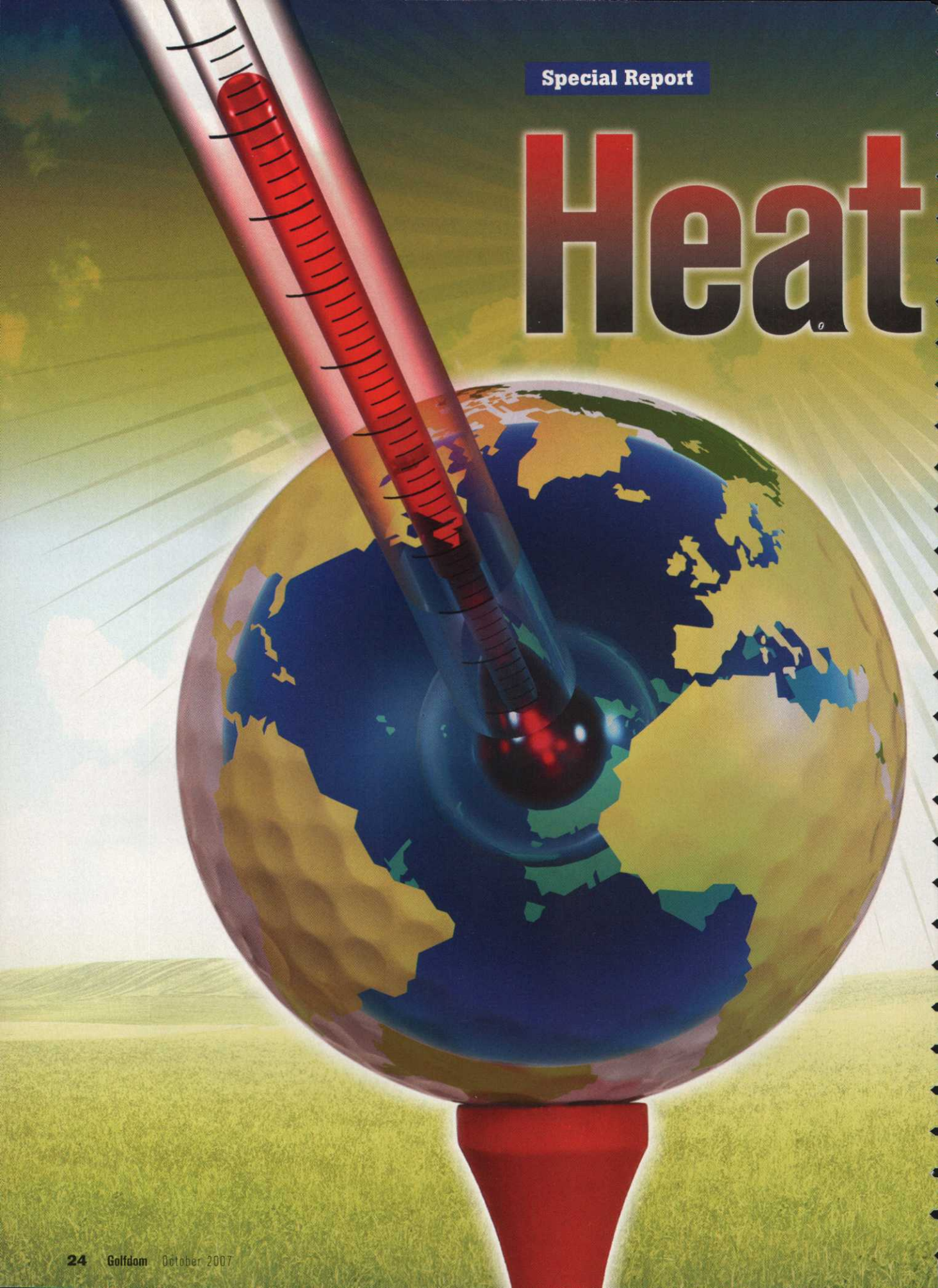


Special Report

Heat



ed Debate

Will global warming change the golf course industry?

BY LARRY AYLWARD, EDITOR IN CHIEF

It is certainly one of the most burning news stories of the year. Everybody's talking about global warming, from government leaders to golf course laborers.

But if you ask Brian Ferrier, the owner of Washakie Golf & RV Resort in North Branch, Mich., global warming has become so hot of an issue that its pot is boiling over with half-truths. Ferrier says global warming — the increase in the average temperature of the Earth's near-surface air and oceans — is more hype than substance. He blames the mainstream media and left-wing environmental groups and politicians for fanning the flames of global warming and frightening folks with tales of harrowing hurricanes and devastating droughts, among other earthly disasters.

