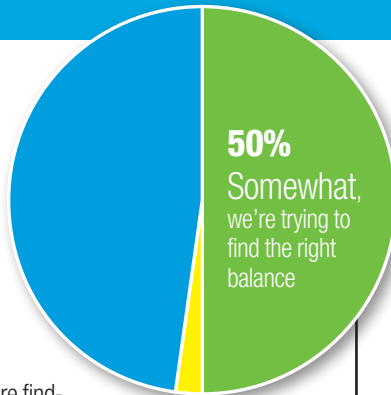




Are you doing all you can to manage water as efficiently as possible?

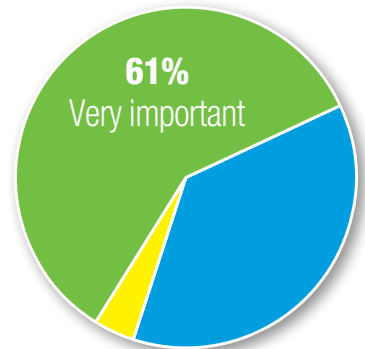
(383 responses)



48% Yes, we're finding ways to reduce overall water use, even if it causes occasional stress on the turf

2% No, we're watering away to attain as green and lush turf as possible

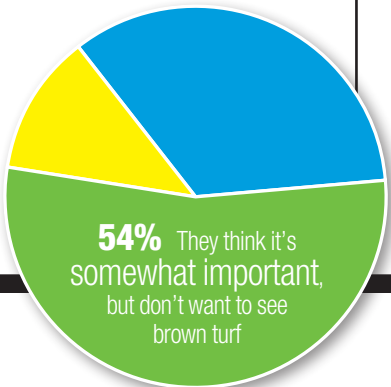
Where does a sound water management program, including an effort to conserve water, rank on your priority list when it comes to golf course management? (384 responses)



1% Not important

38% Somewhat important

How do your golfers feel about water conservation on the golf course? (383 responses)



12% They think it's very important

34% They don't care

54% They think it's somewhat important, but don't want to see brown turf

Continued on page 32

ago. Thirty-four percent of respondents said, "Golfers don't care." Fifty-four percent said, "They think it's somewhat important, but don't want to see brown turf."

Of course, as superintendents know, it's vital to get more golfers to care about water conservation on the golf course, considering the pressures on superintendents to use less water.

Our survey results also reveal that 98 percent of superintendents are trying to manage water the best they can. In the survey, we asked them: Are you doing all you can to manage water as efficiently as possible? Forty-eight percent answered, "Yes, we're finding ways to reduce overall water use, even if it causes occasional stress on the turf." Fifty percent said, "Somewhat, we're trying to find the right balance." Only 2 percent answered, "No, we're watering away to attain as green and lush turf as possible."

Regarding the final answer, that number is down from 3 percent who gave that answer to the same question a year ago. In 2006, we asked the same question, and 10 percent of

respondents said they were "watering away."

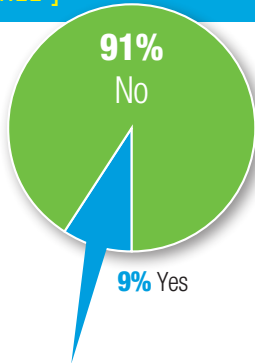
Superintendents might want to consider an irrigation audit to help them become better water managers. According to the survey, only 22 percent of superintendents had an irrigation audit performed on their courses in the past two years. Of that 22 percent, we asked: Do you feel the audit was beneficial? Seventy-eight percent answered, "Yes, we've improved our irrigation efficiency on the course because of it." The remaining superintendents answered, "No, because we didn't implement the right corrective actions after the audit was completed."

Most superintendents say they're willing to pay more for highly advanced irrigation equipment that will save them money on water and maintenance costs in the long run. But there's a catch. Fifty percent said they are willing to pay, just not now "because of budget constraints." Only 18 percent said advanced equipment isn't needed because "we have the right technology now, and it's at the right cost." ■

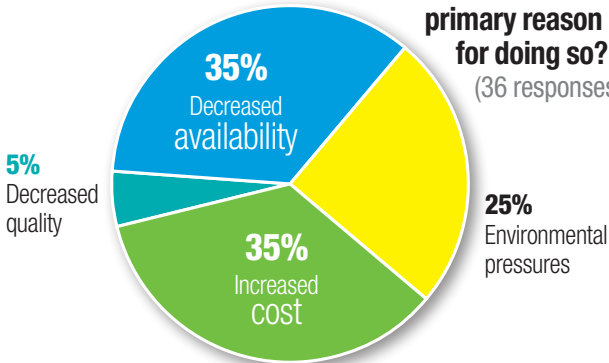
Continued from page 31

Do you anticipate changing your source of water over the next three to five years?

