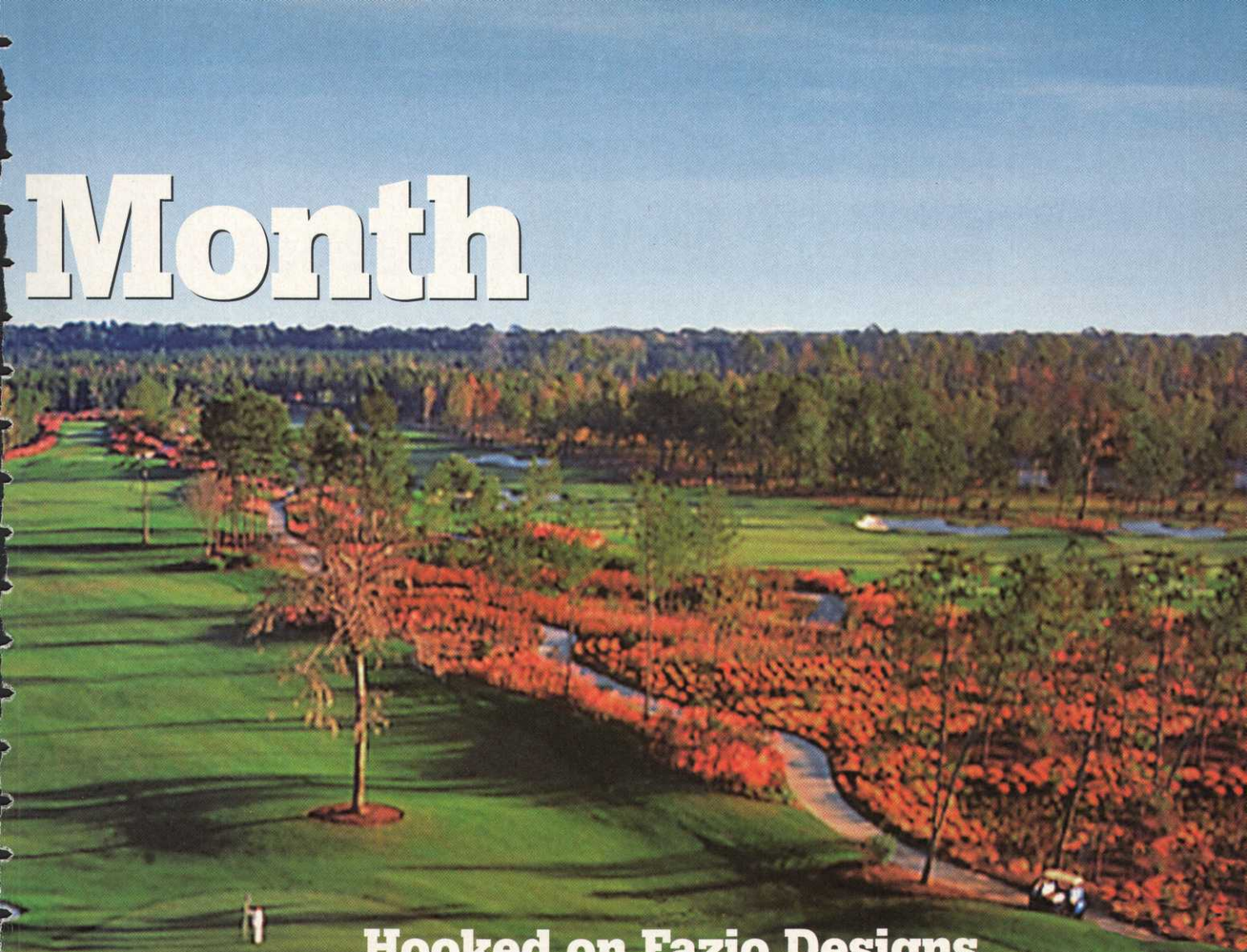
Month



Hooked on Fazio Designs

You could say certified superintendent Danny Malone is partial to Tom Fazio-designed golf courses. Berkeley Hall's two golf courses, known as the North and South, represent the fourth and fifth Fazio courses for which Malone has been superintendent.

One of the reasons Malone prefers Fazio designs is because they're maintenance friendly. "Tom really keeps maintenance in mind when he designs courses," Malone says.