"Doom and gloom sells," Ferrier says.

Ferrier, who says he has studied the topic of global warming on his own for several years, believes the concept is occurring naturally and without dire consequences. And he dismisses the notion that human beings and their carbon dioxide-spewing Chevrolets are creating greenhouse gases that are trapping solar heat and causing the Earth to warm up like a toaster oven.

But Dana Lonn, director of the center of advanced turf technology at The Toro Co. and a respected industry researcher, takes the threat of global warming more seriously and believes something needs to be done to manage it. Lonn trusts the findings of scientific organizations, such as the Intergovernmental Panel on Climate Change (IPCC), which says the world will

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“We’ve had an ice age before, and we will probably have an ice age again.”

— **BRIAN FERRIER**, OWNER OF WASHAKIE GOLF COURSE & RV RESORT IN NORTH BRANCH, MICH.

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endure increased hunger, water shortages, massive floods and species extinction unless nations take steps to halt global warming.

“I have no reason to not believe the scientists who know a lot more than I do about climate,” Lonn says.

Although he professes not to be an expert on the subject, Lonn also subscribes to the IPCC’s theory that humanity is contributing to global warming through the production of greenhouse gases, including carbon dioxide from the burning of fossil fuels, as well as methane and nitrous oxide.

“We’re putting a lot of carbon dioxide in the atmosphere, so it only makes sense that humans are causing global warming,” Lonn says. “That seems to be more the consensus than not.”

The golf course industry is rife with opinions about global warming (sidebar page 29). Some like Lonn say global warming is an imminent threat. Others like Ferrier dismiss it. Others say global warming is real, but nothing to be too worried about. Still, others aren’t sure what to make of reports that the planet has a fever.

But no matter where they stand, the people who constitute the golf course industry are concerned about the impact global warming could have on their business. Those who believe global warming is real are concerned, among other things, that a change in the

weather could influence golf course maintenance. For instance, will warmer weather mean more bugs, weeds and turf disease? And what impact could global warming-caused drought have on golf course irrigation?

Those who believe global warming is junk science also wonder what the future holds for the industry. That’s because they know political leaders have been working on initiatives to address climate change, including legislation that restricts emissions.

Even though Ferrier and others dismiss global warming as a threat, they realize the government has more of a say in the matter than they do. So if government leaders decide to take measures to combat global warming, they wonder what regulations golf courses might face. For instance, what if government leaders decide to mandate electric golf cars and turf equipment to reduce carbon emissions on golf courses?

To what effect?

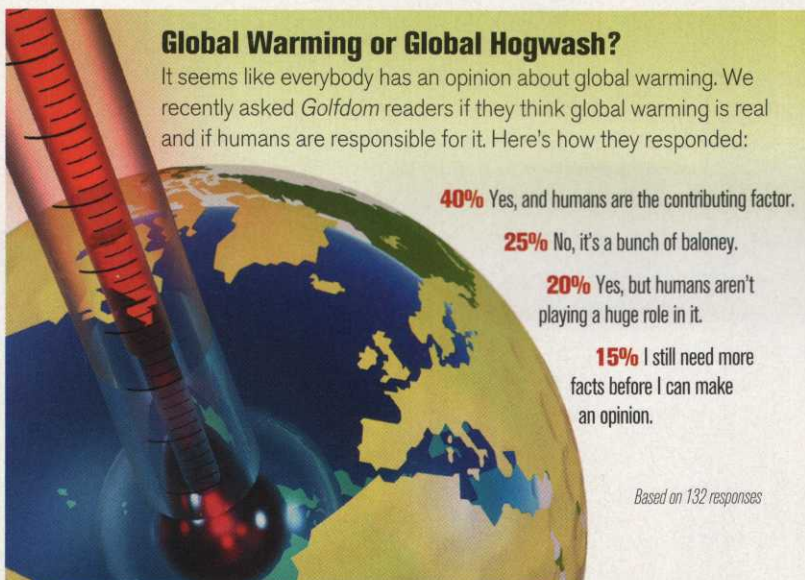
The Golf Course Superintendents Association of America takes neither a “yea” or “nay” stance on global warming, which it includes under the broader topic of climate change. But the GCSAA began studying the issue and its possible impact on the industry about a year ago. Carrie Riordan, the GCSAA director of information and public policy, says the GCSAA decided it needed to look into the matter on behalf of its 21,000 members.

