

require some predisposition of the plant in order to infect and cause disease. Whether it is low nitrogen fertility combined with low mowing heights favoring crown rot anthracnose or lack of soil oxygen from rain or over watering combined with high temperatures favoring summer patch, particular conditions must occur in order for a disease to take hold. This “new” disease is no different. Research has shown *Acidovorax* to be most aggressive on creeping bentgrass at temperatures exceeding 30° C (86° F). Couple high temperatures with low mowing heights and other aggressive cultural practices like double cutting and rolling, and the disease typically worsens in the field.

Most pathologists are recommending alleviating any unnecessary stress, especially during summer months, to discourage the onset of bacterial etiolation and decline. This sounds like a great solution to the problem, but as long as golfers demand “fast greens” for every day play, and even “faster greens” for tournaments, no golf course superintendent is going to raise their greens mowing height to  $\frac{3}{16}$ -inches or add extra nitrogen fertility; at least ones that want to keep their jobs won’t.

**WHAT WE DON’T KNOW.** While we are able to incite turfgrass death by inoculating *Acidov-*

*orax* onto healthy plants in a controlled environment, the symptoms of etiolation have remained somewhat elusive. In July 2012, MSU field studies produced widespread etiolation symptoms after inoculating with *Acidovorax* during high-temperature periods. By cutting into these plants, it was clear to see the successful colonization of *Acidovorax* in the plant vascular tissue. This is an important step in confirming all symptomology associated with the disease. Research using alternative strategies to inoculate and encourage bacterial entry into plants have been successful in eliciting consistent plant etiolation. Much work remains regarding the nature of bentgrass etiolation as it pertains to bacterial infection and other potential environmental or chemical triggers.

Remedial treatments, thus far, have been sporadic and unpredictable. Certain antibiotics have shown some promise in controlled environments; however, these results have not necessarily translated well in field trials. Additionally, these products are not labeled for use on turfgrass and are strictly for experimental purposes only. Research regarding products for managing this disease is ongoing and largely inconclusive. There are, however, anecdotal and preliminary treatments that have been reported to



MSU1 inoculated (left) and non-inoculated control (right) pots after incubation for 14 days at 86° F.

provide some level of symptom control from several trials around the country.

Another interesting facet of this disease is where or how the problem arises. The bacterium can be found all over the world and is likely an organism that naturally occurs in most root zone soils and turfgrass systems. Research has also shown the possibility of other bacterial pathogens being involved or working in tandem with *Acidovorax*, and it is likely that we are just scratching the surface in characterizing this complex biological phenomenon. This emerging problem has been referred to by some as the “Tournament Disease.” Unfortunately, there is not a time in the foreseeable future when PGA, USGA, Invitational or even member/guest tournaments will cease to exist. With that said, bacterial etiolation and decline is a problem we are going to have to face collectively. **GCI**

*Paul R. Giordano is a graduate research assistant, and Joseph M. Vargas Jr. is a professor of plant pathology at Michigan State University's department of plant, soil and microbial sciences.*

## What's in a name?

Since the initial description of the disease, much confusion has revolved around the nomenclature of the new disease on creeping bentgrass. Researchers in the U.S. have coined the new disease on creeping bentgrass caused by *Acidovorax avenae* “bacterial etiolation” or “bacterial decline” based on symptoms commonly observed on the affected putting greens. Symptoms of chlorosis and etiolation are common, and the disease can often lead to a general decline of irregular areas of turf. Wilted is not often the dominant symptom associated with *Acidovorax* infection of creeping bentgrass.

Bacterial wilt is a disease of annual bluegrass caused by *Xanthomonas translucens*. The disease is known for its characteristic wilt symptoms, causing plants to turn blue-purple, twist and wilt from the tips down. Etiolation is a shared symptom, often observed in early stages of bacterial wilt on annual bluegrass.

The minor differences may seem trivial, but when discussing diseases, it is important to distinguish exactly which disease is of concern. Bacterial wilt and bacterial etiolation and decline are caused by two completely different bacterial organisms (*Xanthomonas* and *Acidovorax*, respectively), and occur on two completely different species of turfgrass (annual bluegrass and creeping bentgrass, respectively). Therefore, lumping all bacterial disease under the umbrella of “bacterial wilt” would be erroneous, akin to calling every patch disease affecting turfgrass “take-all patch.” Different diseases are favored by different environments and require different management strategies. Therefore, identifying and distinguishing them with the appropriate name is the foundation of proper management.





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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.

### BALL MARK REPAIR TOOLS

The fork on the right was made using used flat steel as the base and  $\frac{5}{32}$ -inch diameter concrete nails welded in place. The other two forks were made using used greens mower bed knives with the forks cut out with a metal jigsaw. The Narrow's aerifier tines are  $\frac{25}{64}$ -inch and  $\frac{5}{8}$ -inch diameter, respectively, and are welded to the forks with  $\frac{1}{4}$ -inch diameter rounded steel. Two coats of water-soluble acrylic resin coating spray is then applied. These ball-mark tools are placed on the back of the walk-behind greens mower handle and the ball marks are repaired daily prior to mowing. All of the materials were recycled parts in inventory and it took about 30 minutes to make each one. Masaru Shimizu, manager, (chief greenskeeper), at the C.J.P. Kasumigaseki Country Club in Saitama Prefecture, Japan, conceived this great idea. Shimizu's 36-hole club, founded in 1929, is in the planning stages to host the golf competitions for the 2020 Olympics, where Tokyo is a candidate city. The club has previously hosted the Japan Open in 1933, 1956, 1995 and 2006; The World Cup in 1957; the Japan Women's Open in 1999 and the Asian Amateur Championship in 2010.