Maintenance, by the way, is Malone's pride and enjoy at Berkeley Hall. The more intense it is, the more he likes it. "We really strive for great conditions here," he says proudly.

Pictured here is the 18th green on the North course. The view of the green is similar to the clubhouse view (although this view is a little higher up). Malone says his crew is especially picky about the maintenance of the hole, since so many people look at it from the clubhouse. They make sure to rid the lake bank of weeds. The native beds around the fairway are also free of weeds and full of pine straw.

Oh yeah, maintaining the course's bentgrass greens in the summer heat of South Carolina is a big challenge, too, Malone adds.

Mother Nature Still Rules in Golf

BY JOEL JACKSON

***Editor's note**: Joel Jackson wrote this column from his Orlando office before Hurricanes Frances and Ivan hit the southern United States. By the time you receive the magazine, there's a chance another hurricane may have hit the South.*

August's Hurricane Charley was a blowout like 12 years ago when Andrew, a Category 5 storm, leveled the town of Homestead and battered South Miami so badly that construction codes were upgraded and insurance companies raised deductibles. Andrew's effects were felt as far away as Palm Beach and Naples as it crossed 50 miles of swamp before exiting into the Gulf of Mexico. Charley instead took the scenic route and left chaos in his wake.

A Category 4 storm, Charley sustained 100 mph winds as it traveled 140 miles across the peninsula, from Punta Gorda to Daytona Beach. Damage along the path was similar to Andrew's, but it affected more communities. It took two weeks to restore power to most of the towns and cities. Power companies made Herculean efforts to restore service, but some companies did not have solid disaster plans in place.

The monumental task of collecting and disposing of the storm debris has overtaxed the infrastructure of local county governments. Some counties had to delay the opening of the new school year, and upcoming primary election dates and sites are in question. Major intersections were battle zones as people forgot the four-way stop rule when the power is out to traffic signals. Lack of preparation magnified inconvenience for many and, without electricity, tempers grew short in the heat.

Hurricane Charley hit superintendents hard and proved that we often still serve at the pleasure of the weather. People who have survived natural disasters can relate to what's facing residents and golf course maintenance crews. Stories have emerged about compassionate volunteers, many in the golf industry, who showed up with extra chain saws, food and ice, and — most importantly — helping hands to clean up and rebuild. They far outweigh the inevitable price gouging and looting a few scumbags couldn't pass up.

Communities and courses near the eye wall on Boca Grande, Captiva and Pine Islands and in Punta Gorda and Port Charlotte were devastated. Clean-up crews were still digging out the Burnt Store Marina & Country Club on Pine Island two weeks after the storm. Trees on the barrier islands were defoliated and tall trees were reduced to huge stumps with only twisted and broken branches remaining. The tidal surge deposited sand, silt and salt on some courses.

