

COURSES

What is an ‘organic’ golf course, and why aren’t there more of them?

BY: [OLIVIA WHITE](#) | JULY 29, 2021



Laurelwood in Eugene, Ore. has become a leader in the organic golf space.

WILL BENSON

The golf industry and synthetic pesticides go *way back*. For decades, courses have relied on a cocktail of chemicals to maintain their playability and visual appeal. During the post-war years, when the scientific-technical revolution made a number of chemical innovations available in the marketplace, the golf industry embraced them. At the time, that made perfect sense: pesticides were incredibly efficient, they saved time and labor, and little was known about their effects on human and environmental health.

The publication of Rachel Carson's *Silent Spring* in 1962 brought some unfortunate truths to light. Widespread use of pesticides, Carson's studies showed, led to a litany of adverse effects. Her book's publication was met with a bitter response from some industry members who believed she was hysterical and her concerns were unfounded. But *Silent Spring* marked the beginning of an emboldened environmental movement in the United States, and the golf industry had no choice but to reevaluate its practices. During the 1970s an ongoing trend that sociologists Millington and Wilson, authors of [The Greening of Golf](#), call "responsible golf" emerged.

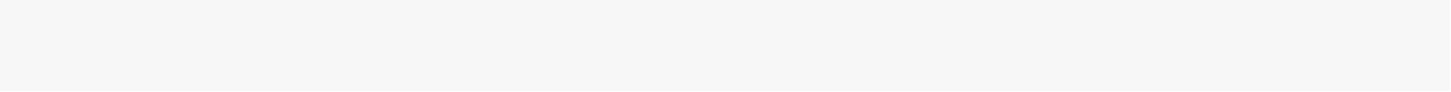
Courses began to change their approaches to both development and maintenance. Leading organizations like the United States Golf Association (USGA) and Golf Course Superintendents Association of America (GCSAA) established research programs to course-correct, chasing a more responsible long-term strategy.

(Ed. note: This is the second in a series on golf and sustainability. You can find the first story [here](#) or connect with [Acer Sustainability, LLC](#) to learn more.)

Fast-forward to today's era of "responsible golf" and pesticide use is still mainstream. Chemicals are applied more sparingly; best practices feature Integrated Pest Management (IPM), which calls for an application of the least toxic pesticide available only as a last resort rather than immediate solution. But that doesn't mean every course is up to snuff. In 2012, the GCSAA published survey results which indicated that 98% of average 18-hole golf facilities stored pesticides on site but only about half had a pesticide emergency response plan, only 41% had a written IPM plan and 66% had a written pesticide application plan. A [more recent study](#) from the University of Wisconsin's Department of Soil Science and Cornell's School of Integrative Plant Science focused on 22

courses in Wisconsin and New York and found that on average, eight pesticides were used per course.

It is the industry consensus that pesticide use is necessary to maintain a golf course. In many ways, this is true — there are a number of barriers to pesticide-free golf. For superintendents whose livelihoods depend on how their course looks, the decision to eliminate pesticide use and maintain a course organically presents a huge financial risk. That pressure comes, in part, from golfers' expectations for pristine course conditions, which have never been higher. [In their 2006 study](#) on the global environmental impact of golf, Authors Kit Wheeler and John Nauright deemed this phenomenon “Augusta National Syndrome,” because it’s fed by the surreal, bright green golf course blasted in high definition to millions of viewers every April. Sure, it’s the Masters, but viewers figure that if one course can look like that, why can’t they all? Augusta National Syndrome fuels an environmentally destructive loop, in which courses are held to unreasonably high standards and superintendents must increase inputs of water and chemicals to meet them.





What effect has the bright-green of Augusta National had on the rest of the golf world?

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It is also the consensus that pesticides are safe, *if applied correctly*. The second half of this claim is key. Even according to industry representatives, there is a fine line between — as architect Mike Hurdzan [told *Golf Digest* in 2008](#) — pesticides as medicine and pesticides as poison.

Why is golf course pesticide use a bad thing? In short, a number of studies have shown associations between pesticides used on golf courses and various cancers, and pesticides can also be detrimental to environmental health, pollute untargeted ecosystems and contribute to biodiversity loss.

Non-use is also valuable, according to the precautionary principle: if there is no evidence that the safety of pesticides is absolute, which there is not, then their use is inherently risky.

The good news is that pesticide-free golf does exist. A truly organic course is maintained without the use of synthetic pesticides, herbicides, or fertilizers—no artificial chemical treatments allowed. Following this rule requires adopting practices that, while proven, still rely on experimentation, investment, and time. Organic golf is complex and easily oversimplified.

Organic golf courses also remain the rare exception. There is only one course in the United States that is 100% organic, [the Vineyard Golf Club](#) on Martha's Vineyard in Massachusetts, an isolated island community [known for](#) its sensitive ecosystem and strict environmental statutes. Others, like [Laurelwood Golf Course](#) in Eugene, Oregon, take more of a hybrid approach while maintaining an organic focus.

