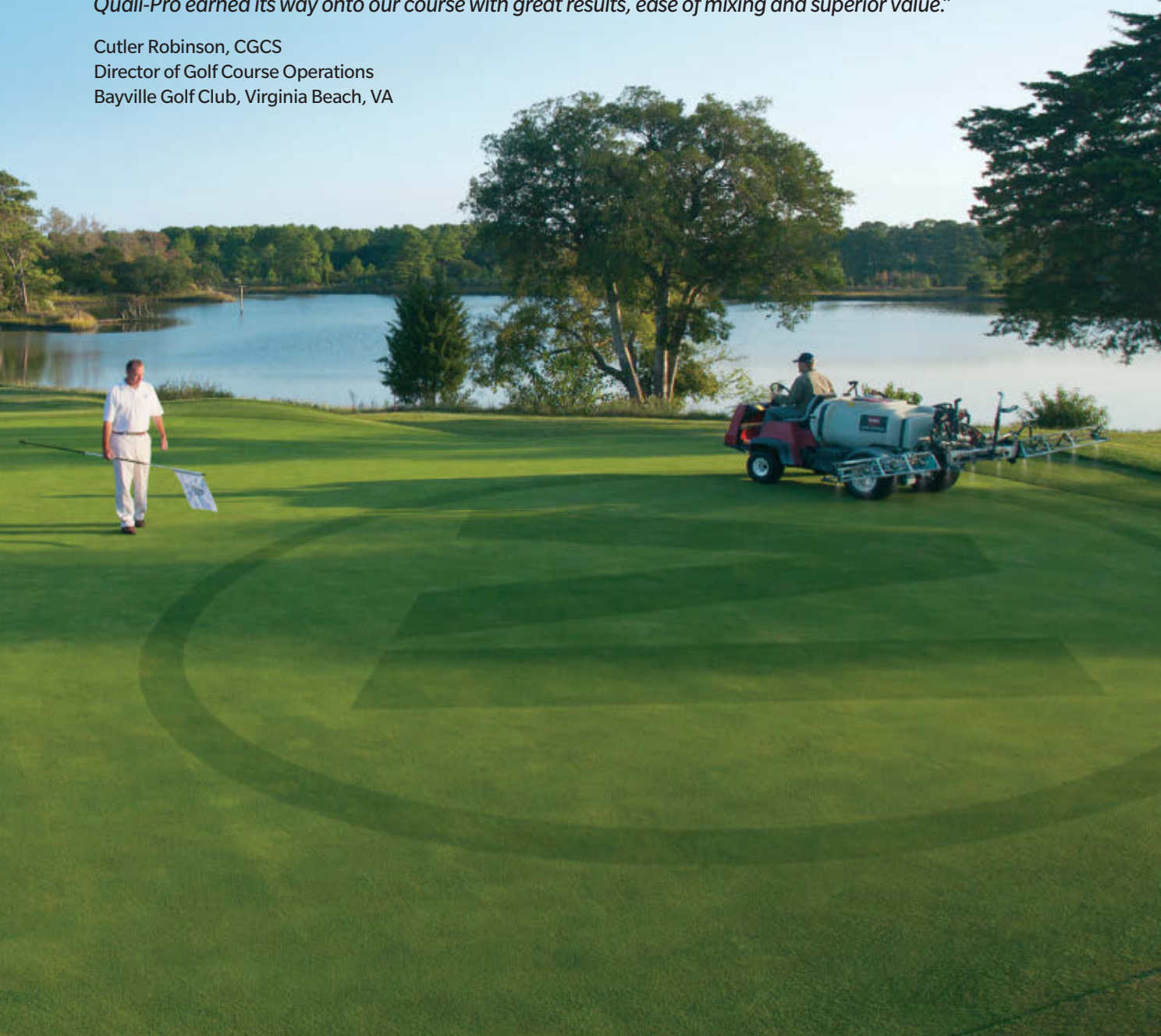


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It has been record-breaking dry at Lake Omigosh Golf Club in central Florida. When the 34-day drought ended, superintendent Duffy McDuffy was attending a Golf Course Superintendents Association of America committee meeting in Lawrence, Kan.