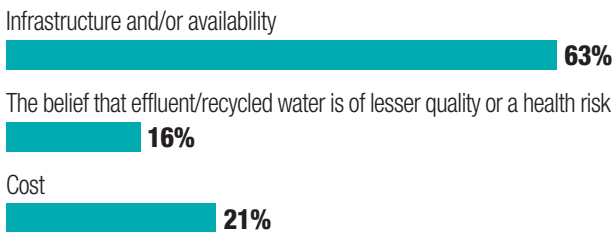
(382 responses)



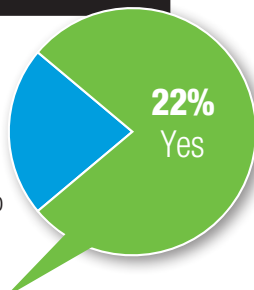
What is the primary reason for doing so?
(36 responses)



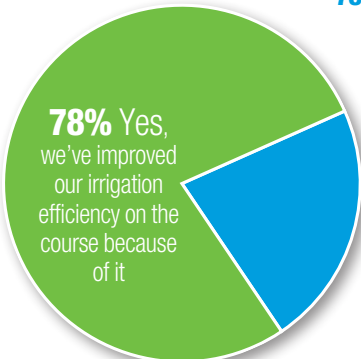
What do you believe could hinder more widespread use of effluent/recycled water? (382 responses)



Have you done an irrigation audit on your course in the past two years? (383 responses)



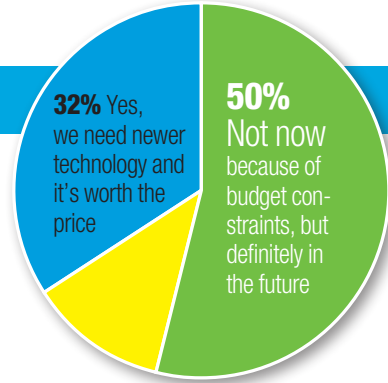
Do you feel the audit was beneficial?
(83 responses)



22% No, because we didn't implement the right corrective actions after the audit was conducted

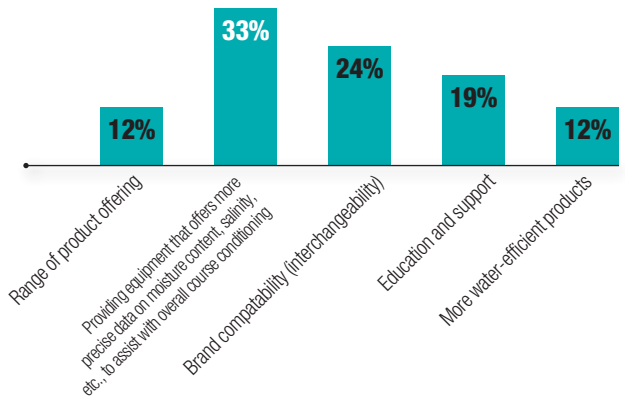
Are you willing to pay more for highly advanced irrigation equipment that will save you money on water and maintenance costs in the long run?

(383 responses)



18% No, I believe we have the right technology now and it's at the right cost

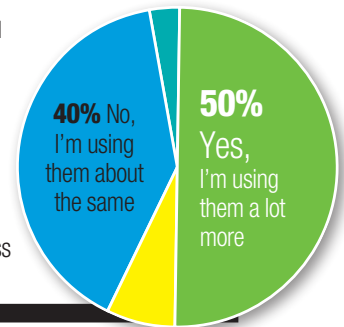
What area would you most like to see irrigation equipment companies improve on? (380 responses)



Are you using soil wetting agents differently than you were five years ago?