HURRICANE CHARLEY HIT SUPERINTENDENTS HARD AND PROVED WE OFTEN STILL SERVE AT THE PLEASURE OF THE WEATHER

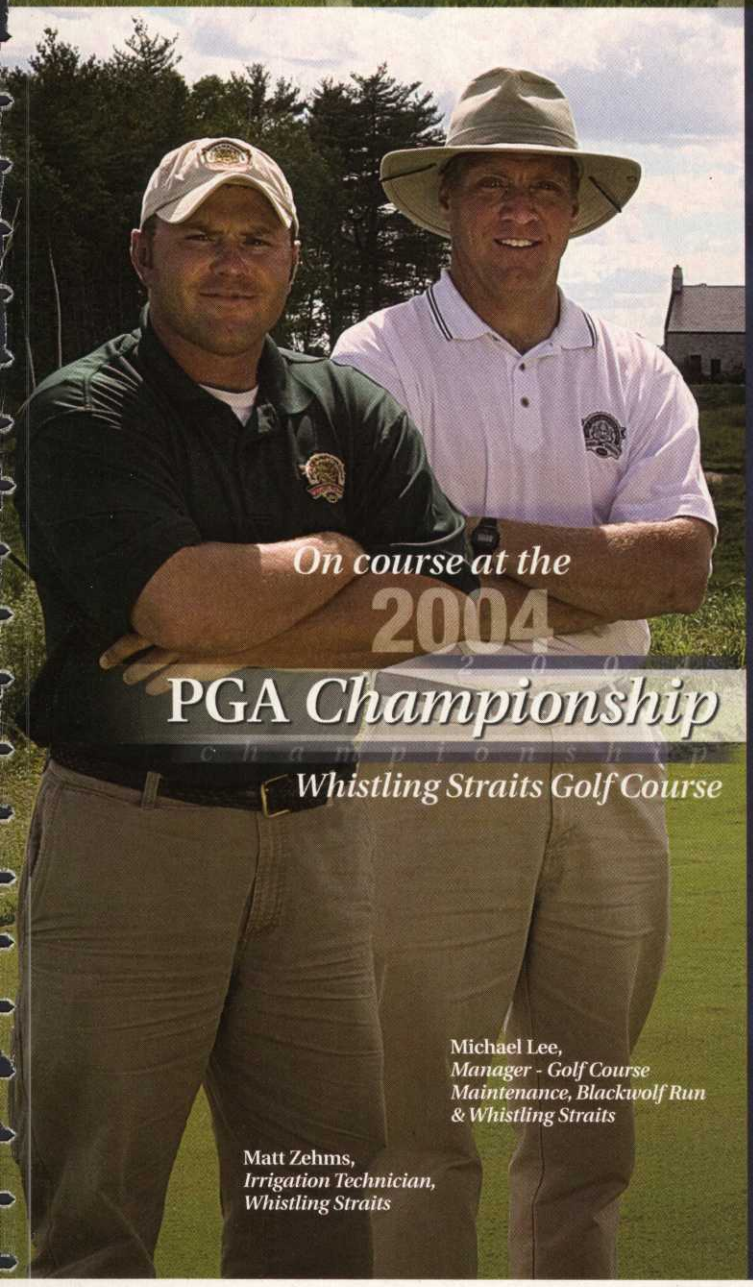
There are a couple of stories about the clueless or insensitive folks that showed up for their Saturday morning tee time at 6:20 a.m. the morning after.

Then there was one fellow ranting about how the grounds staff needed to start propping up those downed trees immediately or they would die. During his rant, people held back the superintendent, who wanted to hurt the guy. The golfer was completely oblivious to the fact that some crew members toiling long hours in the hot sun to clean up the course had lost their homes in the storm.

Mother Nature once again displayed her raw power and put asunder things that man had built in the blink of an eye. Humanity's influence on natural systems is often given more importance and/or blame than it deserves. The 1980 Mt. St. Helen's volcanic eruption comes to mind. Its zone of destruction still exists 24 years later for everyone to see, and people had nothing to do with it either.

We should always strive to minimize any possible negative effects on the environment from human enterprise and development. But people must often stand by helplessly to watch, wait and hope that we will survive when nature decides to strike its own mighty blow upon the land. Remember Charley and the other hurricanes, and keep your suffering colleagues in your thoughts.

Retired certified superintendent Joel Jackson is director of communications for the Florida GCSA.



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Doing the

Paul Emling has transformed Arcadia Bluffs' image with a golf course maintenance program based on his genuine appreciation for the environment

BY LARRY AYLWARD, EDITOR

On the Environment

Upon hearing the news, Paul Emling rushed to the edge of the golf course on the towering bluff overlooking Lake Michigan. Stunned and shaken, Emling couldn't believe what he saw. He crumpled to his knees on the rain-soaked ground.

Emling stared down at the thousands of tons of soil that had eroded into the lake through a ravine from the golf course above. The soil created a delta in the shimmering, blue water and formed an ugly, brown plume extending well beyond the shoreline.

It was a frightening sight to Emling, the young superintendent of the new course, Arcadia Bluffs Golf Club, which was still under construction in the picturesque northwest Michigan small town.

"I was devastated," Emling recalls of the erosion accident that occurred on the morning of Sept. 26, 1998, after the village of Arcadia was soaked with 3 inches of rain in about an hour.

Emling, then 27, was six months into his job at Arcadia Bluffs. He wondered what impact the calamity would have on his young reign of the course. Emling's natural response to the accident was, "Why now?" The links-style course, located on about 225 acres and situated along a 150-foot-tall bluff on the lake, was nearly finished and scheduled to open the following spring. "I couldn't believe we'd gotten that far to have this happen," Emling says.