“Our board decided we needed to address how golf could be impacted by legislative and regulatory actions to address climate change,” she says.

Riordan says the GCSAA doesn’t want to debate the topic because such a discussion would get nowhere with so many differing views among its members. But she says the association felt obligated to make members cognizant of potential regulatory changes that could occur.

Riordan says climate change could impact the golf course maintenance industry in several ways. Equipment manufacturers could be hit with more stringent regulations to reduce carbon dioxide emissions. Hence, superintendents could end up paying more

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Opinions Abound on Global Warming *By Larry Aylward*

How bad is it and who's responsible?

The major debate among people in general, as well those employed in the golf course industry, centers on the severity of global warming and whether humans are responsible for the earth heating up.

Brian Ferrier, the owner of Washakie Golf & RV Resort in North Branch, Mich., believes the earth's climate is changing now as it has in the past because of naturally occurring weather cycles and patterns, including *El Nino*. Humanity has nothing to do with it.

"To say we have something to do with it is pretty egotistical because we aren't much on this big orb," he adds.

Tim Hiers, certified superintendent of the Old Collier Golf Club in Naples, Fla., doesn't doubt the Earth is warming up slightly, but he says the temperature increase is insignificant and has nothing to do with humans.

"I'm not afraid to stand up against anybody, anytime and anywhere and say, 'I absolutely and unequivocally don't believe that man is causing global warming,'" Hiers says.

Like Ferrier, Hiers embraces the stands taken by scientists who oppose global warming, including those who are among the nearly 18,000 signatures of the Oregon Petition, a document stating that a scientific consensus does not exist on global warming. The petition opposes the Kyoto Protocol to the United Nations Framework Convention on Climate Change, a 1997 amendment to the international treaty on climate change which assigns mandatory emission limitations for the reduction of greenhouse gas emissions.

"A review of the research literature concerning the environmental consequences of increased levels of atmospheric carbon dioxide leads to the conclusion that increases during the 20th century have produced no deleterious effects upon global weather, climate or temperature," the Oregon Petition states.

Ferrier and Hiers cite studies that say the temperature has increased slightly simply because the sun is giving off more heat due to increased sunspot activity.

But Dana Lonn, director of the center of advanced turf technology at The Toro Co., says there's too much evidence that humans are causing global warming to dismiss it. Lonn trusts reports, such as recent findings by the National Oceanic and Atmospheric Administration, that say greenhouse gas emissions likely accounted for more than half of the widespread warmth across the continental United States in 2006, which had the

second-highest average temperature since record-keeping began in 1895.

Lonn, who says he's not an expert in the area, believes the climate change in the past 10 years to 20 years has been so significant that it's not normal and suggests solid evidence that humans are helping to cause global warming.

Kevin Fletcher, executive director of Audubon International, also believes the science is strong that humans are contributing to global warming. So does Dave Gardner, an associate professor of turfgrass science at The Ohio State University, who says "it's unlikely that humans aren't the cause" of global warming.

"If this is truly a natural phenomenon, it's a big blip on the time scale," Gardner says. "I think the preponderance of the evidence indicates that humans have something to do with it."

Jim Husting, certified superintendent of Woodbridge (Calif.) Golf & Country Club, also believes there's something wacky happening with the world's weather. Husting, who has been at Woodbridge for 22 years, says he's noticed more extreme weather, something scientists say is another sign of global warming. "It's always something different, like the hottest summer in 100 years, the driest spring in 100 years or the coldest February in 100 years," he says.

Husting also believes mankind is affecting global warming. "I don't see how we can't be," he says.

Jim Nicol, certified superintendent of Hazeltine National Golf Club in Chaska, Minn., says humans are partially to blame for global warming, but he's unsure just how much they should be held responsible. "Is it to the extent that some people are saying? I'm not so sure," he says.

Joe McCleary, certified superintendent of Saddle Rock Golf Course in Centennial, Colo., believes the Earth is slowly warming as part of a natural cycle and that human activities are impacting the cycles in a small way. But McCleary believes there's no reason to panic over global warming.

"But it's time to start making sure that we're doing things in an environmentally responsible way," he says. "Because you can get to a point where you can't turn back."

Ferrier says recent studies show that Mars is also warming up.

"Who they going to blame for that one?" he asks. ■

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Heated Debate

Brian Ferrier keeps a folder of newspaper clippings on myriad issues, including global warming.