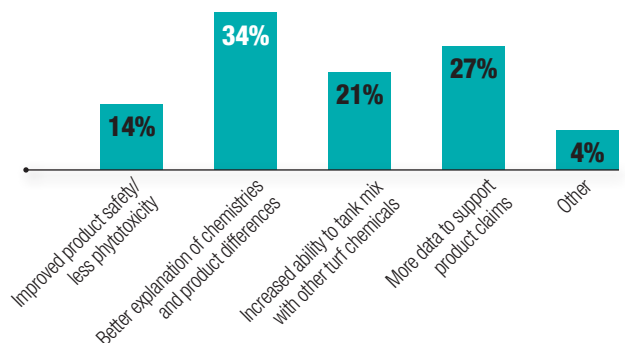
(383 responses)

3% I don't use soil wetting agents



7% I'm actually using them less

What improvements would you like to see from soil surfactant companies with regard to their products? (383 responses)



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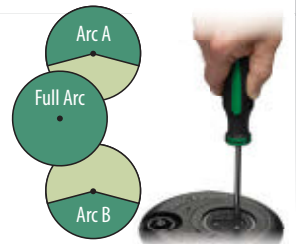
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Bionutritional products have made a believer out of Roch Gaussoin, who previously preferred them about as much as the general public liked the taste of New Coke when it was rolled out in 1985 to replace the company's original cola.

Gaussoin, Ph.D., a professor of agronomy and horticulture at the University of Nebraska-Lincoln, said he once dismissed bionutritional products — the name given to the range of living organisms such as microbes, bacteria, mycorrhizae, seaplant extracts and hormones — as “snake oil” and “bugs in a jug.” But after further review, literally, Gaussoin said golf course superintendents would be making a big mistake if they

rejected the products as junk science.

Gaussoin spoke at an event, “Bionutrition: From Bugs in Jugs to Mainstream Fertility,” held recently by LebanonTurf at the Otesaga Resort in Cooperstown, N.Y. LebanonTurf, which acquired the bionutritional product company Emerald Isle Solutions in 2008 and the Roots brand from Novozymes in 2009, has diversified its product offering of turfgrass fertilizers, which also includes traditional N-P-K products, to better serve its customers' needs. The event featured speakers Robert Ames, Ph.D., a senior staff scientist for Advanced Microbial Solutions; Mike Amaranthus, Ph.D., an adjunct associate professor at Oregon State University and president of

Continued on page 36

Those who have used and tested bionutritional products tout them as a major component to maintain healthy turfgrass

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Big on Bio

Continued from page 35

Mycorrhizal Applications Inc.; and Robin Ross, market development scientist in the plant science division for Acadian Seaplants Limited. All spoke on the benefits that bionutritional products add to turfgrass maintenance programs when used in conjunction with conventional fertilizers.

Gaussoin said he was skeptical of bionutritional products until he began testing some of the products — and then his eyes were opened to their benefits. His tests revealed that using bionutritional products could provide superintendents the opportunity to reduce fertilizer application rates by up to 30 percent over granular or dry fertilizers with no change in performance. Gaussoin also said bionutritional products help improve soil structure and plant root health.

Gaussoin's research also revealed bionutritional products play a major role in unlocking labile nutrients that

LebanonTurf hosted its event in September.

are locked in the soil as a result of organic matter deposition.

"The only way those nutrients will be released is by some sort of biological activity," Gaussoin said. "That nitrogen is waiting to be released. We just need some biological condition, primarily microbial-based, to release it to the plant."

Next to water, bionutrients are the most important attribute for plant health, Gaussoin added.

"That's how important they are, but we pigeonhole them in a black box because we're not sure how they work," he said.

Gaussoin and the other speakers admitted they're not entirely sure how bionutritional products function.

"We thought it was simply adding an



organism," Gaussoin said. "But it may not be the organism; it may be what the organism produces when it dies."

Gaussoin said he doesn't think superintendents care how bionutritional products function. If the products are backed by solid research and positive peer review, superintendents will consider using the products.

