New disease spreads east
Researchers focus on single cell fungus that is attacking cool season turfgrasses in the Carolinas

**Compost tea slowly gaining golf converts**

By ANDREW OVERBECK

With mounting environmental pressures and increasing chemical costs, some superintendents are turning toward sustainable agricultural techniques. On the forefront of this trend is compost tea, a higher-tech version of a centuries-old technology that "brews" compost to create a concentrated liquid "tea" that delivers beneficial microbes and low levels of nutrients to turfgrass. The brewers, which have been commercially available since 1998, are used mostly in agricultural settings. While there is no scientific evidence to directly support it, superintendents using compost tea report less disease pressure, less need for fertilization and irrigation and all-around healthier turf. "Three years ago I was getting dollar spot that was unbelievable," said Charles Clarke, superintendent at Woodbury Country Club in Woodbury, N.J. "I was getting five days of control out of Bayleton and seven days out of Daconil. Two years ago I started spraying with compost tea every seven days and by the end of the summer I saw results. This year I was getting 15

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**Chensoff’s Calusa Pines elevates golf in Naples**

By A. OVERBECK

NAPLES, Fla. — In order to compete in the ever-expanding Naples golf market, developer Gary Chensoff knew that he had to create something radically different in order to elevate his new project above other area courses. Chensoff, who was also involved in the development of the Rees Jones-designed Naples Grande Golf Club, has succeeded both literally and figuratively here with the November opening of Calusa Pines Golf Club. Enlisting the services of Hurdzan, Fry Design, Course Doctors and the Rees Jones-designed Naples Grande Golf Club, has succeeded both literally and figuratively here with the November opening of Calusa Pines Golf Club. Enlisting the services of Hurdzan, Fry Design, Course Doctors and superintendant Eric von Hagen, Chensoff transformed 550 acres of flat land into an undulating property that has 58 feet of elevation change and features the highest point of land in south Florida.

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**Golf’s ‘big three’ weather slowdown**

By ANDREW OVERBECK

It’s no secret that 2001 was a tough year for the golf business. With the economy flagging, budgets tightened, new construction slowed and golf rounds were down. The events of Sept. 11 have simply exacerbated the situation. While many companies are struggling to maintain the status quo, the big three turf equipment manufacturers definitely felt the contracting golf economy land on their bottom lines with a resounding thud.

Textron, which was still computing year-end numbers when Golf Course News went to press, posted a net loss of $330 million in the third quarter alone. John Deere’s net losses mounted to $64 million on the year. Only Toro managed to post positive growth for 2001 with net income up 11.4 percent to $50.4 million.

While these numbers represent entire corporations of which the golf and turf divisions make up a fraction of the total business, representatives from all...
Compost tea
Continued from page 1
days of control of Daconil and 31 days of control out of Chipco GT. As a result, Clarke was able to reduce his fungicide budget by 30 percent.

Although Clarke realizes that one-year's results are not a true test, he is planning on buying another 100 gallon brewer for next season.

Superintendent Troy Russell at Bandon Dunes Golf Club in Bandon, Ore., has two brewers and irrigates with compost tea every two to three days. "I have not had to put down a fungicide for two years now," said Russell. "Compost tea is not a panacea, but it is part of our plan to be sustainable. "Under a mandate from the owner, Russell is trying to go as natural as possible using organic fertilizer and wetting agents.

David Sayley, superintendent at Rooster Run Golf Club in Petaluma, Calif., has had similar results in his three years of using compost tea. "I have sprayed three applications of fungicide in that time," he said. "This is not going to solve all disease problems, but if you have healthy turf, you have less disease pressure."

HOW IT WORKS
Brewing proper compost tea begins with high-quality compost that contains a diverse mixture of fungi, bacteria, nematodes and protozoa. Depending on the size of the brewer, (they range in capacity from 25 to 500 gallons) the appropriate amount of compost is placed in a perforated basket and jump-started with an activator mixture. The compost is then aerated for 18 to 20 hours and is immediately ready to be diluted and sprayed onto the course or fed into the irrigation system. It must be used between six and 10 hours of brewing.

While the process behind making compost tea is relatively simple, the scientific theory behind it is rather complicated.

