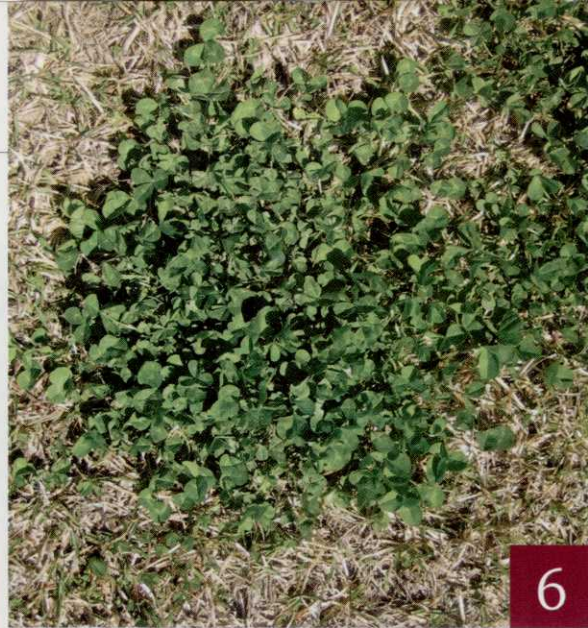




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“Scouting turf in winter and early spring is recommended to identify broadleaf weeds that warrant control,” he says. “Turf managers should also note weeds that were present in previous years and pay particular attention to new species that may have become established.”

Be especially aware of sections of turf that thinned or were weakened from traffic, disease or injury during fall and winter, as well as turf grown in shade, compacted soils, or with poor drainage, since all of these scenarios are prime situations for broadleaf weeds to show up, says McCullough.

For Anderson, it’s about dealing with the weeds as they show up.

“When I see what kind of catch we got through the winter, we’ll start getting ready for the season,” says Anderson. March means the use of preemergent for Anderson, and his crew follows up in later March and early April with postemergent as needed.

“Although we’ve used some preemergent, it works better for us to use post,” he says. “We’ll go out there with it and we know about how much we’ll need because of seasons prior. We try to spray as little as we have to. If we don’t have to go out and spray wall-to-wall, we won’t.”

Knowing where the weeds are likely to turn up and what he’s likely to tangle with gives Anderson the edge to clear out problem areas with small doses of FMC Professional Solutions’ Solitare without doing big, costly applications, he says.

“We’re just trying to clean everything up, trying to get a nice, clean look for spring,” he says. “If we can do that when we’re putting down postemergent and three-way in spring, that sets us up for a really good start going into the summer golf season.”

The mixed pre and post strategy feels like too much for Ken Mangum, director at the Atlanta Athletic Club in Johns Creek, Ga.

“I’ve always been a big proponent of just not letting it be seen,” he says. “If you let even a couple weeds out there, the amount of seed it produces, it just spreads.”

Mangum just didn’t have regular trouble with broadleaf weeds until a resod of the course with Champion ultradwarf in 2006.

“When you solid sod your golf course, you bring in weeds from other areas,” he says. “Once we covered the golf course with sod from who knows where, we had some hitchhikers.”

Mangum started seeing knotweed and crabgrass appearing throughout the course, and that was not going to over well with members.

“Our weeds just multiplied,” he says. “It had really become a notice-



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A line in the grass

Methods for taking out broadleaf weeds are specific to each course, and even to the preferences of each superintendent. Beyond the battle of preemergent and postemergent herbicide is the argument of weed tolerance.

When cost is high and repeated applications get in the way of course play, it might be time to loosen the iron grip on turf, says Trey Anderson, superintendent of Hickory Ridge Golf Course.

"We're pretty clean throughout the year, but we can live with a little bit," says Anderson. "Sometimes we can be our own worst enemies. It might be good sometimes to maybe just try to decide if that's okay for your place. Everyone's program is a little different."

A municipal course, Hickory Ridge runs on a moderate budget, so when just one weed or so is spotted, he takes a moment to decide whether it's worth the money and interruption to play, and possibly bringing more attention to a dead weed stalk on the turf.

