

The Golf-Course Superintendent: Jeff Carlson

How Green Is Golf?



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On a bright, sharp December day, I am standing with Jeff Carlson, 59, on the 17th green at the Vineyard Golf Club on Martha's Vineyard, Mass. The six-year-old course, designed by British architects Donald Steel and Tom Mackenzie, is absolutely gorgeous, a natural, fast-running, heathland layout that looks like the handiwork of Donald Ross, or possibly Old Tom Morris. What is truly remarkable about it, however, is that it's America's only truly organic golf course. By decree from the Martha's Vineyard County Commission, no pesticides or synthetic chemical treatments are allowed. (Visitors, in fact, must have their golf shoes cleansed before a round to ensure that no weeds are

tracked onto the course.) Carlson, the superintendent, is the man who has to make that work. "Our mantra is, 'We strive for excellent playability,' " he says as we inspect the putting surface. "But that doesn't necessarily mean visual perfection." The rolling 17th green, by the way, looks perfect.

Before joining the Vineyard, Carlson worked with Mike Hurdzan in building and managing Widow's Walk (see [The Golf-Course Architect](#)). He was a recipient of a 2003 GCSAA/Golf Digest Environmental Leaders in Golf Award and is the 2008 winner of the President's Award for Environmental Stewardship from the Golf Course Superintendents Association of America. During a tour of the course, in the clubhouse afterward, and over lunch at the restaurant inside the tiny Martha's Vineyard airport, Carlson explained how he does it.

Golf Digest: So what's the story of the Vineyard Golf Club -- what was the local opposition, and how was it overcome?

Jeff Carlson: It was very controversial to build a new golf course here. It was the first new one on the island for 30 years. The opposition was very strong, and it was for primarily environmental reasons. Water quality is the big issue here. There's a single-source aquifer for the whole island. They felt that any pesticides would poison the water.

Was that a legitimate concern?

You know, it's very hard with pesticides to say it isn't. It's like trying to prove a negative. It's a difficult thing to say. Pesticides have chemicals in them, and if the chemicals get into the water in certain concentrations, they can cause problems. Do they? No. They haven't been shown to do that. Golf-course superintendents use very small amounts of pesticides. So generally, properly used, it's virtually impossible to affect the groundwater, but "virtually" is not a 100-percent guarantee. And that's where the opponents were coming from. We had trouble with that argument because we could never say categorically that a pesticide would never get in the groundwater in quantities that would cause a problem. We couldn't absolutely guarantee that, so they didn't want it. Period. There wasn't going to be a lot of discussion about it. The opposition was so strong that they even wrote folk songs in opposition to the golf course. Even more outrageous, they were allowed to sing them to the kids in the schools on the island.

Have you heard the songs?

No, I haven't. I would give anything to hear a recording of them. But they were basically, you know, "The new Vineyard Golf Club is going to ruin the world." The opposition was very strong, emotional and passionate. Someone told us that we were deader than a snake in a wagon-wheel rut.

The course was eventually given the go-ahead by the Martha's Vineyard County Commission, but only with several stringent conditions.

Right. One of the biggest reasons that we were successful was that this land was permitted to be a 148-lot subdivision. And I think they just weighed the two things -- 148 houses and all that that brings and demands of the town, versus a 100-percent organic golf course. There was a condition that we had to have 125 low-cost memberships for

islanders. We have our local high school golf team play here. We do charity events. We support the community. The golf club has done a lot to overcome the fears that this was going to be a very cloistered, private, stay-away place. It's very inclusive. And Martha's Vineyard is a very inclusive kind of place. *[Note: Vineyard Golf Club is private. The initiation fee for the club's 290 members is \$350,000 with annual dues of \$12,000; the additional 125 island members pay just \$400 a year.]*

How do you define an organic course?

We need to get a set of guidelines and criteria for what organic golf really means, and we're working on it, but basically it means no pesticides or fertilizers or other products can be used whose active ingredient was synthetically produced.

Did you have doubts that it could be done?

When the decision was made, I remember having a meeting with the owners, and I said, "You know, nobody does this, organically, without pesticides. And I don't want to lead you astray." And they were like, "Oh, that's OK, we know you can do it." And I said, "No, you've got to understand what I'm saying here: Nobody does it this way." But they would not be swayed. To be honest, I was worried that I was setting myself up to fail. I had my doubts.