Worse, environmentalists viewed the incident — despite the role of a ruthless Mother Nature in it — as an environmental catastrophe because of the alleged pollution it caused to Lake Michigan. Keith Schneider, deputy director of the Michigan Land Use Institute, said what happened became a "prominent symbol of corporate neglect for natural resources."

Nonpartisan bystanders took a more diplomatic view. Greg Lyman, director of environmental programs for the Golf Course Superintendents Association of America (GCSAA), called the accident a "terribly unfortunate circumstance." But Lyman adds, "It gave the golf industry in Michigan a black eye."

Richard Postma, the owner and developer of Arcadia Bluffs, was held most accountable for the accident. Postma was criticized for "running roughshod" over the area to build the course. He was labeled an "overzealous developer."

While Emling was spared any blame for the accident, it was easy for him to be labeled guilty by association.

"It was a hard time for me," Emling, now 33, says softly. "It was frustrating."

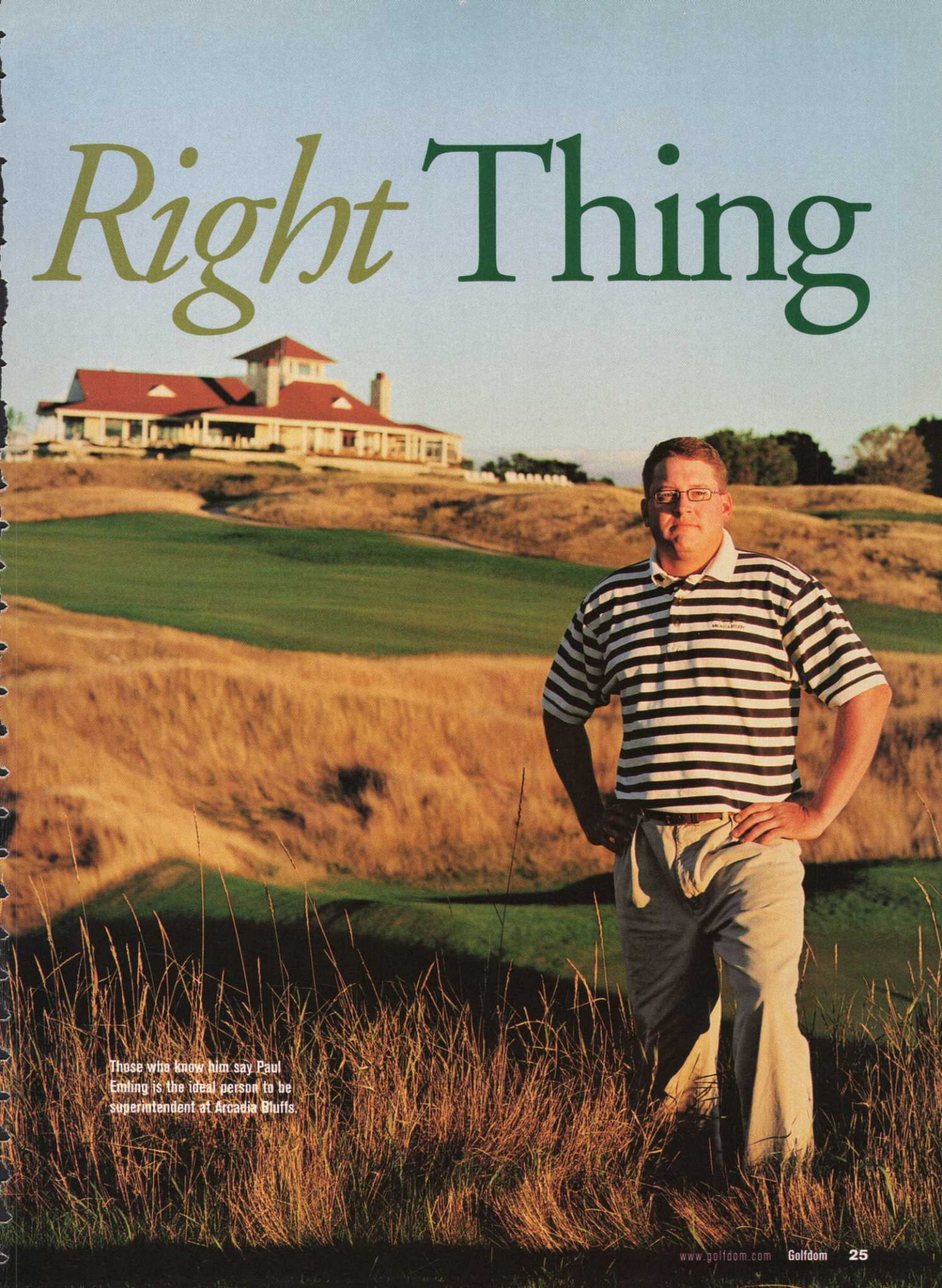
"Frustrating" because those who know Emling say he's about as environmentally minded a superintendent as one can get.