To Ken Mangum, director at the Atlanta Athletic Club, it's about cost and dealing with the weed, and all the seeds it will produce, later.

"What's your threshold for pain?" asks Mangum. "It's a question of management."

Mangum runs a tight course with a high standard on weed control, but with the Atlanta Athletic Club listed as the site for the 2011 PGA Championship, it's a standard worth upholding to him.

With a decreased budget, it might make more economic sense not to always try to play up to tournament levels, says Anderson.

"Sometimes we choose to just leave a few weeds if they're not going to have an impact on playing conditions," he says. "It's so tough to keep up to those conditions, and costly to go out with the spray repeatedly. It's a choice you have to make for your course."

Players understand and generally haven't complained to Anderson, he says. Mangum also has never heard from his players about it, but for a different reason.

"If you never see a weed, you'll never get a comment," he says.

able problem, so we wanted to get it before it even started growing."

After dealing with the weeds, he started use of Bayer Environmental Science's Specticle to get control of the knotweed, and started a regular program of Dow AgroScience's Dimension and Gallery herbicides to hold that line against the weeds. The battery of preemergents is Mangum's way of fighting off the need to do postemergent application.

"It's because of the visual, and you can typically do preemergent easier in the off-season rather than spraying during the summer when the course is busy," he said. "Not only do you have dead weeds then, your turf is off-color around where you spray sometimes. It's better if the weed is never seen at all."

Early spring is a key time of year for dealing with broadleaf, as many broadleaf weeds will start to show up alongside healthy turf. In the warming climate, growing weeds are most vulnerable to herbicide. Though it's important to get a jump on broadleaf, knowing when to attack keeps costs down.

"Broadleaf herbicides applied under cool weather in early spring often have reduced efficacy and require sequential treatments to control weeds," says McCullough. "Efficacy of broadleaf weed herbicides generally improves when temperatures are consistently in the 70s compared to cooler weather."

This is especially important with the irregular warm-ups happening as spring starts to come around this year, bringing temperatures up and giving broadleaf weeds a little bit of a jump start on superintendents.

"The timing of things is always important, especially with the crazy weather in this past year," says Mangum. "We're very warm right now. We're scrambling to get things down and get ahead of the weeds."

Anderson tries to set up his course as best he can in March and bulk out the program with aerification after.

"The best defense is a good offense," says Anderson. "The best way to deal with broadleaf is just to have a really great stand of turf. We find that if we take off that early and work in aerification, it gives the turf a chance to go into spring and summer strong."

Spring and fall applications round out a broadleaf program, but not all broadleaf decisions come down to setting up a schedule. Choosing the right product is a balancing act between finding the correct coverage for specific weeds at an application price that fits.

"In today's economy, it's trying to take your economic ability and find something that



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matches your weeds," says Mangum. "You always have to evaluate the cost of control per acre and the number of applications."

The mix of chemicals used in the main preemergent application is worth the cost to Mangum, since it covers his course's needs before paying for postemergent as well. For Anderson, being able to fall back on the single product makes a huge difference to his crew, since he'll only use very small amounts in postemergent applications.

"It's just simple for my guys," he says. "We're a municipal golf course. We've got an average-sized budget. It's great to have something in the shed to know that you don't have to worry about mixing, or mixing well."

More important than just finding a chemical that works is continuing to try to find a better herbicide. As technology has improved, chemicals have evolved through the years, changing the game almost every season.

"It used to be about pounds of it in every application," says Anderson. "Now it's just ounces. It's much less product than it used to

be. Sometimes we get so busy you might not know what's out there. Some of the chemistry, the way it's grown in the last four to five years, now there's just so much more available. If you keep up on it, you might find you can take care of something with one spray.

"We do as much as we can education-wise," he adds. "We want to put the spray rig out the minimum number of times we can. Some chemicals have changed, and the amount of herbicides that are available now; it would be easy to just get stuck in buying the cheapest three-way without looking to see if there's something else that covers the weeds you have better."

