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"One goal when using compost as a topdressing material is to increase the organic matter content and water-holding capacity of the root zone soil below the thatch layer."

- DR. TOM SAMPLES, UNIVERSITY OF TENNESSEE



The only agronomic drawbacks he envisions would be if superintendents were to topdress with a compost material over a sandy rootzone. This could potentially cause a negative layering affect; where, you would introduce a finer textured layer over a coarser textured layer. "This would restrict water infiltration and drainage that would cause increased disease susceptibility, and decreased rooting and turf density." The cost, including compost purchasing/ production, delivery, and equipment and labor used in the application, may be a consideration.

How much compost is used and how often depends on budget, mowing height and benefit expectations. "You never want to apply too much topdressing where it cannot be incorporated into the turf canopy," says Dr. Samples. "Topdressing with a compost material, as with sand topdressing, should be done when the turf is actively growing."

Scott Kinkead, executive vice president of Turfco Manufacturing, says it is important to make sure compost is not introducing a new kind of seed into the turf.

"It needs to be a quality, consistent product that has been tested so you're not introducing something new to your greens profile," Kinkead says.

It is also crucial to make sure there's a consistency to the material and chemical properties of the compost.

"The word compost is pretty far reach-

ing--it can go from someone who is supplying a consistent, granular compost to someone who is getting compost from a municipality," he says. "There's a wide variety of meanings with the word compost. There can be a lot of variation. "

Kinkead says his company fields calls regularly from individuals "asking if we can spread a specific kind of compost, and yes, our equipment can spread most of it. But we always tell people they need to know if it's going to be consistent from year to year. Our patented chevron belts can handle literally any kind of compost material."

There are a multitude of options when it comes to compost. "It covers a very wide spectrum, so if you're integrating it into your golf course you need to define it clearly," says Kinkead. "The last thing you want to do is start using something and have the particle sizes changed on you. You want to make sure you use the same size particles. You don't want to create layering because of different-sized particles. For example, if you start throwing different sized particles onto the course, they won't integrate well into your profile. If you have USGA spec'd greens, you want to be careful."

As for how much compost should be used in topdressing and when it should be applied, Kinkead says it depends upon the composition of the compost material and how it fits into a maintenance program.

Compost isn't rigorously tested and

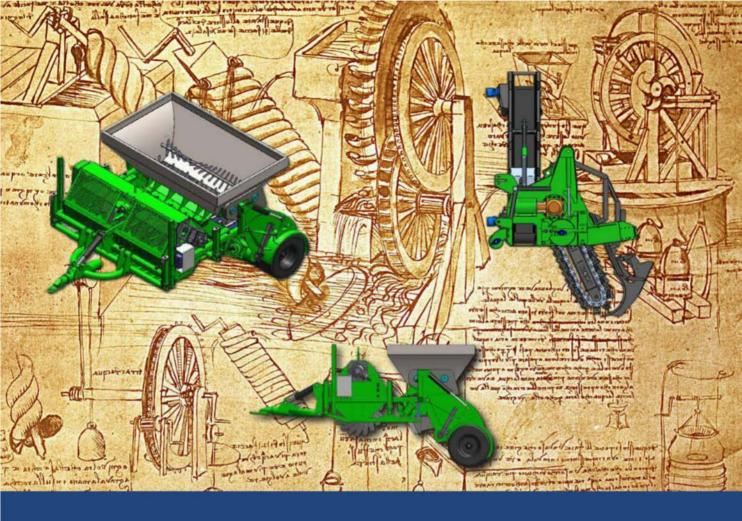
monitored like fertilizer or synthetic chemicals. "The supplier needs to show they are providing a consistent product. Compost can change seasonally or due to weather patterns or the diet of animals. You just have to find something that has been rigorously tested before adding it to your program. We can spread anything, it's just a matter of whether you want that `anything' on your golf course."

Scott Phelps, head superintendent at The Golf Club at Newcastle in Washington, has conducted several trials using different sources of compost as a topdressing. He's tested poultry waste and food waste products on his course's practice facility, tees, divot mix boxes, highly compacted areas, and areas that typically show drought stress in the summer time.

"I have also tested compost products more as a fertilizer," Phelps says. "These would include a pelletized poultry material, and liquid food and fish waste products."

He concludes, "As a topdressing material it increases our CEC, it holds more water, it provides nutrients for the microbial population and seems to improve the overall soil structure. We have noticed slightly quicker seed germination and better color and growth of new seedlings."

He says cost is usually the biggest drawback in the process. "This is especially true if you are using the compost in large enough quantities for it to replace syn-



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thetic fertilizers. In some cases the odor from the products prevents us from using them. I have not been bold enough to use compost as a topdressing on greens because of the layering effect that it may cause."

Phelps believes there are many materials that can be considered a useable compost, including animal and human wastes, food wastes, and plant wastes. "They are packaged and formulated in many different ways. You can choose the best method for you based on why you are using the compost. Is it being used in flower beds around the clubhouse or as a topdressing on tees?"