Construction of the Vineyard Golf Club, completed in 2002, was contingent on the course being organic. Community members feared that a golf course meant pesticides, and pesticides meant pollution of the island's only aquifer. The land area was also permitted for a 148-lot housing subdivision, so the organic course was given the green light by the local conservation commission. Jeff Carlson, arguably the pioneer of organic golf and the course's superintendent until 2015, admitted in [an interview with *Golf Digest*](#) that at first, he thought the undertaking might be impossible, mostly because no one had done it before. However, through “a lot of trial and error and experimentation,” Carlson proved that the course wouldn't just survive without pesticides — It could thrive. “I'm just so surprised that so much of our golf course is unaffected by not using pesticides,” he told *Golf Digest*. “To see a course without any at all is something I'm really proud of.”

I had a conversation with Carlson's successor, Kevin Banks, who shed a bit more light on what actually happens at the club. He studied turf grass management at University of Massachusetts-Amherst and, prior to working at the Vineyard, was senior assistant at Nantucket Golf Club. In other words, he's a turfgrass expert who also wears many other hats (budgeter, organizer, teacher, etc.) as superintendent. Banks explained that organic management requires developing a comprehensive understanding of problems as they arise. As opposed to a traditional approach that relies on chemical products as quick and easy solutions, Banks and his team “are constantly feeding the plant” nitrogen and water in an attempt to grow it out of disease situations, he [told *GCM* in 2018](#). The underlying principle here is that the healthier the turfgrass, the more hardy it

becomes and the less susceptible it is to disease and weed invasion. Proper moisture and healthy soils are key, and Banks says that he's seen more and more success every year. He's noticed that the sod that's been growing for five to eight years is in much better shape than any of the new stuff — proof that the course is adapting.



President Barack Obama played at Vineyard Golf Club in 2013.

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When the inevitable disease patch or pest problem does arise, Banks employs biological treatments to maintain visual appeal and playability. To fight disease, he uses biological fungicides and [Organic Materials Review Institute-listed products](#). An example of organic pest management

is the application of beneficial nematodes, or microscopic worms, that attack beetle larvae that feed on turfgrass roots. Cultural practices are also key to organic golf course management, and Banks explains that his priorities have shifted. For example, normally the motivation behind rolling greens is to increase their firmness and speed, but green speed is more of an afterthought for Banks, who views rolling primarily as a form of disease control. Vineyard also has its own test plots where the staff can run experiments to figure out what might work on the course and what might not. They are able to test new varieties of grasses and evaluate different methods for fighting against crabgrass, a pesky weed.

Transparency and communication are a big part of the Vineyard's organic mission. Banks and his staff publish information sheets about their practices and send monthly newsletter updates to the club's members. The membership is proud of what Carlson, Banks, and their team has been able to accomplish: a beautiful course free of synthetic pesticides and the uncertainty that accompanies their use. As Banks himself puts it, this support and encouragement from the membership is "motivation for the next season."

Will Benson of [Laurelwood Golf Course](#) in Eugene, Oregon is another superintendent fascinated by organic golf course management. As on the Vineyard, the progressive community around Laurelwood put pressure on the course to reevaluate its chemical use. As a private contractor for the city of Eugene, Benson was able to begin experimenting with organic inputs. He quickly tapped into a wealth of knowledge online and joined organic golf course discussions with experts from around the world. Since most of organic golf course management is uncharted territory, research backed by the scientific method is a critical resource for superintendents on the organic mission. During my call with Benson, he explained that a handful of published scientific findings have become "priceless" educational resources, helping him develop practices for effectively maintaining his greens, fairways, and rough during all four seasons.



Laurelwood Golf Course in Eugene, Oregon.

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Better yet, Benson said that Laurelwood’s golfers haven’t had to recalibrate expectations because the course looks and plays as good as ever and that the golfers are “into it.” He has been transparent about his process from the start, so during the first couple of years of Laurelwood’s transition, players knew what was happening behind the scenes. Now that he’s “over the hump” and has used organic methods for 10 years, Benson explains that he doesn’t encounter the same

diseases that he used to. He noted that perhaps the herbicides, pesticides, and fungicides themselves were contributors to disease because, “when you’re killing fungi, the world becomes out of balance.”

Although organic courses are few and far between, the test cases have produced promising results. Places like Vineyard Golf Club and Laurelwood Golf Course are proof that pesticide-free golf courses can produce comparable beauty and playability to their chemical counterparts.

It is also clear that organic golf requires the right contextual factors. The biggest hurdle seems to be financial risk; since going organic is optional, the adoption of organic methods requires investments that result in a complete overhaul of traditional management practices which, as Millington and Wilson [write](#), non-organic courses do not have to deal with.