What do you have to do to keep the turf in such good condition?

For me it's been a lot of trial and error and a lot of experimentation. I decided I was going to limit the number of people I was going to listen to, because I found out very rapidly there are an awful lot of people who want to sell you their magic potion. All the products are new. And there's a lot of stuff that hasn't hit the market, because the demand isn't there yet. For instance, we have a white grub here, an oriental beetle that gives us a lot of trouble. There are nematodes -- almost microscopic worms -- that are very effective against the white grub. They attack them from the inside and kill them. But not that many people are relying on nematode applications to control white grubs -- most would just use a synthetic insecticide. So we get products at really early stages; we beg for stuff to use on a trial basis, a lot of times before it's been released.

I imagined you were boiling up some big organic-compost soup to put on the golf course, but you're buying products. Are they made by the same people who make the traditional pesticides?

Yes. Everybody seems to be moving in that direction. Since 2002, when we opened, the number of products available has greatly increased. There's a lot of movement toward lower use of pesticides. I think the chemical companies are just looking ahead.

What else do you have to do?

The products are a big part of it. The second part is cultural practices. For fungal diseases, for example, the big issue is leaf wetness. I do whatever I can to minimize the duration of leaf wetness. We don't use that much irrigation. We use wetting agents to remove dew, sand top-dressing on greens; we whip greens and fairways [whisking away dew]. And the third piece of the puzzle, as important as the other two, is communication, working with our members and explaining this idea of great playability versus visual

perfection. We take the focus away from having every piece of fairway and rough perfectly green. The members have to be on board, or the superintendent wouldn't last too long.

Have the members been positive, or have there been some grumblings?

Oh, you have grumblings. That comes with the territory. But that's where the communication comes in. Generally speaking, the club is hugely supportive. I give these people a lot of credit.

What is your biggest challenge?

It's evolved over six years. When I started, it was the fungus diseases that were the most problematic. With our cultural practices and the organic fungicides that we use, the disease severity is a lot less than it was. We also think -- not proven, totally anecdotal -- that there's some natural selection going on. We think the grasses are beginning to adapt. It's survival of the fittest -- disease-resistant grasses occurring naturally. We've seen some areas over the years that have got really hit hard with dollar-spot fungus one year, then in subsequent years we don't see it at all. We've seen it even in greens. Kind of interesting.

By not spraying with traditional synthetic fungicides, you're saying that perhaps you're allowing the grass the chance to heal itself. An analogy would be using penicillin constantly and compromising your body's natural immune system. It's an interesting thought. Ten years ago or so I remember hearing a story about some bent-grass research plots where they were testing for various fungal diseases and different fungicides. Then the research ended, and they closed the field down and just let the plots go. They didn't do anything to them for a year. And when they came back, all the plots where they had been spraying fungicides had dollar spot all over them like you can't believe. But there was a control plot that during the research they didn't do anything to. And when they came back, the control plot was fine.

The ramifications of that would be huge.

Yes, they would.

OK, so you have grubs like the oriental beetle, you have fungal diseases like dollar spot. What else?

And then you have weeds. Weeds are a problem. Weeds are tough. Today, there is not a lot of organic product out there that can kill plants. An organic selective herbicide that really works, I haven't come across. We're using one product that's developed out of New Zealand called Waipuna. It's an environmentally friendly way to kill plants. It's a machine that heats water to 5 degrees below boiling point and then adds a wetting agent to create a foam. You put this hot foam out on the weed with a machine that looks like a carpet cleaner. The foam holds the heat longer, and the heat kills the plant. It's time-consuming, it's labor-intensive, but it works. It kills a pretty high percentage of the weeds on first application, in excess of 75 percent. The benefit of it is that an hour after you've put it down, you can overseed, which you can't do with herbicides. We'll have grass in there within five to seven days. The only other way we handle weeds is to hand-pick them, which is very time-consuming.

How much easier would it make your life if you could use some synthetic products, even sparingly?

Ah, well you know, if I could just use a couple of things once in a while. What do I miss? I terribly miss the opportunity to be able to use an insecticide occasionally. Right now I would sell my soul for a one-time application of a pre-emergent weed control. You could do it and not have to use it again for three or four years, and combine that with spot treatment using organic products. I really believe the future of golf is in a combination of organic approaches and very limited synthetic pesticide use.