Lawrence is the home of the Kansas University Jayhawks. There's not a lot of leisure time to enjoy this historic college town during the packed meeting schedule at headquarters. More than one committee has continued the discussion after hours at the Free State Brewery on Main Street.

When Duffy returned from the meeting, he called and asked if I would meet with him in his office down at the Turf Management Center — still referred to by some as the “barn.” Old habits are hard to change, but these are changing times and I wondered what was on Duffy's mind.

Arriving early for the meeting, I noticed this poem tacked up on the bulletin board:

THE RAVING

By Duffy Allen Poe

*Once upon an economy dreary
As I pondered weak and weary
Would the budget grow once more?
Quoth the Green Chairman, “Nevermore.”*

*Mowing fairways twice per week
My budget gets another tweak
Need to spray, turf looks poor
Quoth the EPA, “Nevermore.”*

*Member/Guest; cut and roll
Staff reductions take their toll
Need 40 hours, maybe more
Quoth the Finance Committee, “Nevermore.”*

*New programs I must improvise
All resources maximize
Now with less I must do more
Quoth my inner voice, “Evermore.”*

Duffy arrived and explained his meeting was for the Environmental Programs Committee and dealt with the Environmental Institute for Golf's (EIFG) new program called, “Golf's Drive Toward Sustainability.” The GCSAA was amassing facts, figures, case studies, golf BMPs and allied support to create a resource toolbox

Driving Toward Sustainability

BY JOEL JACKSON



A THREE-PRONGED
PROGRAM THAT
SHOULD BE
SENSITIVE TO
PEOPLE, PLANET
AND PROFIT

that members' clubs could use to successfully engage in this new program. The committee was made up of superintendents, GCSAA board members and staff, and other allied stakeholders.

Duffy told me, “Frankly, sir, I need your help to get our club leadership and members on board with this program. The activists have so politicized environmental issues that many feel that terms like sustainability are fighting words, instead of a really sound business practice in today's world.

“Sustainability in general and sustainable golf in particular is a three-pronged program that should be sensitive to people, planet and profit. If we don't address the changing customer base, demonstrate sound environmental practices in the face of increasing regulations and manage our business resources wisely, golf as we know it may go the way of the dinosaur.

“It's hard for superintendents to be the instigators of change from the bottom up. We need a team approach to engage our club leadership and members to achieve a working sustainability model. And that, sir, is why I need your help.”

“Duffy, I'll be glad to help,” I said. “I love this game. I love nature. I want good golf courses to be around for my grandchildren to enjoy. And if you don't mind, I'd like to add another verse to your poem on the bulletin board:

*Sustain the game or surely die
None to act but you and I
Forget the olden days of yore
Toto, we're not in Kansas anymore.”*

So long from Lake Omigosh, where the superintendent gives back to his profession, the crew is smaller but better organized, and the members are learning that being sustainable is the smart thing to do.

Jackson is executive director of the Florida GCSA.

New president aims to have good relationships on Capitol Hill

Hobbs in the Driver's Seat at RISE

Have partisan politics in Washington ever been worse? That's debatable. But there's no doubt that partisan politics in Washington and even in our local communities are helping to divide our country.

Aaron Hobbs, the new president for RISE (Responsible Industry for a Sound Environment), gets to play in that arena. RISE is a national trade association of manufacturers, formulators and distributors involved with specialty pesticide and fertilizer products. The association monitors legislative and regulatory issues in Washington and the states.

"It's definitely a difficult time in Washington," says Hobbs, who spends a good share of time lobbying on Capitol Hill for RISE's members. "How do we deal with it? We persevere. We keep showing up and having dialogue. We learn from every opportunity we have to interact with legislators and their staffs."

Hobbs became president Sept. 1. He replaced Allen James, RISE's well-respected leader for 20 years. Hobbs joined RISE in March 2009 as its director of legislative affairs and grassroots outreach.

Hobbs says RISE association representatives want to form better relationships with lawmakers.