Rumors and accusations directed at

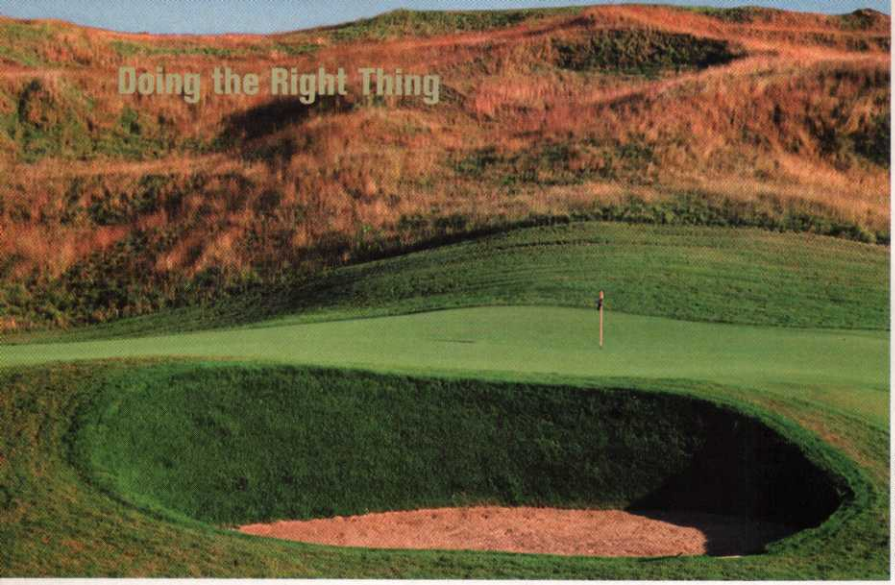
Continued on page 26

RON MUSZYNSKI

Right Thing



These who know him say Paul Emling is the ideal person to be superintendent at Arcadia Bluffs.



ARCADIA BLUFFS

Emling adheres to a foliar-feeding program for the obvious reason – he doesn't want granular fertilizer to end up in Lake Michigan.

Continued from page 24

Arcadia Bluffs flew around town like debris in a nasty tornado. The Michigan attorney general sued Postma and his company, RVP Development, for the accident and alleged the company was responsible for several sediment discharges from the course into Lake Michigan during an eight-month period in 1998.

Talk circulated that the course was going to cease construction and shut down. Some grumbled that the accident made the golf industry look terrible. Superintendents and others approached Emling with the subtle advice that he should bolt Arcadia Bluffs for another job. "No, I'm going to stick it out," Emling told them. "We didn't do anything wrong."

But even as the course continued its construction and the erosion problem was rectified, Emling and other personnel at Arcadia Bluffs knew they had a challenge on their hands. Emling believed in his heart that he and the others at Arcadia Bluffs, including Postma, would never do anything to harm the spectacular environment in and around Arcadia Bluffs. The problem was convincing outsiders, including Emling's peers in the industry, that their aim was true.

The ravine where the erosion occurred is now covered with vegetation and stabilized, Emling says.

LARRY AYLWARD

"One of my biggest frustrations is that we knew what our potential problems were going to be during construction," Emling says, noting that erosion was on the list. "But along the way we had a massive rain that came at a vulnerable time and showed us what Mother Nature can do."

Flash-forward to July 2004. There have been no more erosion problems and it has never been proven that the accident caused any environmental harm to the lake. Postma has paid $125,000 in civil penalties to settle the lawsuit. Arcadia Bluffs, designed by Rick Smith and Warren Henderson, has matured into a magnificent-looking and challenging course that commands $175 for 18 holes and attracts players from throughout the Midwest.