That overhaul would also mean a break in existing economic relationships between the golf industry and partners in the chemical industry and government, further complicating the issue. So a satisfied superintendent is relatively unlikely to voluntarily adopt organic methods.

There’s a chicken-and-egg issue with methods and materials, too. The scarcity of organic courses means that organic inputs are not in high demand, so they’re difficult to get a hold of. Benson explained that the Nature Safe organic fertilizer he uses is trucked across the country from Tennessee to Nevada to Oregon (over 2,200 miles!), a trip that has its own financial and economic footprint separate from that of the product’s use.

Your golf course could be putting rainwater to better use — here's how

BY: [CODY SEMMELROCK](#)

Until organic golf course management becomes more popular and organic inputs become more accessible, there are tools that can help course operators with decision-making. Life Cycle Analysis (LCA) is a method to assess the environmental impacts associated with a product's life cycle from cradle to grave. Softwares like [SimaPro](#) and [openLCA](#) can calculate the environmental impacts of the manufacture, transport, use, and waste phases of products. Taken together, these factors can standardize comparisons and aid in the decision-making process, so that the “less harmful” option is identified.

But pesticides have obscure long-term effects, which can complicate these evaluations. Instead of a long-term analysis, LCA may instead be limited in scope — for example, manufacture phase or five years of use. These limitations only further the argument for organic golf, a space in which LCA can be used to compare organic inputs to one another.

Courses should view organic golf as the ultimate goal, but in the meantime there are plenty of steps they can take to incrementally reduce their reliance on synthetic pesticides. Like any other transition, the process should begin with an evaluation of a course's current level of pesticide use to determine where improvements can be made. This year, Bekken and colleagues [published a paper](#) in *Science of the Total Environment* that lays out a clear method of measuring the effect of pesticides; that can be a first step for any course that wants to reduce its use. Other research including *The Bethpage Project*, an [extended study](#) at one of golf's most famous public courses, has shown that IPM can be adapted and made more progressive — one step closer to organic golf.

Given golf's status quo, organic golf is transformational. Courses like Vineyard Golf Club, that have been organic since their inception, are proof that in the right context and with intense commitment, organic golf can thrive. Benson's success at Laurelwood Golf Course shows that courses can successfully be weaned off pesticides. Resources — including those listed below — are increasingly available to anyone interested in beginning the transition to organic golf by taking incremental steps. Perhaps the most important takeaway is that community voices matter; Vineyard Golf Club would have never been organic without pressure from the community. Golfers and non golfers alike have the power to demand more from the courses they enjoy, knowing that their demands are realistic.

Olivia White is a golfer at Williams College and an intern at Acer Sustainability, LLC, where she is researching the complex relationship between golf and sustainability.





How this greenkeeper's beekeeping is helping junior golfers

Jay Neunsinger, superintendent of Boundary Oak GC, in Walnut Creek, Calif., manages an on-site apiary and donates the proceeds of his honey sales to local junior golf programs.

References

Banks, K. (2018). *Organic golf course management: Lessons from Vineyard Golf Club*. Golf Course Management. <https://www.gcmonline.com/course/environment/news/kevin-banks-vineyard-golf-club>

Barton, J. (2008). How green is golf? *Golf Digest*.
<https://www.beyondpesticides.org/assets/media/documents/golf/gd200805golfenvironment.pdf>

Bekken, M., Schimenti, C., Soldat, D., Rossi, F. (2021). A novel framework for estimating and analyzing pesticide risk on golf courses. *Science of The Total Environment*, 783.
<https://doi.org/10.1016/j.scitotenv.2021.146840>

Millington, B., & Wilson, B. (2016). *The greening of golf: Sport, globalization and the environment*. Manchester University Press. <https://doi.org/10.7765/9781526107039>

Phillips, H. (2018). *The Vineyard Golf Club: A New Sheriff in Town*. Golf Course Management. <https://www.gcmonline.com/course/environment/news/vineyard-golf-club>

Portmess, R., Grant, J., and Rossi, F. (2011). *Reducing Chemical Use on Golf Course Turf: Redefining IPM*. New York State Integrated Pest Management Program Publication No. 617. <https://ecommons.cornell.edu/bitstream/handle/1813/44517/reducing-chemical-golf-NYSIPM.pdf>

Wheeler, K. & Nauright, J. (2006). *A Global Perspective on the Environmental Impact of Golf*. *Sport in Society*, 9(3), 427-443. <https://doi.org/10.1080/17430430600673449>

Woods, M., and Rossi, F. (2011). The Park Grass Experiment and the Fight Against Dogma. *USGA Green Section Record*, 49(16). <https://gsrpdf.lib.msu.edu/ticpdf.py?file=/article/woods-park-4-22-11.pdf>

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