



Egypt Valley CC, located outside of Grand Rapids, Mich., is one of only two 36-hole course facilities designed by golf course architect Arthur Hills.

The human body is comprised of many components that, when working in unison, perform perfectly to keep us moving forward with our daily lives. The body can be pushed to extremes. Put to the test like a machine primed for success. However this does not happen without proper maintenance.

Maintaining the human body runs parallel to maintaining turf. Both are living organisms. Both need to be nourished. Both need to be cared for in order to thrive. And at times, both need a little external chemistry to help boost their systems. This external chemistry for turf is now

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becoming commonly known as Plant Health.

“Well, hopefully we don’t have to use a lot of chemicals,” chuckles Jeff Holmes, superintendent at Egypt Valley CC, Grand Rapids Mich. “A good scenario would be if you’re eating good



Jeffrey Holmes

meals and getting some reasonable exercise, then you don’t have to be on a lot of vitamins and extra additives. We’re trying to do the same thing with the grass plant. We’re trying to minimize our inputs.”

To Holmes, who has been the head superintendent at Egypt Valley since 1993, Plant Health is not just a buzzword or a sticker on a label. “It’s not one item, it’s a whole package,” he says.

Defining Plant Health

Plant Health can be an elusive concept, leading to the question: What exactly is Plant Health?

“If you were to define Plant Health, it’s golf course putting greens, fairways or rough growing at optimum conditions,” says Brian Thompson, a former superintendent and now strategic account manager for BASF. “Anytime the plant is producing new leaves quicker than it is losing, you’ve got healthy turf. When you equate not just the visual aesthetics of turf, but also the playability of turf, which is greens speed, resiliency to stress... that’s how we in the turf industry define total turf health.”

In agriculture, another major market for Plant Health labels, success can be measured

by yield. But how do you gauge the success of a Plant Health program when working in the golf industry? There is no traditional yield.

Thompson suggests looking elsewhere for results. “Yield can be measured in our golf industry as happy customers, happy members, good playing conditions and sustainable turf growth,” he says.

Time has a tendency to advance our technology and the same is true for the products used in the industry. “I think superintendents have long been extremely perceptive on some of the additional benefits these products may



Brian Thompson

bring, in terms of performance... (they) are diligent at examining the performance of the product that they use in their programs,” Thompson says. “This adoption into embracing Plant Health, to achieve better playing

conditions and better sustainable turf stands for today’s demands, I think has been really recognized in the last five to 10 years.”

Thompson says that BASF has been on a multiple year journey to reach their current understanding of Plant Health. Apart from identifying ways to measure success, they have seen an enhanced ability for the plant to recover after stress and an enhanced growing efficacy. This leads to a more robust, deeper and stronger root system. “That’s really where we’ve accumulated a lot of these success stories and showing that these products are helping build a stronger plant,” says Thompson.

A synergistic effect

Tommy Hewitt, superintendent at Windermere Golf Club in Flowery Branch, Ga., says his course is 100-percent on board with the Plant Health approach.

“Plant Health is something where you are getting a plant response, a positive plant response, by spraying something that you typically should not see a positive plant response from... (it’s) a much healthier plant due to some type of synergistic effects of that product,” Hewitt says. In the true sense of an ecosystem, each segment that has a positive response

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Anytime the plant is producing new leaves quicker than it is losing, you’ve got healthy turf.

Both of Egypt Valley CC’s two courses, the Ridge and the Valley, utilize the naturally wooded landscape of Michigan to offer a challenge for seasoned golfers and beginners.



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spreads those benefits to another segment.

Hewitt's course uses BASF Plant Health products, especially on their greens where Mother Nature can be cruelest. Hewitt's club is one within a company with 50 courses across



Tommy Hewitt

the nation. The clubs range from Washington State to California, as far south as Florida and east to Virginia. "Honor is the staple of our program based on what we've seen. With the new products coming out, Lexicon, we can't wait to see it in action," says Hewitt.