And then there's Emling, in his seventh season as superintendent of the course, who has quietly helped Arcadia Bluffs heal its neglect-for-natural-resources image by implementing an aggressive and impressive golf course maintenance program with an emphasis on environmental awareness and integrated pest management (IPM).

Bill Shriver, general manager and chief operating officer for Arcadia Bluffs, says Emling is the ideal person to be superintendent of Arcadia Bluffs because of his environmental prowess.

"The first question he asks with every decision he makes is: 'What impact is this going to have on our surroundings?' " Shriver says.

A bookshelf in Emling's office is packed with various publications on turf management. One of the thickest offerings is his IPM Handbook.

Emling could talk for hours about what he and his staff do to strive for excellent turf conditions while preserving the environment in the process. But as he sits at his desk, with his bright-orange Arcadia Bluffs cap fit snugly on his head, Emling insists that he's just "doing the right thing."

"I feel that being environmentally sensitive is a way of life — something that's more inherent than learned," he says, noting that he believes many superintendents share his sentiments.

Emling's favorite television station is any broadcast with an in-depth report on the local weather. On a recent day, the TV jutting from the wall above his desk is tuned to the Data Transmission Network (DTN), a leading business-to-business provider of real-time information services for weather-sensitive industries and other markets. "We can get radar instantly and know when storms are coming," Emling says.

Emling pursues up-to-date weather forecasts, not so much to track major storms that could cause possible flooding, but because it

Continued on page 28

Sure Thing #1:

SPRING CAN'T BE HURRIED.

Continued from page 26

plays such an important role in his IPM program. "Everything we do revolves around the weather," he says. "All the decisions we make are based on the weather."

For instance, Emling knew from Arcadia's beginning that the weather would affect any pesticide spraying programs. There's always a nice breeze — and sometimes a stiff wind — blowing around the course. When Emling was pricing boom sprayers, he told Postma the course would have to spend more to purchase covered sprayers to keep pesticides from drifting.

Arcadia Bluffs invested in covered boom sprayers to control drift on the windy course.

LARRY AYLWARD

By the IPM Book

Timing is everything when it comes to pesticide applications at Arcadia Bluffs Golf Club. Below is superintendent Paul Emling's philosophy for timing and techniques of pesticide applications, according to his Integrated Pest Management (IPM) Handbook.

- Don't spray the adult version of an insect if the larval stage is the cause of the damage. Weather is also an important factor to consider. It's not appropriate to spray an insecticide that could get into the storm-water system before a heavy rainfall. When possible, late-evening applications of pesticides are made when there is typically a lack of golf. Evening applications increase the efficacy of the application by reducing sunlight exposure that can break down pesticides.

- Proper calibration of spray equipment is crucial to obtain maximum results. Improper calibration can result in under or overdoses which may result in turf and environmental damage.

- All of Arcadia Bluffs' spray equipment has been outfitted with sophisticated shielding systems that virtually eliminate off-target drift.

- Arcadia Bluffs strives to use pesticides that cause the lowest detrimental impact to nontarget pests and plants. New biological pesticides are used at Arcadia Bluffs quite often and when feasible.

Emling and his crew take a curative approach toward problem insects and turf disease. He likes to use premium products at lighter rates. "We're not afraid to spend the extra dollar on products that are environmentally friendly," he says.

Emling's herbicide program focuses almost strictly on spot treatment. Crew members travel the course with a large sprayer and scout for weeds. Emling and his two assistants carry small spray jugs in their utility vehicles. "If we drive by and see weeds, we get out and spray them," he says matter-of-factly.

With fertilization, Emling adheres to a foliar-feeding program for the obvious reason — he doesn't want granular fertilizer to end up in Lake Michigan. He also uses organic fertilizer in the spring and fall to build soil structure. The staff does make one light granular application of an IBDU slow-release fertilizer in the spring to green up the course.

Emling's goal is to achieve a strong root system throughout the course and at all times of the year. That way, turf will fight off disease and insect infestations naturally and not require a lot of pesticides.

Emling also monitors water use closely to lessen the chance of water waste and to decrease turf disease pressure. He likes to use wetting agents, especially on greens. "We can turn the water down 60 percent when we use them," he says.