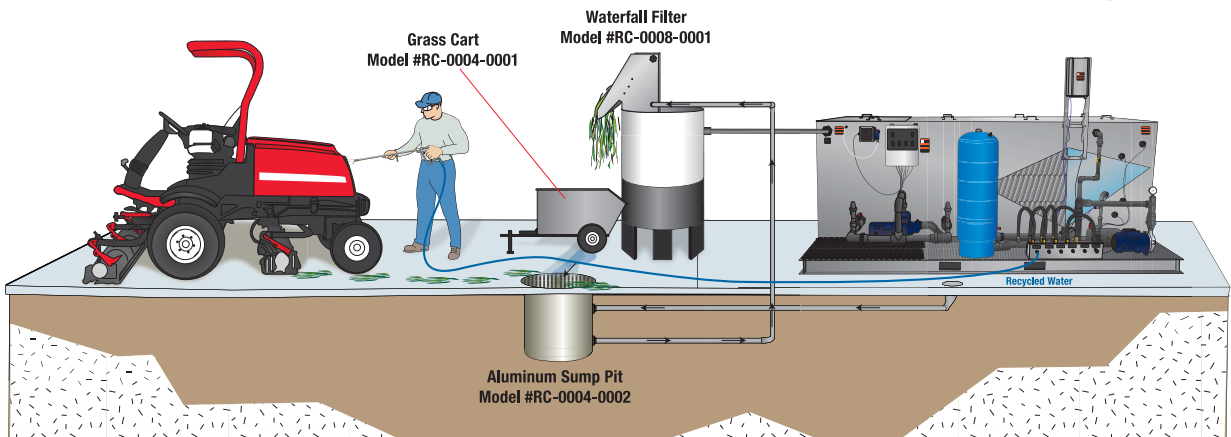
In her presentation, Ross noted that bionutritional products, such as those containing seaweed extract, enable turf-



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grass to elicit its natural defenses to stress.

“The products help plants tolerate drought stress, salinity stress and temperature extremes,” she said. “A typical fertility product doesn’t do anything when you’re trying to grow bentgrass in hot conditions, and the turf’s roots are getting shorter and shorter. But bionutritional products can help with that.”

Ames touted the economic benefits of bionutritional products, which cost more than conventional fertilizers on a per-unit nitrogen basis, including reduced irrigation, a reduction in nutrient loss and overall reduction of maintenance costs associated with reduced pesticide control because of healthier turf.

“[Using] bionutritional products is equivalent to having insurance,” Ames said. “They provide long-term assurance for a low cost.”

Amaranthus said superintendents need to be smart about what they look for in biological products because there are some lousy products on the market.

“Just like any industry, you have a whole range of quality and a whole range of active ingredient that gives a response,” he said. “And you really want to look for the form of the product that best suits your needs.”

Amaranthus also noted the environmental benefits of bionutritional products, such as improving runoff water quality, reducing groundwater pollution, creating carbon sequestration in soil and offsetting greenhouse gases.

To find a golf course superintendent who has incorporated bionutritional products in his golf course maintenance program, one had to look no further than Otesaga Resort’s Leatherstocking Golf Course, where Bernie Banas is superintendent.

When Banas began at Leatherstocking in 1994, his aim was to upgrade the course’s maintenance program environmentally to protect the pristine and picturesque Otsego Lake, the 10-mile long waterway that borders the resort and is

Continued on page 38



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Big on Bio



Bernie Banas says the lake behind him, Otsego Lake, was the reason he introduced bionutritional products to his maintenance program.

Continued from page 37

Cooperstown's drinking water supply.

"That's when I started looking at organic products, Banas said. "But they were fairly new then, and nobody knew much about them."

Banas started using the products on the course's fairways. He first tried a poultry-based product, using it by itself and with a synthetic fertilizer.

"I saw tremendous results after a few years," Banas said. "I was able to reduce the severe thatch in the fairways."

Banas then began using bionutritional products on his course's greens and liked the results just as much.

Banas uses several nutritional products — organic and synthetic — in his turf maintenance program.

"I don't think there's one organic or synthetic product that will do the job on its own," he said. "It's a combination of them."

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But Banas said bionutritional products alone have helped improve plant health to offset turf disease. When he came to Leatherstocking, Banas said, he tried everything under the sun to withstand anthracnose, but couldn't find anything that worked — until he began making monthly applications of bionutritional products with sea plant extract.

"I haven't seen any anthracnose in 12 years," he said. "The root system is 10 times stronger than the root system we had before. It all relates to plant health. The stronger the plant, the more it will be able to take."

It was a difficult summer for superintendents with record heat and humidity, and many superintendents lost turf. But Banas said his course's turf thrived, which he attributes to his use of bionutritional products.

"This was the hottest and driest summer I've ever

encountered," he said. "The turf made it through because of those products."

Because the turfgrass is healthier, Banas said he has fewer problems with weeds and insects. The healthy turf crowds out weeds. And the healthy turf has led to few grubs that don't cause much damage, if any.