### GOLF CART SPRAYER

This 2001 Yamaha gas-engined golf cart was transformed into a versatile sprayer used for miscellaneous spot spraying of the club property. The rear bumper was extended outwards using 2-inch angle iron and 2-inch square tubing that was also used to make the metal floor. The golf bag rack was removed and a 26-gallon fiberglass tank was mounted with a 2-inch angle-iron frame. A 4.3-hp Kubota gasoline engine powered sprayer (up to 217 psi) was mounted on the rear flooring. A self-contained manually operated hose reel and frame manufactured by Maruyama holding approximately 164 feet of  $2\frac{1}{4}$ -inch diameter high-pressure hose was bolted/welded to the bumper frame and windshield mounting. The high-pressure hose from the sprayer to the hose reel is attached with zip strips along the roof frame. A portable marking paint gun is mounted on the rear and safety equipment is easily stored in the front compartments. The parts cost about \$1,000 and it took about 16 hours to complete the project. Masaru Shimizu, Manager, (chief greenskeeper), at the C.J.P. Kasumigaseki Country Club in Saitama Prefecture, Japan, conceived this great idea.





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\*denotes regional advertising





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## PURPLE COW, REDUX

It was many moons ago that Dan Carrothers taught me about the purple cow and introduced me to a dude named Seth Godin.

Carrothers is a veteran chemical industry executive who recently returned to the happy world of golf and lawn products in BASF's professional group after being away from the green industry for a while. He's a helluva salesman and, more than a decade ago, he sold me on the idea that the best enterprises have a "purple cow" – something truly unique that sets them apart.

I wrote a column back then about Dan's enthusiasm for creating purple cows in his business life. Dan pretended to like the column so much that he actually had me autograph a copy for his sales team. Some would call this sucking up to the media. I think Dan has excellent taste.

Anyway, I was talking with him at GIS about his new role with BASF and the concept of the purple cow came up again quickly. What can be done in today's crazy environment to create that?

I'd like to say we figured it out over breakfast (we didn't) but it did rekindle my interest in Seth Godin, the marketing guru who brought the purple cow concept to life and who mainly focuses on the larger concept of telling a good story about your business.

As Godin wrote in *Forbes* a decade ago, "The essence of the Purple Cow – the reason it would shine among a crowd of perfectly competent, even undeniably excellent cows – is that it would be remarkable. Something remarkable is worth talking about, worth paying attention to. Boring stuff quickly becomes invisible."

Telling your story is not about spinning or exaggerating. It's not a sales pitch or a proposal, either. Finally, it's not a big ad campaign or a fancy presentation.

Instead, it's describing what's remarkable about your product and how it solves a problem, addresses a need or fills a void in the customer's world.

So what remarkable story can your golf facility tell? Is it compelling? Is it honest? Is it different? Is there a purple cow lurking somewhere along the way?

Do you have a specific niche? Can you make a statement like this?

- We are an affordable course with surprisingly good greens.
- Our membership likes to have fun and doesn't take itself too seriously.
- This is the club to join to connect to serious local power players.

- Friendly people and great customer service for just \$49.50 a round.
- We're all about golf and nothing but golf.
- This course is genuinely welcoming and comfortable for female players of any skill level.
- Play in less than four hours...guaranteed.
- We have smokin' hot clubhouse staff and bev cart attendants.

The last one is hopelessly sexist but, hell, so is Hooters. They sell a zillion bucks worth of something you can get anywhere – draft beer and mediocre chicken wings – by hiring pretty girls and advertising it. It's not rocket science kids – but it is remarkable.

(Note: If you want to see this cart babe strategy executed at a very high level, Google "Walters Golf Par Mates." You will be in awe.)

### Something remarkable is worth talking about, worth paying attention to.

You may be sitting there thinking, "Great Pat, I'll pass this to our marketing and sales person." Go right ahead, but make sure you do it with a recommendation of getting serious about identifying your course's purple cow and making sure everyone who works for you (and your members or customers) can recite your story.

I'm shocked at how many times I'll ask a super or a GM, "What sets this facility apart?" and they say, "Oh, there's a lot of history here at our club" or "We're exclusive" or "It's just a great old place."

Ugh. That's like me answering the same question from a potential advertiser with, "We print useful articles." Absolutely no distinction and nothing to make them WANT to buy ads with us.

Try your hand at telling your story. Do a little informal brainstorming with some of your management team and try to identify key words and ideas that specifically capture why people like you. You could get all fancy and do research with members or daily players but you'd be surprised what you learn just by asking a few "fans" around your place. The point is to identify the remarkable in your operation and leverage it in everything you do.

Why? Because there are 15,500 cows around America mooing for attention and dollars. If you ain't purple, why should they notice you? **GCI**



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