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A touch of COLOR

By David McPherson

As overseeding costs continue to rise, greenkeepers are looking at painting greens as an alternative to stretch their budgets.

A little dab of paint here and a little dab there and you can have your greens keeping their color all winter long to wow those tourists from the north and keep your members happy.

As the cost of overseeding continues to rise, greenkeepers are looking for more alternatives to stretch their budgets. Enter the practice of painting. In southern climates, more and more superintendents have implemented painting of greens as part of their standard operating procedures.

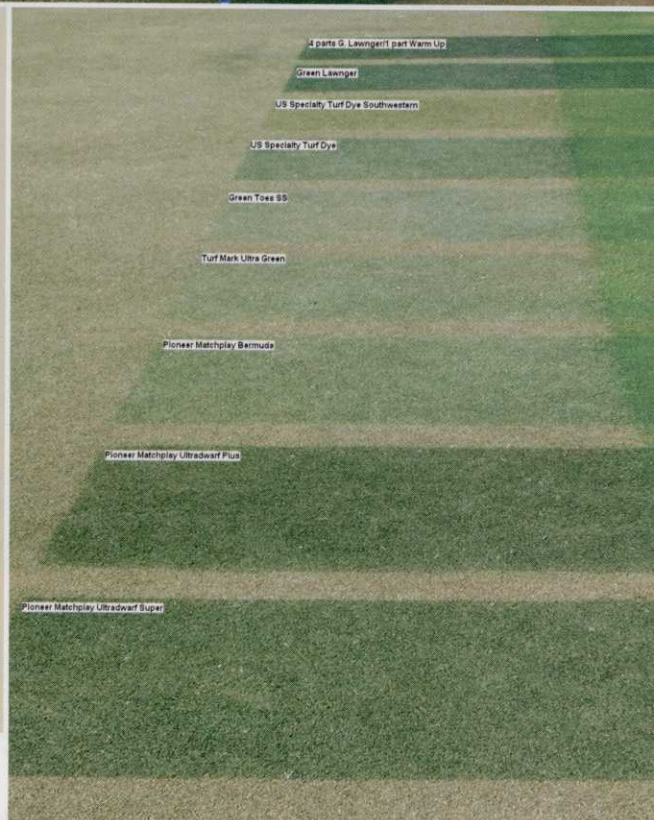
Over the last few years, cost is becoming more and more of a factor when it comes to overseeding. If you treat your whole course, it's not unreasonable to spend more than \$30,000 just on cost of seed and fertilizer; add in labor and you are looking at a big number on one's budget every year. The other major reason more and more superintendents are turning to this practice is due to agronomic transition.

"Overseeding is a big ticket item in budgets," says Joe Lara, product manager, Horticulture & Specialties, Becker Underwood. "It's the primary reason for switching to painting. The secondary reason is for a better agronomic transition. What the USGA people and other researchers have determined is that these fall overseeding programs don't do warm season turf any favors in the spring. They will affect the growth characteristics and recovery of warm season turf in the spring, so now you've set yourself up for competition. A ryegrass, which tends to be more aggressive, will literally fight for their turf. What you have is weakened warm season turf in the spring that just doesn't transition very well. You do that from season to season and it weakens your warm season turf grass."

So, a lot of superintendents today are making changes in their decision on whether to overseed. The cost of painting is slightly less than overseeding, but biggest advantage is a better agronomic transition.

Superintendents can make the argument to not overseed if they can get their maintenance practices down well enough that the end result of painting is acceptable, Lara says. "The turf manager should be making a conscious decision to save labor," he says. "By painting, they don't have to shut the course down for a week or two to grow their cool season grass and their spring transition is far better."

Like the practice of overseeding, it doesn't have to be one or the other when it comes to agronomic practices. Superintendents can now use a combination of turf maintenance practices to achieve the desired result based on their course





There is a wide variation of colors among paint options that superintendents can work with to get the look that they want on their course.

and their budget. Say they have 50 to 60 acres to overseed, could just overseed the fairways and then paint the rough. Or, paint the greens and overseed the fairways. Painting allows them to have more options.