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for such equipment. Fuel prices could rise dramatically to curb demand in an effort to lessen emissions. Fertilizer prices could increase if there's an increase in the natural gas prices used to manufacture it. (This could occur if more global warming-induced hurricanes damage natural gas processing facilities, which could cause a decrease in supply, according to research.)

And because predictions that more intense hurricanes could occur as a result of climate change, Riordan says insurance companies could raise premiums or even cancel them for golf courses located

Temperature's Rising, As Are Good Days to Play Golf

If global warming is the real deal, a warm up in the weather could help increase golf rounds, which would benefit the entire industry financially.

WeatherBill, an online weather risk management service, published a study last year analyzing historical weather data to determine changes and trends in annual Golf Playable Days (GPD). The study concluded that U.S. GPD are increasing in 95 cities, primarily due to higher average temperatures.

What Northern golfer living in Minnesota or Maine wouldn't want to play 18 holes in mid-January if the opportunity presented itself in the form of a sunny and 70-degree day?

— Larry Aylward

in regions prone to such storms, such as thousands of courses located in Florida, Georgia, South Carolina, North Carolina and other coastal states.

Kevin Fletcher, executive director of Audubon International, says the government could regulate industries like the golf industry with carbon-use taxes to encourage less carbon dioxide emissions if it wants to reduce manmade greenhouse gases, although the current political climate in the United States would make that unlikely. Fletcher notes that Germany and other countries have implemented carbon tax policies to achieve eco-efficiency through penalization.

“Essentially, an environmental tax like this on a policy level tries to address environmental externalities or costs to the environment that aren't otherwise captured in production costs,” he says. “This is why voluntary efforts seem more favorable.”

But because it's a smaller and more specialized industry, there's a chance the golf industry would be overlooked if the government decided to target business to reduce global warming, sources say. Lonn's guess is that government would go after the big guys. “Golf is small compared to other industries like transportation,” he adds.

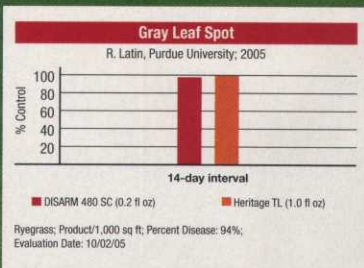
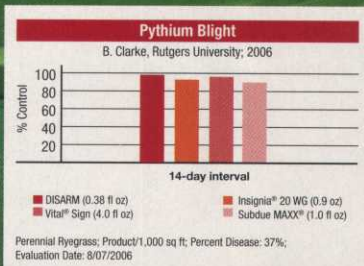
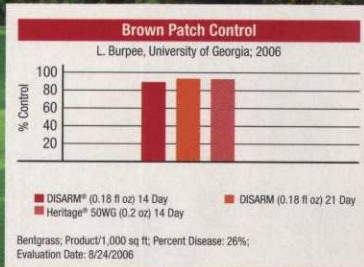
But even if government regulations caused by global warming spared golf courses, the phenomenon itself might not. Lonn says climate change could alter the distribution of rainfall, mean-

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ing regions either receive heavy rain or no rain, which would greatly impact golf course maintenance from irrigation to pest control.

Lonn says that Minneapolis, where Toro

leading to a snow-pack level shortage in the mountains. That means less melting snow in the spring and less water to fill reservoirs, which equates to less water for golf course irrigation.

“The golf courses that rely on freshwater delivery will be impacted the most,” Husting says. “The (golf courses) that don’t use reclaimed water are going to get hammered hard.”

Global warming could also alter a golf course’s pest management program. Extreme rainfall will undoubtedly have an effect but so will an increase in temperature, which could force Northern superintendents to battle a new array of weeds, diseases and insects on their greens, tees and fairways.

Dave Gardner, an associate professor of turfgrass science at The Ohio State University, made an eye-popping discovery on one of the university’s turfgrass plots about two years ago. He found that Dallis grass, a Southern weed, had invaded a section of bentgrass on the plot. The weed has sustained itself and spread since.

The text books say that Dallis grass should not survive farther north than Tennessee.

“We’re talking about an encroachment of about 500 miles,” Gardner says. “I have no idea how it got here.”

The problem is there are no EPA-labeled herbicides to control Dallis grass in Ohio. “The only herbicide capable of controlling it semi-well is MSMA, which the EPA decided not to reregister,” Gardner says.

Dallis grass could cause Northern superintendents problems similar to those they endure by trying to rid their courses of crabgrass and goosegrass.