Mangum continues to research new mixes and herbicides. "Even though you've got something that works, always be looking for something better," he says. "You have to start looking at everything. We're fortunate to have products that are actually cheaper to work with now. Look for plenty of help, staying up on all the new things. Look at trade publications and read articles."

Mangum takes the time to test new mixes before using them throughout the course.

"I tend to test things," he says. "Most everything we spray new has been tested somewhere on the golf course until we get a feel for it, see how the turf reacts to it and what kind of control it gives us."

When a superintendent finds the right application setup for their course and the right herbicides after research, dealing with broadleaf weeds is easy after all, says Anderson. "A super today is pulled in so many directions, it's helpful to just have that ready to fall back on," he says. "The less you have to worry about that the better." **GCI**

Kyle Brown is GCI's associate editor.

Dealing with broadleaf weeds?

Patrick McCullough, extension turfgrass weed specialist at the University of Georgia, covers winter broadleaf weed control in our Online Extras.

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Jeffrey D. Brauer is a licensed golf course architect and president of GolfScapes, a golf course design firm in Arlington, Texas. Brauer, a past president of the American Society of Golf Course Architects, can be reached at jeff@jeffreymbrauer.com.

DESIGNING FOR THE REAL PLAYER

With the start of the PGA Tour season, we are again hearing about how easy courses are for tour pros. While a double-digit under par score still has the potential for alarm, the average winning scores – not to mention the average of average scores – really haven't changed much from the days of Arnie and Jack.

In my opinion, there is too much design directed at professional golfers who will never show up at the typical course. So the question to me is, "Why?" Why do we design primarily to thwart the best of the best in the world from playing well?

Why are we designing to raise the score of a tour pro who will never play our course, when it makes the course much harder for the everyday, average golfer in terms of speed of play, enjoyment and reasonable challenge? Even the difference between tour pro and top amateur is more substantial than most think, and most good players really prefer a chance at shooting 68 more than the difficulty level of a tour course.

Why are we building for "tournament standards" when:

- Location, infrastructure and tour schedules mean there is almost no chance of hosting a tournament?

- When the USGA has shown us that we can modify the rough depth, fairway width, green speeds, pin locations and even reduce par itself from 72 to 70 temporarily to make par a good score?

- In resort or retirement areas, knowing that 99 percent of players will play a far shorter course? Or, stated differently, do we really need every course to have back tees at 7,200 yards for the few dozen each year that actually use them?

Why are we doing this to sell real estate, including:

- Numerous bunkers specifically to create views from surrounding property?
- Steep contours for shadow patterns
- Longer courses (up to 8,000 yards) to create more real estate opportunity?
- Long cart rides between holes to add real estate value – but slow down play?

Finally, I question why we're designing to obtain "Top 100" or "Best New" ranking for marketing, which typically requires a large degree of

difficulty, when chances of obtaining such a rating are slim? And, even when studies show that 90 percent of golf rounds are played on the nearest course, with the most friends, and at the most reasonable price, meaning those designations probably provide very little marketing value?

Even at existing clubs, how many committees are dominated by the top players at the club, resulting in changes to increase difficulty?

I believe in the old design adage that "form follows function" and I realize that golf course design has drifted from that truism substantially. After designing for tournaments, views and awards, too little thought is given to the actual end user, who is normally the focus of design. While the economy is certainly the biggest reason

"I believe in the old design adage that 'form follows function' and I realize that golf course design has drifted from that truism substantially."

for less play, and since golf has weathered worse storms in its more than 600 years of existence and will probably bounce back at some point, I have to wonder if these designs will enhance or reduce golf's appeal and vitality.

Part of the greatness of the older courses still on tour, such as Riviera and Colonial, is that they were designed primarily as "member's courses" to be enjoyed in everyday play, but which can be made more difficult on occasions, even if the pros score a little lower than we might like. Perhaps we need the Seinfeld characters to remind us: "Not that there is anything wrong with that."