Holmes also sees the benefits of Plant Health products as a whole when looking at his turf.

"There's not one silver bullet that just corrects it all," Holmes says. "You need to look under the carpet instead of just at the carpet. When you look underneath, you can learn a lot of things with your soil, your root structure and know how the rest of your plant is going to perform for the rest of the year."

Like almost everything in life, you have to build a foundation and then fortify it as you go.

"Starting out with a good root system is critical. Density of the turf is the other big issue,

then wear tolerance, or durability, are probably the key components we start looking at," says Holmes.

Once the foundation is established, he says, no one thing will strengthen, maintain or decline the turf.

"It takes many parts to make it all work and the chemical part of it is only one element that we look at and try to use and manage," Holmes says. "One product doesn't take care of all the diseases that we deal with. We have to use different ones, different chemistries effect different pathogens. That's why (chemical companies) make several different products for us."

Holmes has seen the effects of Plant Health products on his course. The benefits included handling drought conditions better, improved hardiness and a quicker recovery time when a plant is on the mend from a disease. While it's hard for him to explain, he won't complain about the results.

"They can't exactly put their finger on it, but when we're using these products, it is making the plants healthier," he says.

Bringing back the marathon analogy, Holmes says its like he's suddenly seeing faster times.

"We were eating right and hydrating correctly and all of the sudden, it's like we've picked our running speed up, we're performing better than we ever have and we're doing the same thing we've been doing for 10 years," he says. "This years it's working better."

One-fifth of a plan

Jim Kerns, Ph.D., North Carolina State University, has kept a keen eye on Plant Health products. He says the concept itself isn't new, and describes it simply as 'giving the plant what it needs.'

"It's of utmost importance that the idea of managing a turfgrass plant is you have to maximize the health of the plant in order for it to sustain the stress that it's put under by a superintendent because of the demands of a golf course," says Kerns. "I tell superintendents all the time, light, air, food and water. Those are the four simple elements of Plant Health and part of the components that we add on is protection."

Similar to checking the box for additional

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"Across the board...(we've seen) drastic improvements in turf quality just by switching to products that showed that you get better roots and better plant health vigor," says Tommy Hewitt, Windermere GC.



PHOTO CREDIT: CANONGATE GOLF; TOMMY HEWITT

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collision coverage for car insurance, the protection component is a helpful add-on. Protecting turf from diseases can be necessary when considering the stress the plants are put under.

“That’s what I don’t think is a valid approach to managing turfgrass, the idea for a fungicide is inevitably, because (with) the stress we put turf plants under, we’re going to get a disease. Or if we don’t prevent it, the disease will develop. So a fungicide in many cases, becomes a necessary component in sustaining Plant Health because we control a disease,” says Kerns.

Despite being a proponent of Plant Health as a way to maintain turf, Kerns has his doubts on the topic.

“I’m kind of on the fence. I do believe in the term plant health and I use that as a framework to discuss disease management and the components of disease management,” he says. “The only thing I get frustrated with is that some cases, some of these products are marketed to say they do all these great things, when in many cases, when you look at the research and the data, the Plant Health effect is very transient.”



