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Circle No. 107

# How

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*The Aercore 1500 can produce as many as 900,000 holes per hour in a coring swath of 57.5 inches.*



*the tines come out of the ground, the Flexi-Link pushes the tine leg forward into position for the next downward stroke.*

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on the hole top. This is accomplished by the speed at which the tine rams operate and the Flexi-Link design.

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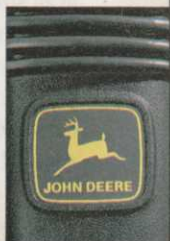
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The Aercore 1000 can produce up to 600,000 holes per hour in a coring swath of 37.5 inches.

Circle No 111



**Nothing Runs Like a Deere®**

# Enviro Vaults: *Prefab and Prudent*



You may question spending thousands of dollars on a fancy vault to store chemicals and pesticides. Until you go to sleep at night.

**I**f the maintenance facility at one North Carolina golf course were to catch fire, local firemen would watch it burn — along with hundreds of thousands of dollars of turfgrass equipment.

It's not that the firefighters hold a grudge against the superintendent or club owner. Nor are they peeved that the course plays too tough or consumes some of their water. Rather, local ordinances and department policy forbid firefighters from battling blazes where chemicals, fertilizers and other potentially hazardous materials stored inside buildings may threaten their lives.

That's one reason superintendent Mike Yant purchased a prefabricated, 13-foot by 17-foot storage facility at Sailfish GC in Stuart, Fla.

"The way things are right now, the chemical and liquid fertilizers are stored with all of the equipment inside the building," Yant said in May before taking delivery of his new hazardous storage building. He was worried what might happen if a fire broke out.

## Peace of mind

As Sailfish GC invested to renovate the club's maintenance building, Yant plopped down nearly \$13,000 for a hazardous storage facility. It's money well spent, he says, and for reasons other than a possible fire.

By moving chemicals out of the maintenance facility, workers can go about their daily chores without inhaling fumes, says Yant, who hopes to create a safer work environment by protecting personnel from hazardous materials. The separate facility also allows his crew easier access to the turf products, and he has peace of mind that he's in compliance with everything from National Fire Protection Association standards to Environmental Protection Agency and Occupational Safety and Health Administration regulations.

"It was one way to make room in the maintenance barn for other equipment," Yant adds.

When superintendents like Yant talk about hazardous storage facilities, one theme resurfaces: peace of mind. They say storing and locking chemicals, flammables and combustible liquids inside what is essentially a leak-proof, temperature-controlled vault helps protect themselves from liability. The storage facilities do everything from keeping out disgruntled employees to containing accidental spills that could contaminate soil and ground water.

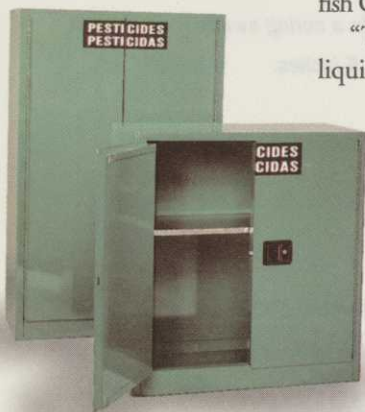
## Pay \$8,000 or \$50,000?

Call up any one of a number of companies that handle hazardous storage facilities and you'll immediately realize there is no shortage of options. You can choose structures built from heavy gauge steel, structural channel and tubing and chemical-resistant coatings.

Storage facility needs vary dramatically based on industry, says Roger Kincaid, vice president of U.S. Chemical Storage LLC in Boone, N.C. He estimates that a typical 18-hole course can purchase a decent storage unit for between \$8,000 and \$13,000, although multifacility courses with 72 holes or more will probably need to spend more.

Safety Storage Inc., for example, based in Hollister, Calif., manufactures storage units in 6-, 8-, 10-, 12- and 14-foot widths with lengths in 2-foot increments up to 52 feet. Superintendents at larger facilities sometimes put storage buildings end-to-end or side-by-side to increase capacity. Securall of Laporte, Ind., includes

*Continued on page 45*



Because prefabricated storage facilities come in all sizes and shapes and feature dozens of options, superintendents say that it's critical to determine specific needs and goals before shopping.

## Enviro Vaults

*Continued from page 44*

standard features such as dust-proof interior lights with weatherproof switches and vapor-resistant exterior lights with photocell switches.

Manufacturers say options range from air conditioning, heating, fire suppression systems, explosion-proof electricals and explosion vent panels to security locks with interior safety releases, electromechanical exhaust ventilation systems, chemical resistant sump liners and safety showers with eye wash units.

Some superintendents opt to build their own permanent storage facilities to customized specifications, often using concepts employed in pre-engineered structures as design models.