Given the greater competition for all recreation time and money, golf courses will need to embrace the classical elements of these courses that make them "fun courses" rather than "tough courses." They should be renovated to very specifically target what makes golf fun for the average player.

A good start is to recognize that the highest honor a course can achieve is the label "fun to play every day." **GCI**

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Keeping up with grinding is necessary but time-consuming – does spin grinding or backlapping save more time?

Back to the grind

Maintaining your mowing equipment is essential to the health of the turf and to the conditioning of your course. For many clubs, it's a full-time job for an equipment manager or superintendent and his crew to keep their mowers sharp. We asked a handful of those in the industry what techniques they use and why. Most prefer spin grinding since it is more time-efficient and accurate than backlapping.

ALL AGREE, GETTING TO THE GRIND, IS A FULL-TIME JOB.

Seven equipment pros share their techniques and philosophies behind their grinding regimen.

Dennis Blackwell
Equipment manager
Martindale Country Club
Auburn, Maine

“I don’t do backlapping. I used to do it, but now I feel it’s not the best solution unless it’s an emergency. My old superintendent liked backlapping, but the new superintendent doesn’t. Grinding is all in the angles. If you do grinding on the reel, it puts a virtual relief onto it versus backlapping where you are making it a flat surface hitting the bed knife with those angles when they start wearing. That’s the theory. It makes sense. Based on what we’ve seen now, the way it cuts the turf... it just seems like the best way. You see, you are not getting the right contact on the bed knife. What we would do before is put more angle on the bed knife, but we learned that’s not the way to go as you end up wearing them prematurely. With our Bernhard grinder, it is so easy to set it up. It only takes five minutes to do it the right way. It’s sometimes a pain taking off the reels versus just putting it up in the air for backlapping. But,

with grinding I know they are nice and sharp and ready to go. We grind our greens mowers and touch them up every few weeks.”

David Blowers
Equipment manager
East Lake Golf Club
Atlanta, Ga.

“At East Lake Golf Club, we run a zero contact program using a pair of products from Bernhard. We sharpen as required. When the unit comes in from the field it is checked every day. When the crew is done using it, we check it. If it doesn’t cut a single piece of paper cleanly and satisfactorily, we sharpen the reel and then reassemble it. We strive for that clean cut. If it doesn’t cut to our satisfaction, we then put it on the grinder and grind for a fresh edge. The key to maintaining a sharp edge is maintenance. If you maintain constant, vigilant adjustment in the repair process that cutting edge goes a lot farther in between sharpening requirements. If you let it go to point it doesn’t cut to your satisfaction, you are no longer in maintenance mode, but

in repair mode. There are no short cuts, the key is diligence. We make the time and set the priorities. I do not believe in backlapping. I’ve been in the golf business for 30 years both a mechanic on a golf course and a service manager. I’ve seen all programs. Backlapping is certainly a tool somebody has to use, but it’s more for someone working by himself with a limited number of mowers. You can’t control or modify the angles with backlapping.”

Mike Koopman
Equipment manager
The Old Collier Golf Club
Naples, Fla.

“I’ve been spin grinding for 18 years. That seems to fit my schedule the way I like to keep things the best. We do not backlap at all. The one thing we do, every time a machine is used, it gets cleaned, brought in the shop, checked and adjusted. If it cuts paper we will use it the next day. If not, we will grind it. That’s the routine we do. Every time it’s used it gets checked. Some places mow two or three times and check it, but

I'm a firm believer if you used it, you need to bring it back in and check the height and the cut on it and have it ready for the next day. We check our greens mower every day. I like the ease of setting units up in the grinder we have. We have the Express Dual Reel Grinder and we have the Anglemaster bed knife grinder from Bernhard. You can set them up, grind them, and you are in and out in three minutes. One man can grind two or three sets of reels before lunch. I backlapped years ago before I had spin grinders. When I went to spin grinders it was a night and day difference. Backlapping is a thing of the past because I can almost take the units off and grind them as fast as I could backlap and not have the mess."