“But because they would have no selective herbicide option to control it after it emerges, they would have to pick it out by hand,” Gardner says, noting that he has seen Dallis grass withstand cutting heights down to one-half inch.

Gardner also discovered Johnson grass, another weed more frequently found in turfgrass in the southern United States, growing on the Ohio State campus. He says additional Southern-based weeds could migrate north and be difficult to control.

“I don’t want to sound like an alarmist, but

“We should be concerned about [global warming] because we are members of society. We should figure out how to use our education and influence to help society.”



— **DANA LONN**, THE TORO CO. DIRECTOR OF THE CENTER OF ADVANCED TURF TECHNOLOGY

is based, is a good example of this extreme. The city recorded record rains of 9.32 inches in August.

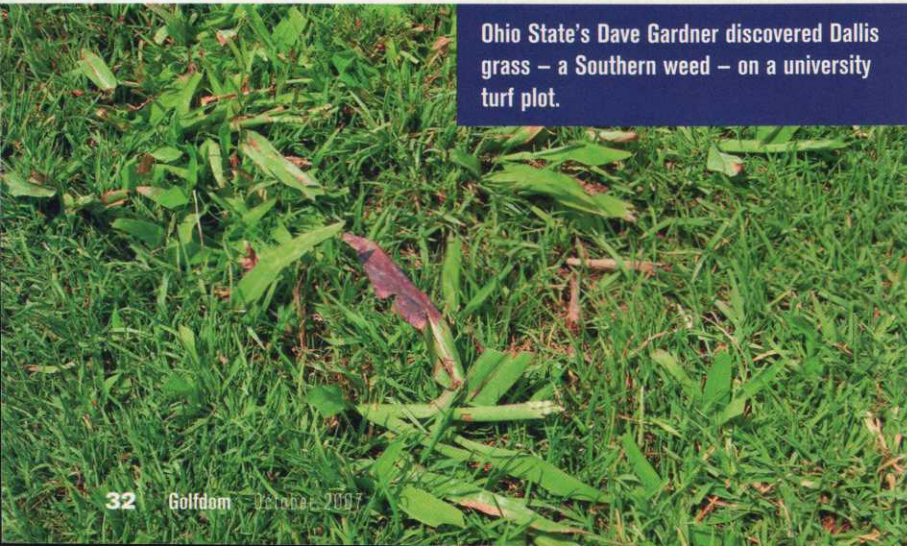
Such extreme weather situations could turn political for golf courses in areas where there is little rain and drought persists, Lonn explains. Because golf courses are often viewed as water wasters — albeit unfairly — their irrigation practices could be scrutinized even more in the regions where water is scarce.

“There will be more and more of that kind of political pressure as the climate changes,” Lonn predicts.

Jim Husting, certified superintendent of Woodbridge (Calif.) Golf & Country Club, also believes global warming is changing the weather patterns. He has noticed areas in California and throughout the country that have endured prolonged drought or wet spells.

In the Pacific Northwest, Husting is concerned global warming will limit snowstorms,

Ohio State's Dave Gardner discovered Dallis grass — a Southern weed — on a university turf plot.



this could pose a real problem,” Gardner says.

Other reports suggest global warming will cause an increase in insect population, which could affect a golf course’s insecticide program. Not only could Southern-based insects like fire ants migrate farther north (some reports they that’s already occurring), but insect species living in warmer areas could undergo more rapid population growth because they typically evolve faster in temperate climates.

While golf courses would feel the fallout from global warming, the question that begs to be asked is: Are golf courses contributors to global warming?

Lonn says the industry needs to study the role that golf courses play in global warming.

“A golf course is about growing plants, and plants are part of how you convert carbon dioxide back into oxygen,” he says. “We need to understand better the balance between growing plants on the golf course and the carbon cost of maintaining them.”

Joe McCleary, certified superintendent of Saddle Rock Golf Course in Centennial, Colo., says a carbon footprint study for golf courses could be initiated to find out where golf courses stand in relation to global warming. A carbon footprint is the total amount of carbon dioxide and other greenhouse gases emitted over a certain time period. Such a study also would provide courses with other detailed information, such as how much fertilizer they use and how much energy they expend.

“It becomes a tool to evaluate what happens on golf courses as far as the environment is concerned,” says McCleary, a member of the GCSAA environmental programs committee.

McCleary is confident a carbon footprint project would reveal how much of a cooling effect turf has on the environment and that golf courses aren’t a major threat to global warming.