### What's practical?

Buying a storage unit is different from other equipment purchases in that decisions are shaped as much by local codes and regulations as by specific course needs, superintendents say. Start by discussing requirements with local zoning and building authorities, the fire marshal and the course's insurance company representatives.

Question storage company representatives about the usefulness of various options and features, superintendents suggest. Will a 6-foot-long, 3-foot-wide, 6-foot-tall chemical storage locker do the job at your course instead of a large, fire-rated storage building? Heating may prevent chemicals from freezing in Michi-

gan, but how important is it if you're storing chemicals at a course in the Mojave Desert? What are the practical differences between fiberglass floor grating and galvanized steel floor grating?

It pays to educate yourself about everything from gas sensor modules and dry chemical nozzles to fusible links. Learn about sump capacity rules, which vary across the country, as do wind resistance specifications, roof snow load ratings and ventilation requirements.

When Yant compared three vendors' storage units, he found that they all met basic requirements and pricing was competitive. So his selection came down to differences in practical features, such as shelving, lighting and workstations.

While some superintendents opt to build conventional, permanent storage buildings, manufacturers of prefabricated storage units claim their buildings are as much as 60 percent cheaper. There are no costly construction delays or problems routing course traffic, they add, and prefabricated buildings often speed up the permitting process. Decisions may affect property taxes, too.

Aesthetics are an obvious concern when considering storage facilities, but superintendents say the bottom line is that they streamline storage, handling and dispensing of chemicals, protect workers and prevent accidental poisoning of wildlife. ■



**Carefully consider inside options such as shelving, lighting and workstations when comparing storage facilities for your course.**

### 7 Tips For Buying a Storage Unit

**1 Ventilation** — Some local codes require blow-out panels or ventilation systems that release when interior pressure reaches 20 psi or a specified rate. Some codes require at least six changes of air per hour when a storage unit is occupied. Consider an outside on/off switch so workers can remove fumes before entering.

**2 Automatic sprinkler system** — Some codes require an automatic interior sprinkler system or a non-water fire-suppression system, such as an automatic dry chemical extinguisher.

**3 Location** — Proximity of storage units to property lines, other structures and flammable vegetation directly relate to a storage building's fire-resistance rating. Proposed sites should be areas that drain well, are at least 100

feet from water tables but are accessible to potable water, utilities and a fire hydrant.

**4 Materials** — Non-explosive wiring and lighting is recommended. Windows and skylights may pose security problems. Shelving should be designed for easy access and coated with a material that can be easily cleaned. Some superintendents prefer concrete structures, but prefabricated buildings typically feature steel interior and exterior walls (made from different gauges) that are welded or are fastened with bolts or interlocking and clipped panels.

**5 Access** — Larger, locker-style buildings often come with double-door sets. Each door set is about 4 feet, 10 inches wide to accommodate pallets delivered via forklift. Some doors are as wide as 100 inches. Reach-in lockers (about 6 feet wide, 3 feet long and 6 feet tall) and walk-in lockers (about 9 feet tall

with a flat roof and a series of doors) are just two examples of prefabricated options. Consider an area inside the storage unit for equipment such as protective clothing, chemical records and for small-quantity mixing.

**6 Drainage** — In areas where chemicals are stored or handled, the perimeter of the floor should be raised at least 4 inches to create a dike that will contain spills. Floor drains should be capable of being rapidly sealed and shut in case of a spill. In most cases, drains should lead to a sump or tank capable of handling large spills or overflow from contaminated water from fire fighting.

**7 Appearance** — Some superintendents are opting for hut-style, walk-in buildings with a pitched roof that gives the building a more conventional vs. an industrial look. Select exterior coating materials and colors that blend in well. ■

**O**ver the past year, I've asked leaders from around the industry the same question: Have we turned the corner? In other words, has the golf industry reached the point where "The Environment" is now more of an asset than a liability?

The answer, almost universally, has been "yes."

Wow. That's a stunning consensus considering that, just a decade ago, concerns about groundwater contamination, pesticide exposure, loss of habitat and water usage were threatening to destroy both the growth and reputation of the game.

What changed? What milestones did we pass? What was the critical turning point? At the risk of downplaying the challenges and problems we still face, here's my take on the key moments in the history of the issue that almost killed golf.

### Don't lick your balls

Remember the 1980s? The media was indicting us for murder in the infamous "golf ball licking" case of Lt. George Pryor. People seemed to be coming out of the woodwork claiming that playing golf or living near a course had resulted in chemical sensitivity or other illnesses. Meryl Streep showed up in Washington tearfully ranting about Alar, and chemophobia reached an all-time high.