Andy Caddell

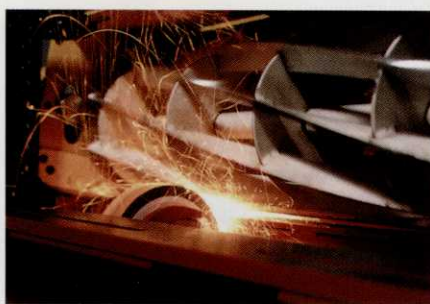
Director of golf course maintenance
Pinehurst Resort and Country Club
Village of Pinehurst, N.C.

"We do 90 percent grinding. We still do some lapping on the larger fairway and rough units. But on tee mowers and green mowers, we only grind. The grinding advantage is speed. We have close to 400 reels here. We have eight golf courses. Grinding units are easy to set up. Typically, we start the latter part of March into May, topdressing every two weeks with light topdressing, so we are mowing in sand 50 percent of the time during the summer. Our greens mowers will typically grind once to twice per week, sometimes more, depending on how heavy the sand is going down or whether we are aerifying. But, once per week is the norm. We still do a little backlapping and relief on our fairway units, but it's so much easier, it's so much easier on the smaller units, to just snatch the reel off, stick them and spin them and put them back on. For the bigger fairway units, it's harder to get the reels off and get it set up and done in a hurry, so we will backlap in between grinds. We grind our fairway units about four times per year and do regular maintenance on all our equipment. Every greens mower that goes out, we will put them up on the lift, check them, set them, reset height every day and determine from that whether they need to be ground or not. Usually first mowing after sand they will be ground. I have two divisions of my shop – six guys that do nothing but reels all day. From the middle of April until October, our grinders are running all day long, every day. We have three sets of grinders at the main shop and another set at each of my satellite shops; we have four total shops."

Todd Bartos

Head mechanic
Canterbury Golf Club
Beachwood, Ohio

"They topdress a lot, which tears the mowers up. So, I backlap the greens mowers to keep them cutting until they pick up all the sand. I then put a fresh set of reels on that are already ground, and then I will regrind the knife. It's a full-time job for me just to keep the mowers sharp. I'm always backlapping or grinding. If they cut two days in a row, the mowers would be completely dull, so I backlap. I could grind every day. For the fairway units, I put relief in them. We put relief in the greens mowers this year, too, and



Sand and heavy topdressing eats through blades – regular maintenance is the only way to always have a healthy cut.

it helped a lot. It didn't take the front of the knife off and it gave the sand a place to go. I spin them, release them, and then put them back together. I don't get that washboard effect and they cut so much nicer. I spin grind the mowers, then put in a relief grinder and then put a little relief in each spiral reel, so the front edge is touching the knife and not the whole blade. In the summer, I'm always doing something with the mowers."

Shahid Bhatti

Equipment manager,
Congressional Country Club
Bethesda, Md.

"I do a little bit of all methods. I grind when I need to and I lap when I need to. If it just needs a little touch up, I'll lap it. But if it's in bad shape, I'll grind them. I use the Bernhard Dual Express to grind. We topdress our greens and this eats up the mowers, so it is time to grind. When it gets to the point, it gets worn and the reel is rounded, it's time to grind. If there is only a little light sand, I'll lap it. We do a lot of grinding. I'll grind my greens mowers five to six times per year. The fairway mowers I do twice per year. When we

open in the spring, we start with the sharpest mowers we can have. I don't angle grind. I flat grind. It takes less time and it takes less meat off the reels. You don't want to take a lot of your reels. You're putting your angle on the bed knife instead. When you relief them, you relief your bed knife a little more than you would normally. I grind 12 greens mowers in a day. Normally, we don't tear them all up at one time; rather, three to four at a time. If they are not cutting 100 percent, I'll backlap. I check my mowers every day. For every mower that goes out, I check the cut, the height, and the machine for leaks to make sure it's ready to go for the next morning."