Do you know of any other golf courses in America that are organic?

There are some that appear to be really close. But using only one pesticide occasionally isn't organic.

Like claiming to be a vegetarian even though you have the occasional cheeseburger.

Right. So there don't appear to be very many. Maybe less than 25 who subscribe to a really stiff regimen.

You couldn't do it in the South, right?

No. Or in the transition zone. But you can find a balance between organic and synthetic approaches. In general we could use a lot less synthetic pesticide. A whole lot less. We put down too much, too often, in too many areas.

Do you expect to see more organic golf courses in the future, for the number to grow from one?

Well, I guess it could only go up. No, I guess it could go down. [*Laughs.*] Yeah, I think there'll be more. There'll be a lot of courses that will start using combinations of much lower amounts of synthetic pesticides coupled with more organic products and practices. That's definitely going to come.

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Where is the impetus coming from in America toward more organic practices? Is it the golf-course owners, the superintendents or the golfers?

Interestingly enough, women members are beginning to become a bit of a driving force. The women members here are hugely supportive. They like the idea that there are no pesticides. I don't mean to generalize, but you hear it enough here to make you think it's a

driving force. I think superintendents would like to use less pesticide if they could. They would be more than willing to do it if they wouldn't lose their jobs from doing it.

The synthetic pesticides and fertilizers that golf courses conventionally use today, do you consider them to be safe?

Yeah, I do. With any pesticide, you can run into trouble if it's misused. You've got to be a licensed applicator, know what you're doing. There are some products out there where the test results are of some concern. There could be something out there that we're using that's really bad. It doesn't appear that that's the case. The testing is very elaborate. But a lot of people take the same stance that our county did, and that is, if there's any possibility of any danger, they don't want to use it. I can see why there's some concern about some of this stuff.

This is a true story. Back when I first started we still had some heavy-metal-based fungicides. Cadmium-based, mercury-based fungicides. I was at a little golf club, 1979, no longer exists. This was a small operation, no pesticide shed. I was mixing pesticides, a mercury-based powder, out back of the clubhouse and right next to the house that I lived in. It was just my wife, Kathy, and I; we'd just gotten married. My wife is a redhead, and she has a beautiful, thick head of hair. And in the middle of the summer, her hair started to fall out. Large pieces of it. And this had never happened before. And she was flipping out. So she went to the doctor, and they did a bunch of blood tests, and they told her she had heavy-metal poisoning. So I stopped using that stuff. But most pesticides today are really quite safe.

If they're safe, why is there this move toward using less of them?

I guess because of that absolute -- because we don't know they're absolutely OK. Because I was told in the 1970s that mercury-based fungicides were safe. So, they were wrong. And maybe there are some pesticides out there that aren't good. Insecticides do kill fish. Anything that kills something, in the wrong concentration, can be a problem. You never know. So if you can use less, it's got to be better. The reality is, that's the way things are going. Plus I'm just so surprised that so much of our golf course is unaffected by not using pesticides. To see a course without any at all is something I'm really proud of.

What kind of pressure do superintendents experience?

The pressure is to produce Augusta-like conditions no matter where you are. When we first started getting insect damage and disease, we measured the extent of the problem on one tee and found that 98.8 percent of the tee was perfect. But if you looked at this tee, you'd fire the superintendent. So this is what we're working with. The level of expectation is extraordinary now.

Does that work against the organic movement? The superintendent thinks, *You know what, my job's on the line, I don't care, I'm going to use as much pesticide as I can.*

Absolutely. The movement gains momentum only if the golfers support it. Superintendents would be totally supportive of it. I've noticed a tremendous interest in managing golf courses more organically, especially among younger superintendents.

They'd do a great job. The golf courses would be terrific, but they'd have some visual blemishes. Well, right now they'd all be unemployed. Unless the golfer begins to have a change of perception and begins to accept those blemishes, and has that same mentality as when he goes to St. Andrews or Hoylake, and accepts those conditions and finds them charming and has a great round of golf. Then you can do it. The professionals and the tours and golf's hierarchy have to embrace that, too. The guys who are driving the bus.