best to leave the cut low until the stress period has ended.

Frequent mowing promotes high shoot density and vertical leaf growth, which results in smooth, consistent greens. Varying the mowing direction daily also helps pro-

mote a more upright plant. Research has shown that a break in regular mowing can result in a brief, yet significant reduction in green speed.

Research at Ohio State has found that double cutting greens — mowing them twice a day — can significantly increase green speed. If pressure exists to increase the speed of the greens, double-cutting is an option to dropping the height of cut.

Grain appears when grass plants lie in different directions. In severe cases, shoots, stolons and rhizomes orient in various directions on the surface and interfere with the golf ball's proper roll.

Our work has shown that the difference of putting "with" moderate grain versus putting "against" the grain can vary as much as three feet. Effective grain control is a prerequisite for achieving uniform greens.

Verticutting helps reduce grain by promoting more upright growth and removing undesirable tissue. Verticutting is often done weekly during periods of active growth.

**The challenge to improving green speed is knowing what practices will work for you and the same time providing a visually appealing and healthy turf.**

Brushing is a common practice for reducing grain. Brushing is the process whereby a stiff, bristle-type brush is placed in front of the mower. As the mower moves across the green, the brush lifts the turfgrass plant up before it is cut. Brushing is effective but can cause damage to the plant.

The best time to brush is under conditions that promote turfgrass growth. Time interval between brushing depends on the severity of the brushing and how quickly the turf recovers. Avoid brushing in the turfgrass is under stress.

Thatch plays an important role in green

speed and quality. A small amount of thatch provides a certain amount of resiliency. However, excessive thatch disrupts the firmness and smoothness of the turf.

Priority should be set to control or manage thatch at an acceptable level. Vertical mowing, topdressing and coring are effective means of minimizing thatch. They should be done as a regular maintenance program.

Topdressing smooths the surface and provides a firmer base. Frequent top dressing is a positive step in providing a uniform turf.

Although topdressing and brushing may initially slow down a green, eventually they will increase its speed.

The challenge to improving green speed is knowing what practices will work for you and the same time providing a visually appealing and healthy turf.

And finally, for all practices that are available for increasing speed, the environment plays the critical role in what you can and cannot expect and do.



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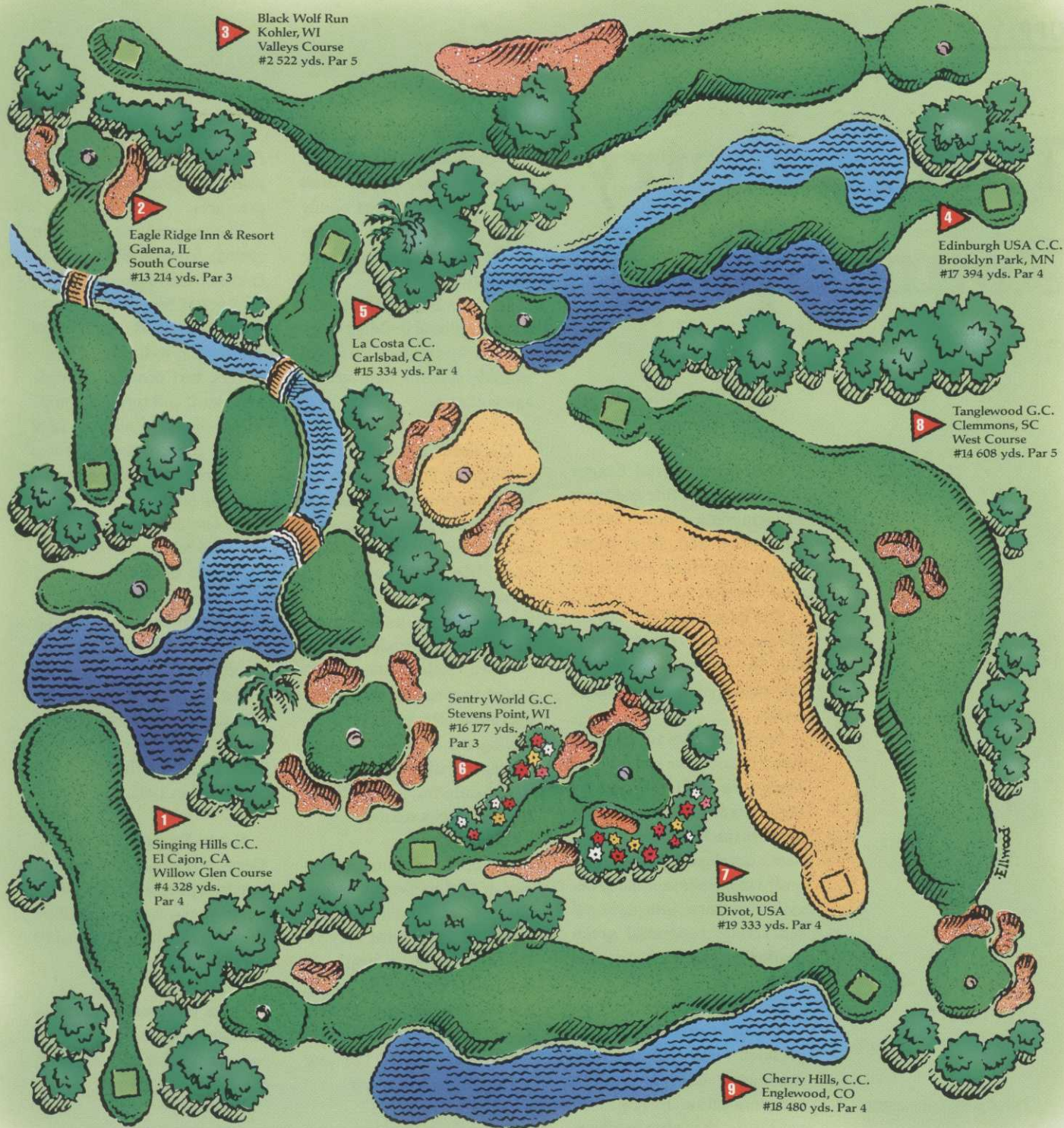
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# Turf Industry Roundup