"We've created opportunities to go and talk to them and just catch up with them," Hobbs says.

So how does Hobbs approach a lawmaker? Does it matter if that person is a republican or a democrat?

"I don't necessarily care if they're republicans or democrats," Hobbs says. "I care about what their constituents want and how their constituents feel about the issues."

Hobbs admits RISE needs allies from both sides of the aisle. It's important to strike up positive dialogue with policymakers about the value that pesticides and fertilizers provide, he says.

Capitol Hill is different these days. You have to do your

homework and be more prepared to go out there than ever before, Hobbs says.

"You may have six meetings in a day and for every meeting you may have a different set of talking points," Hobbs says. "Before, you could go and follow the same script all day."

Hobbs expects his biggest challenge will be the continued pressure by environmentalists to ban pesticides from a "purely emotional" standpoint. Hobbs says RISE wants to help more golf course superintendents get involved in sticking up for their pesticide and fertilizer use, especially if environmentalists are protesting their use of the products.

"It's our responsibility to give them the resources, the talking points and tools they need to be grassroots advocates and be engaged in this dialogue," he says.

He says superintendents have shown a willingness to unite with RISE to stand up against environmental groups.

"I've been impressed with how eager and willing superintendents are to participate," Hobbs says.

Hobbs advice to superintendents is to "be aware and be involved." Hobbs realizes superintendents are busy and work a lot of hours during the golf season, but they'll benefit themselves and their profession by

staying alert of what's going on in their communities.

It's no secret that some superintendents want to reduce pesticide and fertilizer use, even if they're using such products safely and responsibly. Hobbs attributes superintendents wanting to reduce inputs to their perception of public dialogue calling for reduced use and an outright ban on pesticide and fertilizer use. It's cases like this that prompted RISE to begin Debug the Myths, an educational program that aims to separate fact from fiction regarding pesticides and fertilizers.

"There's really not this tidal wave of activism to say you have to reduce inputs," Hobbs says. "It's a small group of people who are very vocal and good at being loud." ■



"I've been impressed with how eager and willing superintendents are to participate."

— AARON HOBBS

Curious and controversial, potassium (K) is a difficult nutrient to evaluate regarding its impact on turfgrass growth and health, including its role in cold hardiness. Potassium is a macronutrient that's found at levels in leaf tissue second to nitrogen. It's considered a "luxury nutrient" in agriculture. Luxury consumption refers to a nutrient, in this case potassium, which can be absorbed in excess of what is required for plant yield but not cause toxicity.

While potassium isn't a plant constituent, it's important as an activator for more than 40 enzymes. These enzymes play an important role in photosynthesis and respiration. Potassium is especially important in starch synthesis, the reactions involved in converting glucose into starch (energy storage). Potassium applications made in the fall to maintain or establish adequate levels would likely result in enhanced starch storage, reducing the potential for winter injury.

Related to cold, potassium as an inorganic solute acts as an antifreeze helping to lower the cellular freeze point during cold acclimation in late fall. Along with other components, like cellular sugars, cellular water loss is minimized or regulated during extra-cellular ice freezing.

In the early 1970s, several researchers found fall applications of potassium reduced winter injury to warm-season turfgrasses, primarily bermudagrass (Reeves, et al., 1970; Gilbert and Davis, 1971). Twenty-five years later, researchers found various potassium application rates and varying content within the plant had no effect on freeze tolerance (Miller and Dickens, 1996).

It's easy to see why potassium is a controversial element. It appears if adequate levels of potassium are available as determined by soil tests, increasing the amount of potassium has little effect on freeze/winter injury. In essence, we have a "luxury stress" nutrient. The impact is minimal when increasing beyond adequate or ideal levels.

It should be pointed out that most of the studies with potassium have been done within the normal range of — in this case bermudagrass

Potassium and Old Man Winter

BY KARL DANNEBERGER



**'K' PLAYS VITAL
ROLE IN OSMOTIC
REGULATION,
WHICH IMPACTS
FREEZE TOLERANCE
OF TURFGRASS**

— adaptation. As an academic exercise, it would be interesting to know if increasing potassium levels impacted freeze tolerance or winter survival of bermudagrass in an extreme environment outside of its range of adaptation.