SOIL FOOD WEB
When the bio-rich compost gets aerated in the brewer the amount of microbial activity in the mixture expands exponentially. While there is no doubt that the mixture provides nutrients to turfgrass, scientists and superintendents alike theorize that microbes are clinging to the leaf surface and keeping diseases from attacking the plant.

"We are looking at how the biology of compost tea suppresses disease," said Elaine Ingham, Ph.D., an associate professor of botany and plant pathology at Oregon State University who is building supporting data for the use of compost tea. "If you get the surfaces of the roots and foliage of plants properly protected by beneficial organisms then diseases are suppressed." The biological inputs help rebuild what Ingham calls the "soil food web."

"If you get the biology back in there you don't have to use pesticides anymore because you don't have diseases," she said. "You also don't have to use as much fertilizer because it prevents nutrients from washing out of the soil."

Ingham also runs Soilfoodweb, Inc., a commercial consulting firm that analyzes soil samples for farmers. To date, she has consulted with almost 300 golf courses. The firm also publishes a compost tea manual and conducts educational seminars.

PROBLEMS CATCHING ON
If some superintendents and farmers are having positive results, why isn't compost tea more widely used?

When it comes to golf, clearly more research is needed, said Mike Kenna, director of research for the United States Golf Association's Green Section. "I think these products have a place," he said. "But the thing that concerns me is the lack of university research. How do they know whether the microbial activity or the low levels of nitrogen are providing those results?"

Superintendents already using compost tea agree that more research is necessary. "The average superintendent is a 'show me' person," said Russell.

Elaine Ingham and her team build supporting data for using compost tea.
Companies making compost tea push

By ANDREW OVERBECK

MARTINS CREEK, Del. — Sensing opportunity, many compost tea and brewer suppliers are now targeting the golf course industry.

One golf supplier, Earthworks, is set to unveil its compost tea "kit" at the GCSAA Show this month. The organic fertilizer and bio-stimulant maker is primed to take advantage of the move towards sustainable turfgrass management.

"Earthworks as a company has done a good job with soil management," said president Joel Simmons. "We think compost tea will take it to the next level."

According to Simmons, the company started investigating compost tea when President George Bush and Al Gore were facing off in the 2000 presidential campaign.

"A lot of people were afraid that if Gore got in they would lose a lot of their pesticides," he said. "It was already happening in places like San Francisco and Suffolk County, New York. We began to develop our compost tea kit to solve the problem."

Earthworks will be marketing a kit that contains four 10-pound bags of compost, four bags of activator and four bags of cleaning solution. The kits will come with three pre-paid tests from Soilfoodweb, Inc. The company will initially market a 30-gallon brewer that it will either make in-house or outsource.

Earthworks has sourced its compost material from Amish farmers in Lancaster, Pa., and has made 20,000 pounds so far. While Simmons has yet to set prices, he said the cost-per-acre would be in the $10 to $20 range.

"GROWING THE MARKET"

Both companies are bullish about the growth possibilities in the golf market.

"We see our sales growing in the golf market," said Hilty. "We are seeing a trend towards organic mandates and people looking to biological means of controlling disease."

Simmons, who started EarthWorks back in 1988, is equally optimistic.

"When we started the company people called us every name in the book," said Simmons. "Soil management is more mainstream now and we have had unbelievable interest at our compost tea seminars."

Simmons, however, is quick to point out that between Eco Soil's Bioject problems and other "bugs-in-a-jug groupies," his industry has more than a few black eyes.

"This is still a bit esoteric," he said. "It still comes off as brewing beer in the basement and being unsophisticated. But there is science in this. It will take time, but we just need to position this and make it commercially available."

WEST COAST BREWERS

On the West Coast, another brewer company, Growing Solutions, has already made inroads into the golf market. Since 1998, the company has been providing brewers and compost materials to the agriculture and golf markets and has just rolled out a second-generation machine.

"Our first commercial machine aerated the compost and water with nozzles," said manager Jeff Hilty. "Our new system forces air in through fine bubble diffusion disks which increases the volume, improves efficiency and reduces cost."

The new brewers will come in 25, 100 and 500-gallon capacities and will cost $1,295, $3,995 and $9,995 respectively.

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"It will take scientific evidence before superintendents are going to risk their jobs. In the real world they have to provide good turf conditions on a daily basis and most aren't willing to take that leap of faith."

GOLF COURSE NEWS

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