Marketing to Golf Course Facilities" is the title and topic of a seminar sponsored by *Golf Course News* Sept. 16-17 at Oak Brook Hills Hotel and Resort near Chicago.

The program will focus on the market needs of golf facilities and the development of market strategies to meet those needs.

Seminar topics will include trend data on the growth and changes in golf facilities; buying habits of golf course market segments including superintendents, developers and builders, and management company decision-makers; international marketing; successful green marketing; and result-oriented sales.

The program is designed for CEOs, sales/marketing vice presidents and directors, sales managers, and marketing communication managers in companies that offer products and services for golf course facilities.

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**The Toro Co.** has filed a lawsuit against Fuqua Industries, Inc., doing business as Snapper Power Equipment. The lawsuit charges that Fuqua's use of the word "Recycling" and other variations of the word "recycle" in advertising infringes on Toro's Recycler trademark.

"Toro's action... is not an attempt to prevent traditional uses of the terms recycle(s), recycling, etc., in connection with the reprocessing of glass, plastic, aluminum, etc.," says a company news release.

**Lesco, Inc.** announced earnings of \$1.7 million on record sales of \$41.6 million in the second quarter ended May 31. The sales were up nearly 20 percent from the same period last year but the earnings were down slightly from the record \$1.9 million earned last year during the same quarter.

Lesco Chairman James I. FitzGibbon attributed the lower profit margins to competitive pressures.

The company announced an annual dividend of 8 cents per common share payable July 9, up a penny from last year.

Sales increased in each of the company's product lines—fertilizers, turf protection products, seed, and turfcare equipment — and in all four sales groups: golf course sales representatives, stores serving commercial lawncare operators, lawn service sales representatives and telemarketing.

**F. Leon Herron, Jr.**, retired chairman and president of O.M. Scott & Sons, Inc. has been elected to the board of directors of Lesco.

Herron joined Scott in 1965, was elected president the following year and chairman in 1971. He held both offices until he retired in 1983.

**Hertz Equipment Rental Corp.** is now offering a rental purchase program that requires no down payment and enables the customer to build up to 90 percent equity.

**Dean Wagoner** of Orlando has been appointed Rain Bird Sales contractor sales specialist for Florida. A Florida native,

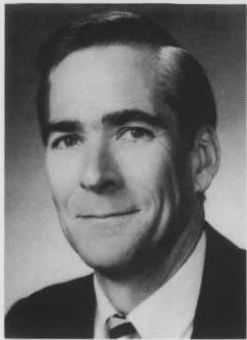
## Turf Industry Roundup

Companies doing business with golf course superintendents in Florida are invited to submit their news releases to *The Florida Green*, c/o Janlark Communications, P.O. Box 336, Auburndale, FL 33823.



Ornamental grasses and wildflowers were in abundance at Lofts Seed Inc.'s 15th annual Field Day at the company's research facility in Bound Brook, N.J.





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Wagoner



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Wagoner joined Rain Bird in 1987 and most recently served as the company's South Florida district manager.