Equipment maintenance also focuses on what's best for the environment. Only synthetic oil is used in mowers and other equipment. The result is one-fifth less waste than if regular motor oil is used. Emling says he's also contemplating a switch to biodiesel fuel to operate some equipment.

Emling is especially proud of the maintenance facility's biological wastewater treatment and recycling system, manufactured by Environmental Systems Design. The system sounds like an enormous vacuum cleaner while running. It collects grass clippings and separates them for proper disposal. It also breaks down pesticides, grease and other chemicals washed from equipment with aerobic microbes.

Arcadia's maintenance facility also features a double-vaulted fuel station, which can contain any leaks if the fuel tank ruptures.

Drainage, of course, is a major issue (for obvious reasons) at Arcadia Bluffs. The course has an intense drainage system in place to prevent

Continued on page 30

Sure Thing #2:

THREE OF A KIND BEATS TWO PAIR.

Continued from page 28

another erosion accident from happening. The course spent several million dollars after the accident to improve drainage. In addition to the drainage, the course designed a water-retention system on site to contain flooding from the worst-possible storms.

"We made adjustments to an already extensive system to make it that much better," Emling says, noting that drains are inspected for problems once a month and immediately after storms to make sure they're not clogged.

Emling also took a class to become a certified storm-water operator so he could better understand the science of drainage.

"Nobody made me do it," he says. "I did it because I knew it would be the best thing for the site and good for me."

Lyman is impressed with Arcadia's maintenance operation and credits Emling as the catalyst for creating it. Lyman, the former turfgrass environmental education specialist at Michigan State University, has known Emling for several years. In 2001, he helped Emling enroll Arcadia Bluffs in the Michigan Turfgrass Environmental Stewardship Program, which helps golf courses improve their environmental stewardship by protecting water resources, enhancing wildlife habitat and promoting native vegetation. "It's a part of Paul's fabric to be an environmental steward," Lyman says.

The Michigan Land Use Institute's Schneider doesn't doubt that superintendents can be environmental stewards, and he was glad to hear about Emling's approach at Arcadia Bluffs.

"He's sitting on one of the most gorgeous coast lines in the world," Schneider says. "Why shouldn't he treat that course with the respect that it merits?"

Emling carries a small jug with him in his utility vehicle to spot treat weeds.

LARRY AYLWARD

Five Steps of the Integrated Pest Management Program

Scouting: A key component to any IPM program is to regularly monitor the golf course property to determine what kinds of pests, diseases or agronomic stresses might be present.

Pest ID: Successful monitoring requires proper identification of pests and pathogens and knowledge of their life cycles.

Setting thresholds: During the scouting process, insect count, amount of disease-damaged turf, and number and types of weeds will be determined. The decision to manage a pest and how to manage the pest will be determined by tolerance levels. These levels will vary for different portions of the course. For example, more weeds are tolerated on fairways than on putting greens.

Determine controls: In some cases it may be possible to eliminate a pest by mechanical removal or by cultural practices. In most insect cases, a curative pesticide application may be the only feasible way to lower or remove the pest population. In the case of weeds and fungi, a preventive application at lower rates than curative applications may be the best way to prevent intolerable damage or greater pesticide use in the long run.

Evaluation: This will determine whether the approaches taken are maintaining pest damage to an acceptable level, whether timing of biological or chemical applications needs to be modified, and whether the costs are justified in terms of results.

Source: Arcadia Bluffs Golf Club's IPM Handbook

Perhaps Emling's tree-hugging personality has something to do with instinct. It may sound sappy, but some believe Emling is supposed to be a superintendent.

"It just comes naturally to him," Shriver says. "He does it better than anybody because it's what he was probably born to do."

Emling, who is married with no children, grew up in Vassar, Mich., a small town near Saginaw. His father, Frederick, taught him the importance of environmental stewardship when Paul was a child.

Emling was 15 when he began working at a local course that his father helped operate. He chuckles when he recalls quitting the golf course for a job at a grocery store so he could work in the comfortable confines of an air-conditioned building. The job lasted only two weeks, however, because Emling missed working outdoors and longed to return to the golf course.

Emling received a bachelor's degree in

Continued on page 34