There have been many studies done in respect to types of turf paint available; there is a wide variation of colors among paint options that superintendents will work with to get the look that they want. Becker Underwood offers a product called Green Lawngr, which Lara says is the first and original turf paint in the marketplace having been out there for more than 20 years.

"We have stayed close to our original formulation and it continues to deliver the most natural looking green color in the industry," Lara states. "If you put us side-by-side with a lot of other paint, most will look at Green Lawngr and see that it gives them the most naturally looking green. We have added to that formula in the last two years a process that we call color lock technology. What that does is it ensures that the natural green color that we put on the leaf blade doesn't shift to a bluish color as do a number of other products in the industry."

Lara says that some customers in northern climates are even using Green Lawngr on their bentgrasses to cover up areas that are dam-

Color enhancement study

Kai Umeda from the University of Arizona Cooperative Extension and Brian Whitlark from the USGA Green Section recently completed a color enhancement study at ASU East for Ultradwarf Bermudagrass.

The study is comprised of four different painting products being conducted on a non-overseeded Mini-Verde Ultradwarf bermudagrass green at the ASU East campus practice facility. The four treatments are: Green Lawngr (Becker Underwood), Wintergreen Plus (Precision Labs), and two different products from Pioneer Athletics - Match Play - Ultradwarf Plus and Match Play - Ultradwarf Super. Each of the four treatments was applied between Dec. 2 and 3, 2009. The treated area was 195 square feet for each treated area, where each treatment was replicated three times, for a total treated area of 585 square feet.

Whitlark explains that a white towel was used to determine the amount of 'rub off' from each paint product at one hour after application, two hours after application and at daybreak the following morning. Here is what they observed:

All paint products 'rubbed off' to some extent one hour after application. The Wintergreen Plus product rubbed off more than the other products.

Two hours after application (on a sunny, dry day), nearly no paint rubbed off with any product.

The following morning, the surface was only slightly moist from either dew, guttation water or residual water from the irrigation cycle. All paints rubbed off, but only very slightly with the Match Play and Green Lawngr products. The Wintergreen Plus product rubbed off substantially more than the others.

A ball rolled across the painted surfaces did not show any signs of 'rub off' at any point after spray application.

The estimated retail cost of paint products was: Green Lawngr (\$48/gallon), Wintergreen (\$48/gallon), Ultradwarf Plus (\$28-35/gallon), Ultradwarf Super (\$28-35/gallon).

A few things learned from this study that should be taken into consideration when painting greens:

- The timing of applications;
- Turf condition and vigor;
- The percentage of the green that goes dormant;
- Fertility and pre-conditioning;
- The amount of moisture, irrigation and rainfall;
- The longevity of the paints and dyes;
- The wearability;
- Staining; and
- Cost benefits or disadvantages.

"In consideration for golfers, it is recommended to delay play a minimum of one to two hours after application or maybe more on a very moist and overcast day," Whitlark says. "It is not recommended to irrigate the evening following application. It is possible golfers kneeling down on the painted surface may see some paint on clothing in the early morning hours the day after application. However, this unfortunate circumstance may be avoided simply by rolling or mowing the greens prior to play."

aged. Green Lawngr also lasts longer under prolonged UV exposure.

Rob Collins, superintendent at Paradise Valley Country Club in Arizona, trialed non-overseeded greens on their two chipping greens and one of their practice greens last season. He says, this was done for a couple of

reasons: to gain first-hand experience and to introduce the concept to our members.

This was Collins first experience with not overseeding greens.

"We conducted our evaluation of agronomic inputs during this time as well," he says. "We've been measuring clipping yield in both

volume and weight of our overseeded and non-overseeded greens. We had been warned to be careful of letting the speed get too fast upon frost and slow growth, so in preparation we began raising mowing height during mid-December to anticipate this condition.