Where would potassium applications be beneficial? Potassium is a cation (K⁺) that's easily leached, especially through sandy rootzones or soils. Under these conditions, potassium levels should be monitored carefully.

Besides identifying and correcting deficiencies across an area, localized areas such as raised or knoll areas of greens high in sand content may be especially sensitive to potassium loss. After a summer of irrigating or hand-watering these areas of greens, the potential for leaching and the movement of potassium downward and diagonally to lower areas of the green may result in a potassium deficiency. One sign that potassium levels might be low is the presence of moss.

Maintaining the proper potassium levels through fall can help reduce spring dead spot (SDS) over time. SDS is a potentially serious disease in climatic areas where winter injury on bermudagrass is potentially high. Potassium applied through the fall in combination with ammonium sulfate has been reported to help reduce SDS severity (Dernoeden et al., 1991).

In summary, potassium plays an important role in osmotic regulation, which impacts the freeze tolerance of turfgrass, especially warm-season turfgrass. Maintaining adequate potassium levels, as determined by soil test reports, should be the goal in potassium programs to improve turf health through the fall and into the winter.

Karl Danneberger, Ph.D., Golfdom's science editor and a turfgrass professor from The Ohio State University, can be reached at danneberger.1@osu.edu.



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**BY GEOFF SHACKELFORD,
CONTRIBUTING EDITOR**

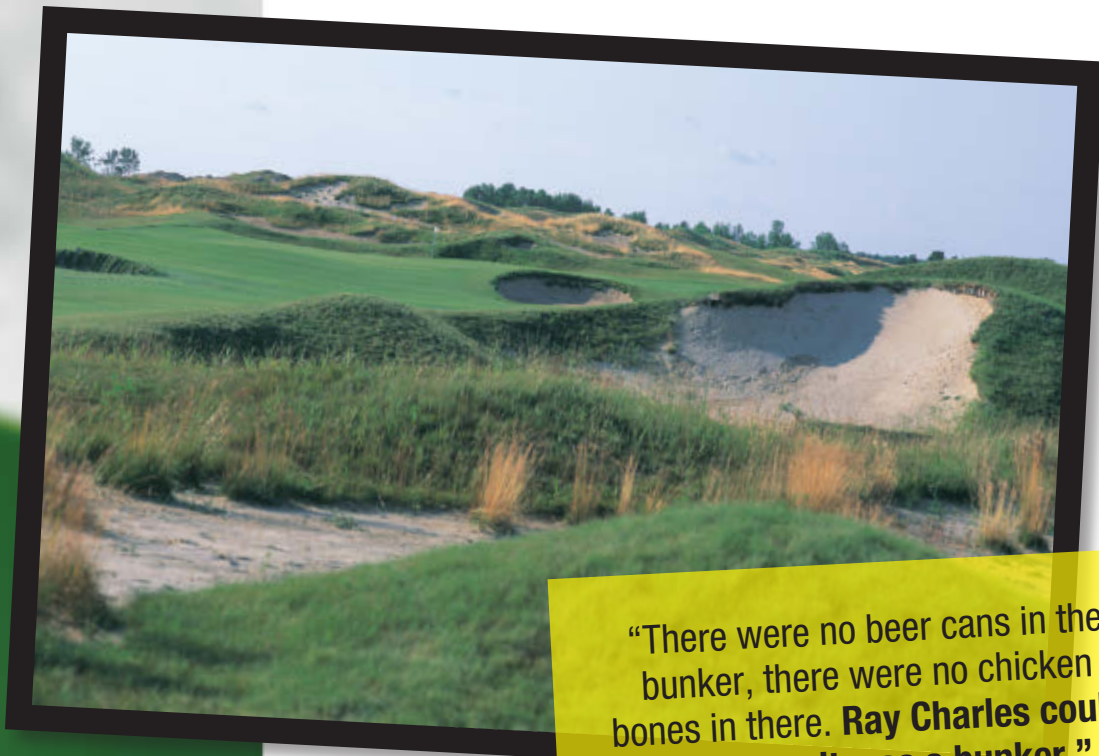


PHOTO BY: MIKE KLEMM

“There were no beer cans in the bunker, there were no chicken bones in there. **Ray Charles could have seen it was a bunker.**”

— PETE DYE

What's the good thing about the golf industry in 2010?