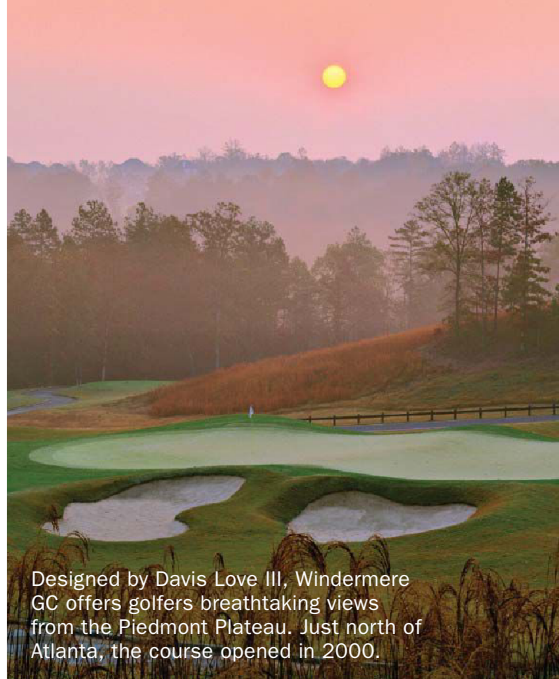
Jim Kerns

Kerns explained that no one thing accomplishes everything all at once. If a user is spraying only one component of a Plant Health product, the plants aren’t going to be healthy.

“It does occur, we do see some benefit to (Plant Health products), but it’s not like it’s a substitute for all the other practices that a turf manager is doing,” says Kerns. “It’s a culmination of multiple things coming together to make a plant healthy, not just products, that’s a component, but I see many very good products fail if the basics aren’t covered.”

For example, cultural practices such as aeration, topdressing, fertilization and precision water management all must be properly managed in order for turf to thrive.

“I do think a lot of these fungicides are one-fifth of that component. A very small fraction, but you bring all of that together and all of the sudden, we’re looking like we saw this (year) at Augusta National. When you bring everything



Designed by Davis Love III, Windermere GC offers golfers breathtaking views from the Piedmont Plateau. Just north of Atlanta, the course opened in 2000.

together, then it maximizes the health of that plant and we can maximize the effectiveness of these pesticides that we use and cultural practices.”

Making plants healthier

As Plant Health bounces around the golf industry, the current buzzword on everyone’s tongue, it remains a vaguely explained concept.

“This Plant Health concept is very nebulous and I think that’s intentional. Because it has been driven as a buzzword, what I’ve been telling people is that it’s something that has existed for a very long time. It’s just now we have a term associated with it and a term that’s on labels,” says Kerns.

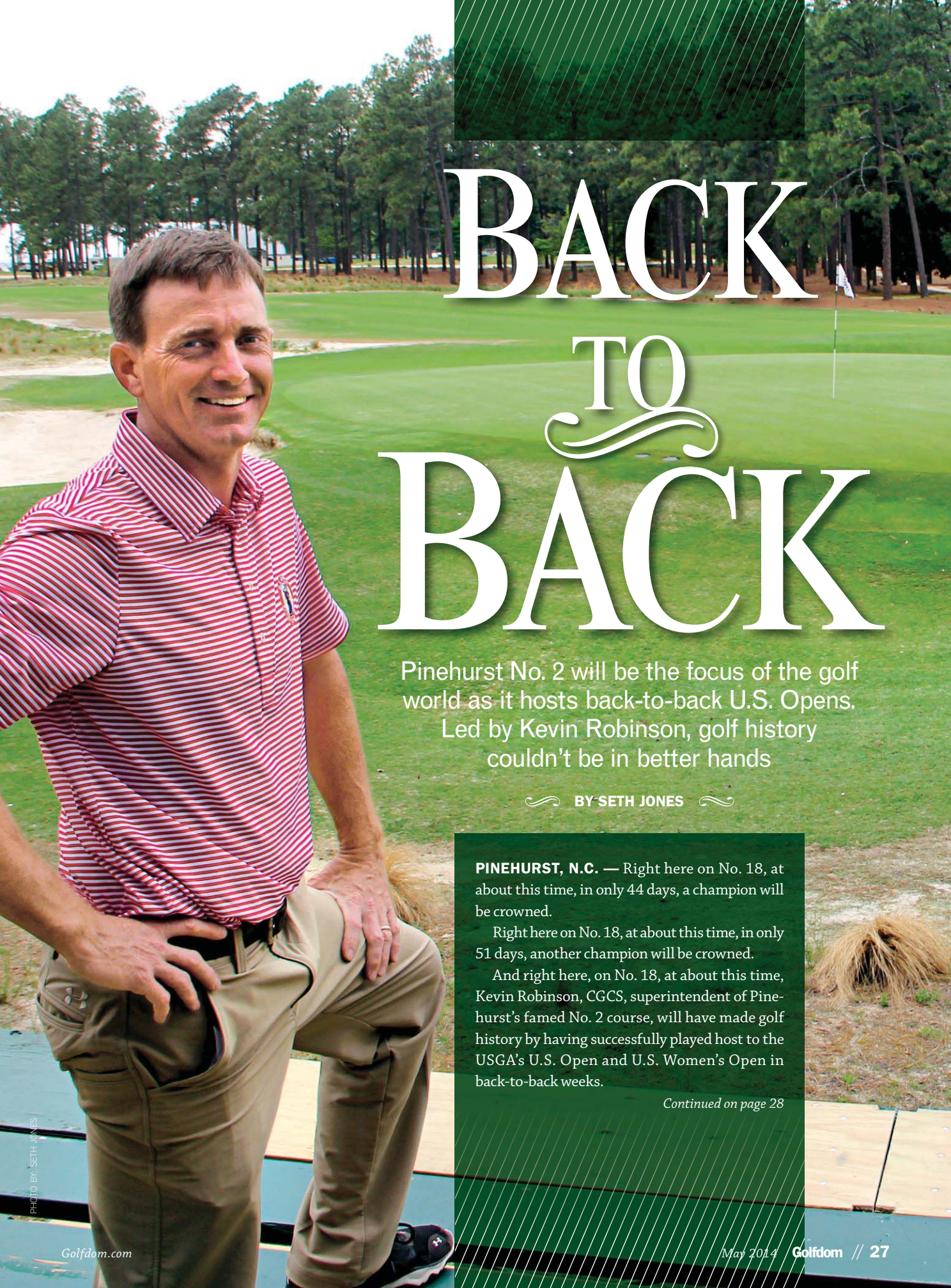
Buzzword or no, the practice behind Plant Health is one that both Hewitt and Holmes see playing a part in future turf management.