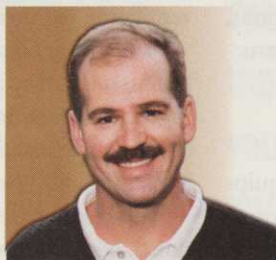
Golf course use of Diazinon went bye-bye very publicly because of waterfowl kills and EPA muscle-flexing. An AARP study suggested golf course greens were Superfund sites waiting to happen. The Corps of Engineers basically said that golf courses and wetlands were mutually exclusive. During droughts, misguided "worst-first" watering bans killed golf courses while car washes and other abusers happily dumped millions of gallons a day into sewers.

To outsiders, golf was a resource-wasting, toxic-polluting, wildlife-destroying, racist (thanks to the Shoal Creek incident) and generally pointless activity for a wealthy and uncaring elite. Comedian George Carlin suggested that the game should be outlawed and courses turned into tent cities for the homeless. Pretty much a low point, PR-wise.

It was a horribly frustrating time for superintendents who had always viewed themselves as conservationists. Now, they were being por-

# Golf's Improbable Green Conversion

BY PAT JONES



TODAY, IT'S HARD  
TO FIND A NEW  
FACILITY THAT  
DOESN'T BILL ITSELF  
AS "ECO-FRIENDLY"

trayed as villains who sprayed poisons indiscriminately to maintain a totally unnatural environment for wealthy bigots.

Amid the chaos, the golf community wrung its hands and bemoaned the injustice of it all. But, despite the serious threat, no one was doing much about it.

### Cape Cod and blue blazers

Then, in the late '80s, things started to change. First, GCSAA made a grant to a little-known researcher named Stuart Cohen to publish the "Cape Cod Study" findings. It wasn't perfect science, but it was the first evidence that golf courses, even in the worst-case sandy soils of coastal Massachusetts, posed little threat to groundwater.

Dr. Tom Watschke's Penn State run-off findings and other positive research followed shortly. Industry spin doctors (including me) finally had some science to fight back against the emotional rhetoric of the activists.

Next, the USGA, which had previously been leery of getting involved in environmental research, did a 180-degree turn under the executive leadership of Californian Grant Spaeth and the behind-the-scenes tenacity of the Green Section's Jim Snow. The Blue Blazers were now in the game with research money, credibility and political influence.

Then, a remarkable guy named Ron Dodson wandered into the picture with an astonishing idea: Maybe an environmental group could work cooperatively with golf courses. The resulting Audubon Cooperative Sanctuary Program not only changed attitudes and practices inside the industry; it created a way for courses to toot their environmental horns.

GCSAA and EPA began to communicate regularly thanks to committed leaders like Don Hearn, Dennis Lyon, Jerry

*Continued on page 56*

# Nitroform®...In a Class By Itself

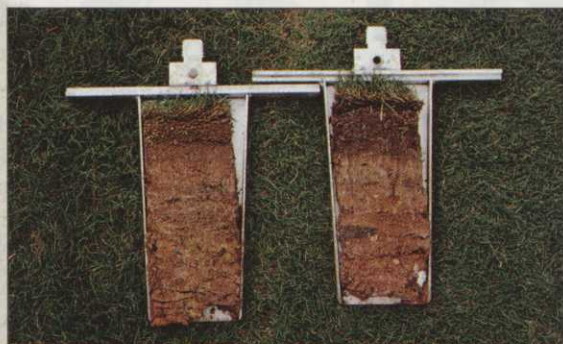


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The proof is in the picture. Location: Dunwoody Country Club, Dunwoody, GA. The plug on the left was taken out of the rough where urea-based fertilizers were applied. There was very little build-up of humus and an excessive amount of thatch, versus the plug on the right, where RegalStar® II with Nitroform® was used, which shows a build-up of humus, vigorous roots, no thatch and greener healthier turf.

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— Bill Womac  
CGCS Dunwoody Country Club  
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# PRIMING FOR THE PGA



The clock will be ticking on Medinah's high-speed mowing team

**O**N PREPARING THE FAMED NO. 3 COURSE of the Medinah CC for the 1999 PGA Championship, grounds manager and CGCS Danny Quast takes the attitude of a man who has been down this fairway before.

"This isn't rocket science," he says. "Everything you do to a course leading up to a major tournament, including the changes you make, should be done two to three years beforehand. When it comes down to the tournament, all you're doing is mowing more often and a little shorter and making things a little firmer and faster. I try to avoid a crisis management situation. You don't need that the week of a tournament."

▲ Riding greensmowers will be used to mow the fairways of Medinah's No. 3 course for the 1999 PGA Championship. The mowers' tighter turning radius will help prevent tire tracks in the primary rough.

► Medinah grounds manager Danny Quast will direct an army of more than 100 staff and volunteers to prepare and maintain the No. 3 course for the PGA Championship.