James Cleaver

Equipment manager
Roaring Fork Club
Basalt, Colo.

"Our sharpening procedure is a war between cut quality and its link to disease resistance in relation to the benefits of top dressing and its effects on soil profile and overall plant health. My job is to inform the superintendent what the equipment can and cannot do, and to provide machinery that is sharp and accurate on a daily basis and under different types of conditions. Last season, we mowed greens daily with Jacobsen Eclipse 22-inch electric greens mowers. We have six of these machines, and one is dedicated to green No. 6 where we have some air flow problems and disease problems. That one was sharpened once per week. The three that mow the rest of the course were sharpened every third or fourth day. So one mower would mow 18-24 greens then be completely dismantled, the bedknife sharpened or a new one installed, and the reel sharpened. We do not backlap. When sand is introduced we will sharpen each day until we feel we're out of it.

"The two fairway units (with one set of extra reels) came in at least once a week for adjustment, and were sharpened every two weeks last season. The walking tee, approach and specialty mowers are all checked by operators and sharpened or adjusted as needed. I run the course each day with a prism and sometimes a handheld microscope to look at height and quality of cut." GCI

David McPherson is a freelance writer based in Toronto.

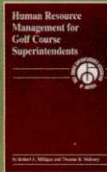
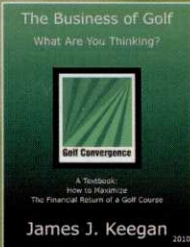
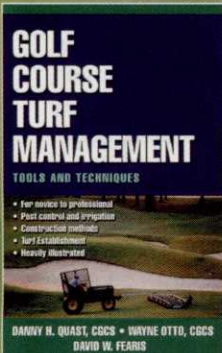
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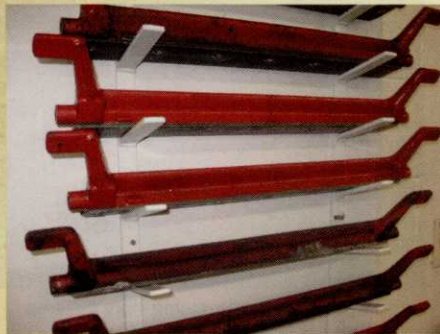


Travels With Terry

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.

BEDKNIFE RACKS

The storied Turf Equipment Management Program at Florida Gateway College has set the standard for training equipment managers in the science and art of maintaining and repairing golf course maintenance equipment. Mark Yarick, professor and program coordinator and Jonathan Morriss, instructor, along with student help, built these bedknife racks that are made from 1-inch-wide steel strips. They are about 42 inches long, but they can be made any length. A 1-inch strip was used for the support pieces, which are 4 inches long and spaced 4 inches apart and welded at a slight angle to keep the bedknives from sliding off. They made them in pairs and attached them to the wall at the appropriate distance apart to accommodate the bedknives' length. They are attached to the wooden studs underneath the drywall with appropriately-sized wood screws depending on the length and overall anticipated weight of the bedknives. The materials were in stock and it took about four hours of labor time.



GREENS COVER TRAILER

This trailer was built totally out of recycled materials around the shop to transport winter greens covers in the fall and spring. Two employees can easily drag the covers on and off without having to lift them off the ground because of the low-profile design. The covers can be tied down to the railings and the trailer can also haul tree limbs and other material. Recycled 1.5 inch x 6-foot to 8-foot long fence posts, 1/5-inch and 2-inch metal tube stock, 4-inch U-bolts, one axle with 16.5-inch x 6-inch x 8-inch wheels and four-ply turf tires, welding rods, two cans of primer and spray paint and a 4-foot x 8-foot piece of 3/4-inch marine plywood flooring were used. Bob Pruneau, equipment manager at the Halifax Golf & Country Club (Old Ashburn), Halifax, Nova Scotia, Canada, designed and built them. The recycled materials were all in inventory, the spray paint cost about \$25 and it took about eight hours to build.