Things can't much worse in 2011!

It was another wacky and weird year, but an air of peculiarity was almost inevitable when the sport's most visible personality opened the season in hiding, only to be later found at a sex rehab center in Mississippi. But as rough as things were for Tiger Woods, a bizarre confluence of events made life even more challenging for those in the golf industry.

A long, nasty summer was the defining moment of 2010 for most in the golf course industry. (Unless you're an out-of-work golf architect. More on that in a moment.) At least superintendents could take comfort in widespread media coverage of the tough growing conditions in some parts of the country. Even the Wall Street Journal's highly visible Saturday golf column took up the cause.

“Grass does have a mechanism to cool itself,” wrote John Paul Newport in the WSJ. “It's called evapotranspiration and is analogous to perspiration. The roots draw up water from the soil and it evaporates through the plant's leaves, dissipating heat. But when greens are scalped to a quarter-inch, an eighth of an inch and even shorter, the leaf surface available for transpiration declines.”

Even the Golf Channel's weepy-when-talk-turns-to-Tiger commentator Charlie Rymer chimed in.

“Golfers need to appreciate healthy turf more than greens that roll 14 on the Stimpmeter,” he said. “Not only does this take pressure off the golf course owner, but it also helps with pace of play.”

Continued on page 18

“Golfers need to appreciate healthy turf more than greens that roll 14 on the Stimp-meter. Not only does this take pressure off the golf course owner, but it also helps with pace of play.”

— CHARLIE RYMER,
THE GOLF CHANNEL

Continued from page 17

The loss of greens at several high-profile courses was juxtaposed against United States Golf Association President Jim Hyler’s noble push for more brown turf through less water. His message, while reported on by several outlets and no doubt appreciated by legions of golf course managers hoping to convince golfers of the benefits of reduced-water usage, was not aided by player feedback at the USGA’s crown jewel, the U.S. Open at Pebble Beach Golf Links.

Despite vowing to have slightly slower greens this time around, the USGA pushed Pebble to the brink. While the greens’ health was not compromised, moisture levels plummeted and the inconsistent *Poa annua* greens drove players batty. Several complained and, other than winner Graeme McDowell, most players left with renewed hostility toward the USGA.



“The U.S. Open is not about cosmetics,” wrote the USGA’s California-based agronomist Pat Gross after the event. “It’s about providing a challenging and rigorous test to identify the best player. Producing a cosmetically attractive golf course would have been the easy task: a little more water, a touch of fertilizer and we would have had green, pretty putting greens and soft conditions, but that was not the goal.”