## Experience counts

Quast knows something about preparing a course for a major tournament. Since coming to Chicago's Medinah in 1989, Quast and his crew — which grows to 65 in the summer and to 100 for tournaments — have prepped the 70-year-old club's championship course for the 1990 U.S. Open. Quast's knack for planning ahead will once again come into play in seven years when the club hosts the 2006 PGA Championship. The Ryder Cup will be at Medinah in 2011.

Not one to crave the spotlight, Quast points out that he could not get the job

PHOTOS BY DAN BRICE/BBD PHOTOGRAPHY



done without the professionalism and assistance of the No. 3 course's superintendents, Keith Peterson and Reynaldo Tijerina.

"I can't say enough about the job these guys do," he says. "We couldn't be successful without the talents they bring to the table — Reynaldo's years of experience and communication skills, and Keith's attention to detail."

But Quast's praise goes even deeper. "I want to share the success of this tournament; that's important right down to the guys who are raking bunkers, mowing fairways and greens, and cutting the intermediate rough. Everybody's jobs are important. I have 680 acres to look after, and without good people it would be an impossible chore."

And the chores, especially where the PGA Championship is concerned, are considerable. Medinah's championship course has seen increased greens speed through grooming, more frequent topdressing and the use of Primo growth regulator. Old and dying trees are being pruned or removed. Nearly all of the 4,500 oak, hickory and ash trees remaining on the course are meticulously maintained by the club's resident arborist, Bob Camp.

Other changes to the course have included bunker

renovation, new tee boxes on the 2nd and 13th holes, and new hydraulic hoses on all the mowers to avoid turf-damaging leaks.

Though course No. 3 is kept in near-championship condition throughout the playing season, specific preparations will inevitably need to be made to make Medinah the ultimate challenge for the PGA's best.

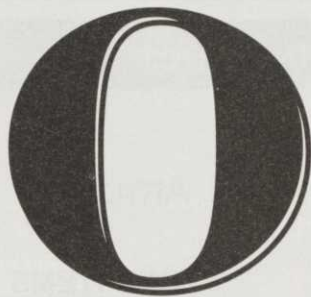
Not only will the 81st PGA Championship be the longest in history (7,401 yards from the tips), it will feature a very "un-PGA" primary rough, which will measure a punishing 4 inches by the time of the tournament. At the direction of the PGA, the roughs will be set 44 inches from the greens and chipping areas, and 72 inches from the fairways. To accomplish this, the rough mowers at Medinah will fall silent two weeks or so before the championship.

Medinah's roughs will be about the only place on the course that will be silent during the tournament. Quast, Peterson and Tijerina have set a lofty goal of mowing the entire championship course in just two hours every day during the tournament. To handle the workload, course No. 3 will be divided into four sections to be supervised by Peterson, Tijerina, Jon Thorn-

*Continued on page 50*

**"I have 680 acres to look after, and without good people it would be an impossible chore."**

**- Danny Quast, CGCS**



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### The fleet of four mowers will mow a checkerboard striping pattern on the fairways.

*Continued from page 49*  
son (superintendent of course No. 1) and Erik Swensen (superintendent of course No. 2).

"Four guys will mow a fairway at once and one guy will cut the greens. As we get additional equipment here, we'll start doing time trials," Peterson says. "We'll make adjustments as we go."

#### Start your engines

As of mid-June, Medinah's version of an Indy pit crew had proven that it can already cut the entire championship course in about 2.5 hours by using the staff and equipment from all three of its courses. By the time the PGA Championship rolls around, the addition of maintenance volunteers, consultants from Textron Turf Care And Specialty Products and new equipment should bring them closer to their goal of two hours.

If mowing an entire golf course in just two hours isn't unusual enough, it's the way in which the fairways will be cut that seems to have piqued Quast's interest the most. "The biggest change we'll have in preparing for the tournament is going to be the addition of the Jacobsen riding greensmowers on the fairways," he says. "The reason for using greensmowers is the (tight) turn-

ing radius and light weight. We'll be able to turn them on the intermediate rough and not worry about tire tracks in the primary rough."

The fleet of four mowers will mow a checkerboard striping pattern on the fairways. "The smoothness of a mower's cut, and the texture and playability of the grass are most important," Quast adds. "But appearance is nice, too. It makes the course stand out on television."

As Quast says, this isn't rocket science, but it is intense. Up to the time the first practice shot is fired down fairway No. 1, Quast's crew will be busy hand-watering aprons, collars and greens, making fungicide applications, double-cutting greens and other chores.

"The secret is to get everything done right, double-check everything you do and get it done in a timely manner," Quast says. "When you think about it, the course we maintain for the tournament shrinks. Right now, we maintain the whole course. As the tournament approaches, the only thing that matters (from a maintenance standpoint) is what goes on inside the ropes." ■

*Editor's note: Tom Mentzer, the author of this story, is a public relations counsel for several companies in the turf maintenance industry.*

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