“I think with regulations coming... we’re going to have to look at things that are going to make the plant healthier so that we can apply less fungicides, less frequently,” says Hewitt.

Holmes suggests adapting for what the turf needs.

“We’re always modifying the system with different practices. Some of them are mechanical, some of them are how we water. If you were jogging you would need to hydrate yourself, so if we were out pushing the plants during a hot summer day, we would go out and hand water to cool them down. We’re mowing them an eighth of an inch and walking on them and running equipment on them,” he says. “They just weren’t brought into this world to beat them up as much as we do.” ©

You bring all of that together and all of the sudden, we’re looking like we saw this (year) at Augusta National.



BACK TO BACK

Pinehurst No. 2 will be the focus of the golf world as it hosts back-to-back U.S. Opens. Led by Kevin Robinson, golf history couldn't be in better hands

BY SETH JONES

PINEHURST, N.C. — Right here on No. 18, at about this time, in only 44 days, a champion will be crowned.

Right here on No. 18, at about this time, in only 51 days, another champion will be crowned.

And right here, on No. 18, at about this time, Kevin Robinson, CGCS, superintendent of Pinehurst's famed No. 2 course, will have made golf history by having successfully played host to the USGA's U.S. Open and U.S. Women's Open in back-to-back weeks.

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PHOTO BY: SETH JONES



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Yes, it will be hard work... but the reward will be a memory for a lifetime.

The renovation

Before even considering the logistics of hosting the U.S. Open (June 12-15) immediately followed by the U.S. Women's Open (June 19-22), consider what this course has gone through in the past five years.

The No. 2 that hosted the 2005 U.S.

Open and the No. 2 of 2014 barely resemble each other. If it were a high school reunion, No. 2 is that friend who lost so much weight he is only recognizable by the sound of his voice. But instead of pounds, No. 2 dropped bermudagrass rough. Lots.