When Phelps employs compost as a topdressing he uses ½ to ¼ of an inch of the product in raw form. "We aerate first and then apply and drag in. We also use a 80/20 sand to compost ratio with ¼ inch screened compost when we aerate and top dress our tees. We also use this in our divot mix boxes and bottles."

Phelps says the practice is not without its concerns: layering, odor, and salt content being the biggest three. "You have to make sure you are using a well-aged material and are testing the material at a laboratory prior to use." He says that A1 Organics of Colorado has developed a classification system for composts that he uses when determining if a compost is suitable for turfgrass or in planter beds. "I have the compost tested several times a year because it is amazing how much the same compost can change from one load to the next."

The Meadows of Sixmile Creek in Wanaukee, Wis. has had significant success using Purple Cow Organics. Purple Cow Organics has seven composting sites processing yard trimmings in the southern Wisconsin area. Beginning with fairways and tee boxes in 2008 and 2009, within three years The Meadows of Sixmile Creek was able to replace 100 percent of its synthetic fertilization and 95 percent of its chemical herbicides.

Rob Schultz, superintendent at The Meadows of Sixmile Creek, says Wisconsin's ban on phosphorous fertilizers was one of the reasons the course stopped using synthetic, granular fertilizers, "which have coatings, and tend to release other ingredients."

Topdressing with a Turfco CR-10, compost is applied in the spring and again in the fall at a rate of three to four cubic yards of compost per acre. The compost has been effective in providing the nutrients once supplied by fertilizer, at lower cost, Schultz says. "It took two or three years to get enough material in the soil, and then we started seeing results. One of the reasons maintaining healthy course grass is challenging is that in most areas the bent grass is cut to a half-inch height, which is shorter than a traditional, bluegrass lawn," he explains.

Now used on fairways, roughs and tee

boxes, the course superintendents also use a sand-compost blend on greens after they are aerated. The compost applications are further supported by a comprehensive liquid biological program using compost teas or extracts as the delivery vehicle for a range of additional soil amendments.

Says Schultz, "We've seen a reduction in thatch, and an increase in water holding capacity, the benefit especially evident in the severe drought of 2012. There is no question that healthier soil has resulted in healthier turf."

When developed in 1995 the area around the golf course included several farmed wetlands that were not functioning ecologically. There was a tremendous interest, says Schultz, in reducing runoff to improve water quality and fish habitat, in addition to controlling erosion. These areas have been mitigated into what are today working wetlands, and the neighboring property is now a nature refuge.

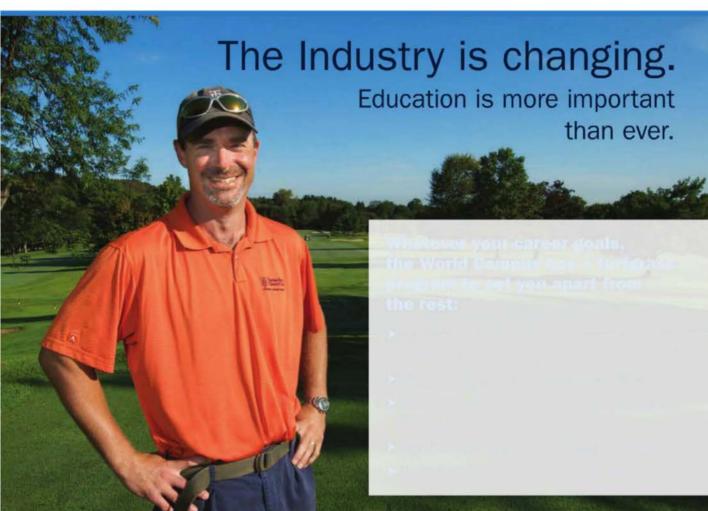
"The one thing that must be ensured; you have to use good compost. Aerobically maintained, fully mature compost will be weed seed and pathogen free. It will have a carbon to nitrogen ratio that `gives' rather than `takes' from the soil."

It's available, effective, has few serious drawbacks, and is, well down to earth. GCI

John Torsiello is a Torrington, Conn-based writer and frequent GCI contributor.

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Travels With **Terry**

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He shares helpful ideas relating to maintenance equipment from the golf course superintendents he visits – as well as a few ideas of his own – with timely photos and captions that explore the changing world of golf course management.



PUSH BLOWER PUMP

he fairways at the Noyac Golf Club in Sag Harbor, Long Island, N.Y., utilize an extensive XGD Drainage System to assist with subsurface drainage issues. To help remove the excessive water from the piping system, Brian Goleski, golf course superintendent, and J.R. Wilson, equipment manager, conceived and built this blower modification. The 2010 Little Wonder Model SP-170 (6-hp) push-type blower's fan was reversed so it will suck air/moisture out of the piping. A 1.5-inch diameter threaded black iron pipe is welded to the blower's shroud and a male camlock is attached to it. A 1.5-inch diameter rubber hose with a female camlock is attached to the blower and T-shaped 1.5-inch diameter fitting is attached to the other end that is inserted into the XGD outlet. The blower can be converted back to its original design by reversing the fan and adding a new shroud. The materials cost about \$200 and it took about 2 hours labor time to modify each blower. The club also has a 13-hp Billy Goat push-type blower.