"We do very little weed control," Banas said. "We spot spray where we need to. Occasionally, we have to go out and knock down grub populations. But we scout for them. There are few times when we've had to make blanket applications."

Banas said cost was a concern when he began using bionutritional products, but he has saved money in other areas since incorporating them into his maintenance program. Mainly, he has saved money by reducing other inputs. He has also benefited from the recent drop in fungicide prices.

"I can honestly say that I'm

spending less money than I was 12 years ago," he said of his maintenance budget.

Superintendents need to be patient with bionutritional products if they decide to use them, Banas said.

"It might take awhile for them to see the full benefits," he added, noting they will see a lesser but positive impact early when using them.

Gaussoin, who's glad he decided to look into bionutritional products with an open mind, said he hopes others do the same.

"Biological products aren't widely accepted by the academic community," Gaussoin said. "But I think we're coming around like some superintendents."

In 10 years, Gaussoin expects superintendents to be using bionutritional products regularly.

"I think that's where we're heading," he added. "We're learning a lot more about them." ■



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Golf's Hope for Change

Ho, ho, ho! It's just another happy holiday season in golf. There are course closures and bankruptcies galore. There are job cuts and decreased spending. Raises seem non-existent, and there's more pressure on golf course superintendents to raise standards with depleted maintenance budgets.

And the whipped cream atop this melting sundae? A bunch of lavishly paid folks in seats of power who dream of "premium" pricing and "value delivery" schemes to save the game.

Go ahead, have another glass of eggnog.

At least the day seems to have arrived where folks are angry enough to speak their peace and brainstorm for a new future. It helped that for every major issue facing the game the last few years, a boondoggle of some sort erupted in 2010 to remind the world of our most glaring problems: from slow play, to lack of participation, to bloated rules, to spoiled tour pros, to the demise of the design business.

Every week there seemed to be another embarrassing story that made us forget all of the great things about golf. But clearly these little imbroglios happen for a reason.

Now we just need a forum for the grievances to be aired and solutions to be proffered. That's why it's time for a golf summit.

All overpaid CEOs of non-profit golf organizations need to share stages with the greedy CEOs of golf equipment manufacturers and tell us what they're doing to move the game into the future. It will be illuminating, if nothing else, to

THE DAY SEEMS TO HAVE ARRIVED WHERE

FOLKS ARE ANGRY ENOUGH TO SPEAK THEIR

PIECE AND BRAINSTORM FOR A NEW FUTURE

BY GEOFF SHACKELFORD



realize few of them have any answers.

Side seminars would need to be scheduled where we hear from a variety of folks — preferably no C-level types — who have insights into the current state of affairs. We could hear ideas to help golf courses re-imagine business plans, to kick around cutting-edge ideas, and figure out what will excite golfers about playing the game again.

Essential to this would be cooperation from the Golf Channel to televise these seminars. That's right, no more behind-closed-doors lectures from the suits telling everyone that everything will be A-OK.

It's time to have these discussions in the open for all to see, even if they are only broadcast online. And it'd make better television than most of the stuff they air.

Unfortunately, the super-conservative nature of the golf business makes such an event all but impossible. Concerns of "loss of face" seem to override all rational thought in golf, even as everyone agrees the sport and business needs to talk.

Yet, what could bring more "loss of face" than losing your high-priced gig because your job is eliminated after contraction or outright failure?

And that brings us to the real

problem: Everything in America is about the short term. While it's easy to blame so much on the wretched economy, much of golf's problems, like America's problems, stem from minimal foresight and planning for when times would be leaner.

If an organized summit with the same-old tired dealmakers spouting the good ol' boys' company lines isn't your thing, maybe it's time for golf's version of the Tea Party. Perhaps there could be rogue gatherings at the PGA Show and the Golf Industry Show. Golf pros and superintendents could dress up as Old Tom Morris, wield hickories and signs (minus the misspellings) and plead for a return to another time.

Admittedly, it's a fantasy. But what else would you ask Santa for Christmas? Another \$500 driver? A \$60 box of a dozen balls?

We now know consumables aren't the key to the future. It's time to talk. It's time to scream. It's time to stop hoping for change and time to start barking about it.

Are you with me?

Follow Shack, *Golfdom's* contributing editor, at www.geoffshackelford.com. You can e-mail him at geoffshac@me.com.