The renovation by Bill Coore and Ben Crenshaw, now widely celebrated, was a culture shock at first. The idea was to take away all the bermudagrass roughs and bring back the sweeping white sand and a selection of native vegetation that

If it were a high school reunion, No. 2 is that friend who lost so much weight that he is only recognizable by the sound of his voice.



Robinson says equipment manager Andy Cadell is one of the most vital keys to the success of Pinehurst Resort. "He's been here since he was 16, so he's seen everything," Robinson says. "He has us prepared so we're ready in advance."

was present when Donald Ross designed the course in 1907. Fairways went from an average width of 27 yards to an average width of 46 yards. The course went from 1,150 irrigation heads to 450 irrigation heads, from using 55 million gallons of water annually to 12 million gallons.

"What Donald Ross had here is one of the best natural landscapes for golf in America. That landscape included sand hills and wiregrass," says Bob Farren, CGCS, director of maintenance at Pinehurst Resort. "Coore and Crenshaw knew that was the identity of the course. And frankly, we had covered a lot of it up in my 31 years here."

The practice of overseeding was also eliminated. That means diesel rough mowers now get parked in November and don't get fired up again until the spring, saving on gas. It also saves on water, fertility and labor.

The process of bringing in native vegetation — some of which other courses might call weeds — was keyed in on with the help of the turf program at N.C. State University. Tom Rufty, Ph.D., and Danesha Seth Carley, Ph.D., helped Pinehurst identify what plants would thrive and be favorable, and what plants would be invasive.

Now vegetation with common names like horseweed, carpetweed and crowfoot grass are prevalent throughout the course.

"We're redefining what people call weeds. It's only a weed if you don't want it there," says Seth Carley. "Bob and Kevin

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PHOTO CREDIT: SETH JONES



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“This is the future of golf, of where it had to go, because the economy is dictating,” says Tom Ruffy, Ph.D., N.C. State University, pictured with Danesha Seth Carley, Ph.D., also of N.C. State. “These two superintendents (Farren and Robinson) — who happen to be N.C. State guys — really understand sustainability, and they’ve taken to this.”

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would take us around the course and point something out. They’d say, ‘We love this. How do we get more of it and spread it?’”

The crew planted 20,000 Carolina wiregrass sprigs by hand.

“Think about planting all this wiregrass and not knowing if it would live or not,” laughs Robinson. “When we first started I thought, ‘Golly, is this stuff going to make it?’ I would have been happy with a 60 percent success rate. But shoot, every one of them made it.”

John Jeffreys, assistant superintendent on No. 2 says that though this new look is more sustainable, it’s not necessarily easier to maintain.

“It takes skilled labor to manage the wire grass areas,” Jeffreys says. “Anyone can hop on a rough mower and mow rough — just don’t put it in a bunker. But to tell someone to selectively remove these plants, those plants, but not these plants? It’s a difficult method. We manage this

course completely different now. There was rough, pine straw, clear wooded areas, no pine cones. It’s almost like going to two different properties... even on different sides of the country.”

Architect Bill Coore realizes the change he put the crew through at Pinehurst No. 2. The renovation wouldn’t have succeeded, he says, without their complete buy-in.

“No matter what we have — 4-inch bermudagrass rough or wiregrass, nothing has changed about the greens or the greens surrounds.”

“When you change one of America’s finest courses like this, you have to have everyone believe in it. It’s a total team effort,” Coore told *Golfdom*. “Change is not the easiest thing. I can say that, being a former superintendent. Ben (Crenshaw), Toby (Cobb) and I are so thankful that these guys helped us in every way to succeed. Because this is the exact opposite of what they were doing.”

But one thing has not changed about this challenging Ross course: the difficulty of the greens and the greens surrounds. What may look like a well-hit shot into any green may end up meandering off the back side, into a bunker, or to a significant elevation drop.

“The greens and the greens surrounds, no matter what we have — 4-inch bermudagrass rough or wiregrass out there, nothing has changed about the greens, nothing has changed about the greens surrounds,” Robinson says. “The greens, they

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