GENERATOR AUXILIARY FUEL TANK

This Honda Model EU2000I Generator has 2000 Watts/110 volts that powers the green's fans. The generator's internal fuel tank can operate approximately 9.6 continuous hours with a 1/4 load factor. The extended auxiliary fuel tank can increase the operating time (all night) for 72 continuous hours. IPI Industries manufacturers the Fuel Extender Kit at a cost of about \$120, which includes the 5-gallon fuel tank (with fuel gauge), fuel line, fittings and specialized gas cap for the generator, which is available from Northern Tool & Equipment. Brian Goleski, golf course superintendent, and J.R. Wilson, equipment manager, at the Noyac Golf Club in Sag Harbor, Long Island, N.Y., developed this idea, which took about one-half hour labor time to be up and running.





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(KAMINSKI continued from page 52)

available that offer the same high level of education that the national and regional conferences are known for. The best part is that they all come at a fraction of the costs associated with registering for and traveling to a conference.

Although I pointed out the large number

of industry professionals that aren't members of GCSAA, the association's members have free access to a wealth of webcasts. These webcasts, as you might have guessed, are taught by many of the same people you would find teaching at conferences across the country. **GCI**

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REINVENTION

A unified theory for a personal and professional life well-lived.

B y now, you've probably grown accustomed to (and weary of) me spilling out the gory details of my personal life on this page.

Just to recap, in the past five years alone, faithful readers like you have been forced to endure my ramblings about my kids, my crappy golf game, tinnitus and hearing loss, divorce, being broke, overcoming alcoholism, quitting smoking, etc., etc., etc. For me it's sort of like an instant therapy session. I pound out 835 words about whatever weirdness is bouncing around in my head, hit send and instantly feel better.

I'm weird like that. But, to me, it's not weird to share my life with my friends. The late great Harvey Penick used to say, "If you play golf, you are my friend." My version is, "If you grow grass for a living, you're my friend."

Well, my friends, this month I have something really weird... something very, very strange... to reveal: I got married a few weeks ago.

Yup, I finally convinced the fabulous Kim to become Mrs. Jones. Astoundingly, this wonderful, beautiful, creative and compassionate woman agreed to marry an aging, half-deaf, recovering addict with no savings, a bad comb-over and a golf swing that has more flaws than a Shakespearean villain. She's a little nuts... and I am eternally grateful for it. I'm the luckiest man in the world.

Thus continues my ongoing selfreinvention. I'm incredibly blessed. Looking back five years, my prospects for anything beyond darkness, despair and delusion were dim. Yet now, I love madly, laugh loudly and live with a new sense of purpose.

Let's talk about that last thing for a bit. In my case, my sense of purpose is simple: I want to live the rest of my life honestly, help others and have fun. I know that sounds goofy and idealistic. The real world still lurks menacingly around every corner. I still have to run Golf Course Industry and our sister publication Lawn & Landscape, make money for my boss and keep a bunch of awesome, passionate, talented people employed. I still have to get my kids through college and off to their own adventures. I still need to be a good husband to the amazing woman who agreed to put up with me. I still have to stay sober, tobacco-free and (hopefully) less crazy than before. In short, I still have bills to pay and promises to keep. evance to this column, let's start with a renewed commitment to this wonderful community of turfheads.

This year, we're going to begin to tackle the real issues facing our industry head on. We've always been pretty candid about the business, but the most important thing we can do is help solve problems instead of just writing about them. So, look for GCI to start leading the charge on issues and partnering with some important and surprising organizations to make a difference. We'll be announcing those programs over the next few months but

In my case, my sense of purpose is simple: **I want to live the rest of my life** honestly, help others and have fun.

Yet, those things will all happen naturally if I simply continue to do the next right thing.

I learned that "next right thing" concept in AA, but it's a fundamental idea that turns up in nearly every religion and philosophy out there. I just didn't absorb it until it hit me square between the eyes that dishonesty, delusion and selfishness weren't right no matter how well I rationalized them. It turns out being a drunk, hitting bottom and starting over taught me the important stuff I should have learned had I been paying attention to all those goddamned books I read over the years. I recently was informed by my brilliant new stepdaughter that there's actually a word for it: pathemata. It means "learning through suffering." Wow.

I don't want to waste those tough lessons. I'm excited to put what I've learned to work in every aspect of my life. And, in the spirit of adding relall of our new initiatives have this in common: We're committed to being an independent advocate for our industry, its people and its values. Stay tuned.

If you're coming to Orlando, let's talk. Find me, grab me and tell me what you think we should be doing to serve your needs – and the larger needs of the industry – more effectively. Let's talk about the challenges you face and your hopes and dreams for the future. Let's talk about how we can help you succeed and how you can have a voice in what we do. Mostly, let's talk because we're friends.

And, if you're very lucky, you might get to meet Mrs. Jones. She'll be there the last day or so of the big show. She'll be easy to find. She's the tall, gorgeous blonde following me around telling me to calm the hell down and reminding me to focus on what's important.

Did I mention I'm the luckiest man on the face of the earth? GCI



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