The USGA’s rocky U.S. Open was quickly forgotten as the R&A struggled



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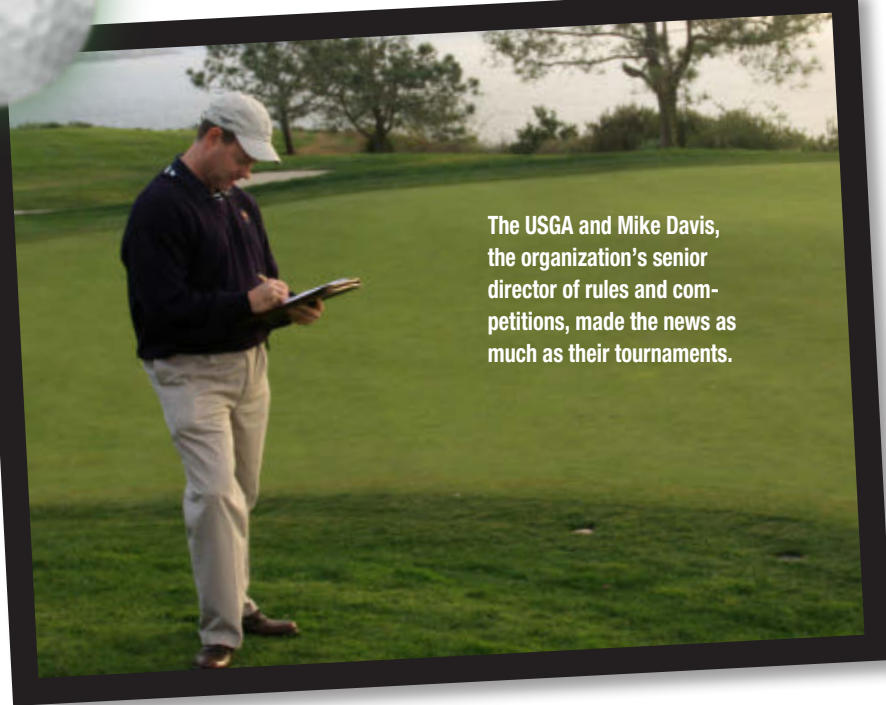
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The USGA and Mike Davis, the organization's senior director of rules and competitions, made the news as much as their tournaments.

with greens too fast for windy weather at St. Andrews, a mini-debacle that caused the suspension of play. But the R&A's rocky Open Championship was even more quickly forgotten when Dustin Johnson came to the final hole of the PGA Championship at Whistling Straits in

Sheboygan, Wis. Johnson drove in a bunker crowded with fans, didn't realize he was in a hazard and grounded his club. He was penalized and missed out on a playoff won by Martin Kaymer, but the fallout was not pretty for the PGA of America and Whistling Straits.

"I was standing right there," Whis-

ting Straits architect Pete Dye said a few weeks later. "When he hit the ball in the bunker, the referee walked up to him and said, 'Do you need anything?' and Dustin said, 'No, I'm good.' There were no beer cans in the bunker, there were no chicken bones in there. Ray Charles could have seen it was a bunker."

ESPN.com's Rick Reilly disagreed.

"Let me ask you this: How was Johnson even supposed to know he was in a bunker? He's played golf most of his 26 years and never before has he come upon a bunker where a dozen people were standing in it with him. Has it ever happened to you? If Whistling Straits is so intent on playing a slab of trampled sand as a bunker, doesn't it owe it to the players to maintain it like one? Why didn't it have ropes around them if it was expecting players to have to play out of them with such tenderness?"

Continued on page 20



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2010 in Review

Continued from page 19

Amazingly, weeks after the event, the PGA still had no answer for a problem that will rear its head again in 2015 when the championship returns to Whistling Straits.

“Do you mark 900 of them not as bunkers and 300 as bunkers?” asked PGA President Jim Remy. “How do you ever mark them?”

Apparently, the concept of playing them “through the green” is just too much to handle. But it won’t change what happened to Johnson, who came out the winner with his matter of fact comments and lack of pretense.

“Rules are rules,” he said. “Obviously, I know the rules very well. I just never thought I was in a bunker, or I would have never grounded my club. Maybe walking up to the ball, if all those people hadn’t been there, maybe I would have recognized it as a sand trap. I knew there weren’t any waste bunkers. But all the bunkers on the course had a darkish color to the sand. This was white dirt.”

Craziness of another kind continued just a few weeks later at the U.S. Amateur, where the USGA fell a little too in love with firm, brown and fast, and lost control of Chambers Bay Golf Course in University Place, Wash. A few weeks after the event, superintendent Dave Wienecke defended himself for the state of his course.

“When (the USGA’s) Mike (Davis) told me not to water at all, then I got a little concerned,” Wienecke says. “The irrigation system had been turned off for nearly a week already at that point, but we had been hand-watering the greens. I was worried that drying them out any more might cause a problem. I thought the course might become unfair because good shots would not be rewarded, and I was worried we might lose some hole locations.”

That’s what happened during Monday afternoon’s first

Why is Tiger Woods smiling? We’re not sure. He had an interesting year, though.