“There are many more environmental benefits to golf courses than people realize,” he adds.

It makes sense for golf courses to have that information if environmental groups decide to single them out as contributors to global warming.

Scientists on the Cause of Climate Change

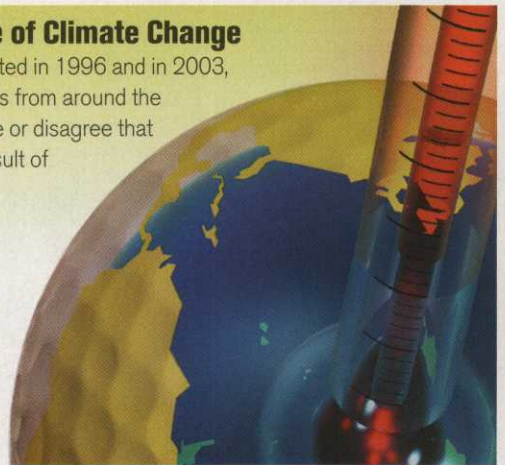
In two different surveys, conducted in 1996 and in 2003, more than 560 climate scientists from around the world were asked: Do you agree or disagree that climate change is mostly the result of man-made causes?

Agree: **55.8** percent

Disagree: **30** percent

Uncertain: **14.2** percent

Source: *Scientific Consensus on Global Warming/The Heartland Institute*



“People make wild assumptions about golf courses,” McCleary stresses. “So there’s nothing wrong with having information ready when its time to start talking about the benefits of golf.”

Tim Hiers, certified superintendent of the Old Collier Golf Club in Naples, Fla., dis-

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misses man-caused global warming as a threat and is convinced that spending any money to research it "is a huge waste." Hiers is concerned if public and private entities spend a lot on global warming initiatives, they won't have much money left to spend on the environmental issues that really matter, like preserving conservation land and inventing more energy-efficient engines.

"They'll be spending money that's counterproductive to golf instead of productive," he says.

It also concerns Hiers that government regulations pertaining to global warming could help to increase the price of golf course maintenance. Hiers figures the cost of golf course maintenance has increased 700 percent since 1970. He doesn't want junk science to cause it to go up anymore.

Even though he's an opponent of global



The fear factor

With his long, wavy gray-tinged hair and shiny diamond earring, Ferrier looks like somebody who would march up and down the street carrying a sign that reads, "Save the World! Stop Global Warming Now!" But looks are deceiving in this case. Ferrier's sign would be more apt to read — "Global Plus Warming Equals Nonsense."

"I like to keep them off guard," says Ferrier, who may look like a liberal but is a self-described conservative who keeps a folder of newspaper clippings from *The Wall Street Journal* and other publications on important news issues.

Ferrier remembers growing up in the late 1950s and early 1960s and being thoroughly terrified by reports of the prospect of nuclear war. That news was exaggerated, he says. Now Ferrier insists he's witnessing something similar with reports on the dangers of global warming, and says it's irresponsible of the people who push it as some kind of apocalypse.

"Let's not scare everybody out of their minds if we're not even sure why it's happening," Ferrier says.

To Lonon and others who believe that global warming is a concern, it's not a matter of scaring people. It's a matter of dealing with reality, especially when so many scientists report that the United States could experience more hurricanes, floods, droughts, heat waves and wildfires if people don't start doing something to control global warming.

"We should be concerned about it because we are members of society," Lonon says. "We should figure out how to use our education and influence to help society.

"And we, as an industry, should act as responsibly as we can." ■

“For me to say that global warming is a bunch of ballyhoo, that shows a fair amount of ignorance on my part. I think we have to be cognizant of it, and we have to change our lifestyles to help keep it from getting worse.”



— **JIM NICOL**, CERTIFIED SUPERINTENDENT OF HAZELTINE NATIONAL GOLF CLUB IN CHASKA, MINN.

warming, Hiers is a proponent of doing the right thing to preserve the environment — on and away from the golf course, from irrigating responsibly to driving more energy-efficient vehicles. (Hiers, by the way, drives a hybrid Toyota Highlander).

Wasting money is not the only financial issue that troubles global warming detractors. Ferrier says he's bothered that people like Al Gore, who received an Academy Award for his global warming documentary "An Inconvenient Truth," are using the issue as a vehicle to cash in. Gore, however, has stated that all profits from the movie and an accompanying book on the topic are going to help spread the message about the dangers of global warming.