Other personnel changes at Rain Bird include the promotions of Frank Busam to vice president for quality, Kris Freudenthaler to director of human resources, and Pamela Kratzer to advertising assistant.

**Drew Lillie** has been named regional marketing supervisor

for Monsanto's residential products division. A graduate of the University of Florida, Lillie will manage distributor relationships in Arkansas, Louisiana, New Mexico, Oklahoma and Texas. Patrick Quinn is a new marketing specialist for the residential products division. He will work out of the company's world headquarters in St. Louis.

**Donald F. Myers** has joined

Nor-Am Chemical Co. as project manager for developing products for use on field crops, turf and ornamentals. He comes to Nor-Am from Maag Agrochemicals in Vero Beach, where he was manager of wood protection research.

Joining Nor-Am as a group leader for method development is Lee Williams, a native of Immokalee; Brian N. Meyer, senior chemist for environmental sciences; Kent Rupprecht,

metabolism chemist for environmental sciences; Mark Christ, aquatic biologist, environmental sciences; and Christopher Leake, group leader, environmental sciences.

**Tammy Dauterive** has joined Sunbelt Marketing Services in Mount Dora as account executive. She formerly was marketing manager for the Florida Foliage Association. Sunbelt specializes marketing and advertising services for the horticultural and advertising industries.

**Enviro-Gro Technologies**, a wastewater residuals management firm based in Lancaster, Pa., has opened a product marketing division for a line of packaged commercial and re-

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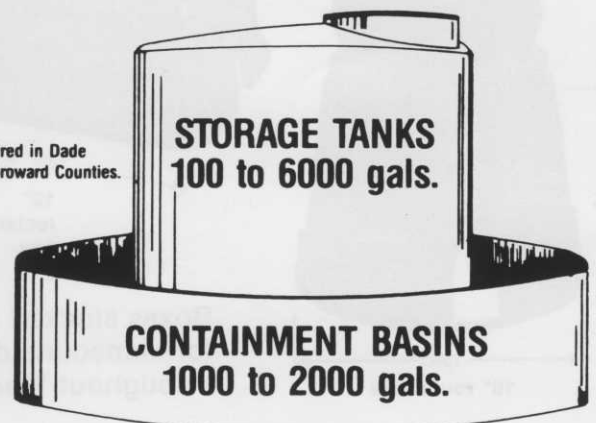
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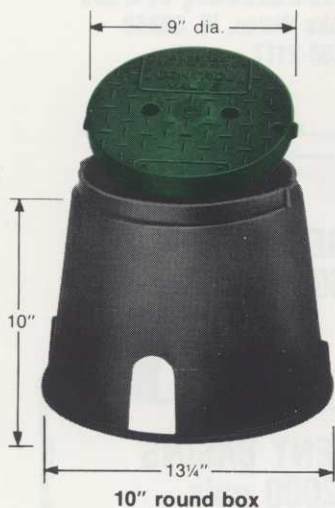


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## SUPPLY SIDE



### Reference Library

**Architect List** — The American Society of Golf Course Architects membership list, including mailing address and telephone number, is available free with SASE from the ASGCA, 221 N. LaSalle St. Chicago, IL 60601.

**Environmental Video** — The GCSAA has produced a 14-minute video, "Links With Nature: Golf Courses and the Environment." The video is designed to show the public that a well-managed golf course can be an ecological asset for a community. Price is \$20 for members, \$30 for nonmembers, including shipping and handling. Call GCSAA membership department, 913-832-4480 to order.

**Tree Tips** — A 32-page, four-color brochure describing the proper techniques for tree felling and limbing is available free from Husqvarna Forest & Garden Co., 907 W. Irving Park Rd., Itasca, IL 60143; phone 708-773-2777.

tail products that should be ready by fall. The company is best known for its patented ESP pelletization process for drying sewage sludge.

**Ciba-Geigy** has released its nematode-based larvacide, Exhibit.

The nematodes are third-stage infective juveniles (*Steinernema carpocapsae*, strain 25) that aggressively seek out and parasitize target pests. The juveniles carry a bacteria (*Xenorhabdus* spp.) that is lethal to undesirable insects.

The nematode's life cycle begins when it enters a target pest through a body opening and releases its bacteria directly into the blood system of the host, which dies within 48 hours.

The nematodes develop into adults and reproduce new juveniles which seek out a new host. If they cannot find one within 14 days, they die.

Exhibit controls fungus gnats black vine weevils, strawberry root weevils and surface feeders such as billbugs, cutworms and sod webworms.