"However, we experienced the opposite as indicated by the green speed in the spreadsheet below," he adds. "We continued to water, fertilize and mow the non-overseeded greens very similarly to the overseeded green during this experience."

By January, Collins and his crew felt they could control the speed by managing height-of-cut, using brushes while continuing to water and apply foliar fertilizers.

"As you would imagine, this doesn't support the lower cost argument because many of our inputs were similar to the overseeded greens," he explains. "However, we avoided the labor, fertilizer and water costs associated with overseeding, which is significant. An additional input was painting, which was done the first week of December. We liked the Turf Dye Southwestern as it matches our overseeding color very closely."

Members at Collins' club then participated in an evaluation of the overseeded versus non-overseeded greens during the season. Collins says reviews were very good for the non-overseeded greens upon opening from their overseeding closure.

This continued into December because the non-overseeded greens were smoother and faster, Collins says.

"Both were rated about the same into January," he says. "By February, the non-overseeded greens began growing much more as days lengthened. The members concluded that the trial was a good experience and we will not oversee greens this fall. There is a period in late winter when we may hear some complaints about the visibility of old plugs and we're working on cup changing training to minimize this."

Overall, Collins describes the trial as a success because he got real experience and member feedback. The members, too, got to "kick the tires." But, most importantly, he achieved member buy-in before trying this practice on all of their greens.

"I think not overseeding this season will be a continuation of this learning process for all of us," he says. "We'll continue to make adjustments." **GCI**

David McPherson is a freelance writer based in Toronto.

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WHAT MAKES AN IRRIGATION CONSULTANT TICK?

On the perfect project, irrigation consultants are brought in at inception to assess overall project logistics, site characteristics, water resources, system installation and operation budgets. With that data, they engineer a system to best accommodate the architect's design, the club's budget and the superintendent's ability to sustain healthy turf. And they're there for the long haul, too. Irrigation consultants don't just submit irrigation plans and walk from the job – they oversee product and system installation and oftentimes operation. They're at the meetings, in the office and on the job site.

SERIOUS WATER PROFESSIONALS

Irrigation is an important component to every facility, but it tends to take on a different meaning to golf projects from region to region. As water priorities shift, the further west one goes the greater there is an appreciation for irrigation. Naturally, irrigation consultants can provide more impact for industry leaders who respect irrigation as a profession and not merely as an afterthought.

Bringing in an irrigation consultant early to a golf course project has long-term benefits and implications. Alternate water sources can be explored – such as nearby surface water, harvested water and reclaimed water. Consultants also provide water-use analyses reports regarding the availability of potable or reclaimed water, reservoir storage capabilities and water and power demands. Likewise, comparing the capital investments required for alternate sources versus potable water is a valuable service.

Bringing in a consultant early can produce a refined, adequate budget for the project's scope and provide a realistic timeline for securing irrigation design and construction docu-

ments. While irrigation consultants don't expect direct input on a course design, often they can offer cost or time-saving suggestions, or identify impediments in the overall success of a golf course enterprise.

STRENGTH IN INDEPENDENCE

There are decades-old conflicts between irrigation distributors and consultants, although many consultants got their start providing in-house designs for suppliers. Distributors are limited in the brands of products they

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can specify, so in many instances the optimal product for a specific project is not designed into the plans. This results in wasted resources, system wear and tear, and/or system failures.

There tends to be stiff price competition between distributors, which leads to stretched in-house designs to lower costs, which dramatically impacts long-term performance and durability. However, irrigation distributors are realizing that when an irrigation consultant is involved in the project, more product is being specified to ensure system performance and longevity and fewer call-backs result.

Irrigation contractors, the folks responsible for putting the irrigation design in the ground, interact the closest with an irrigation consultant. Irrigation consultants want contrac-

tors with experience in the type of project being installed. A landscape project isn't the same as a sports field project which isn't the same as a golf course project. Consultants understand the value of experience that mirrors the scope and complexity of the job at hand.

Irrigation contractors must make changes in the field at installation, and shuck shortcuts that save time but affect performance. There should be minimal deviation from the construction documents, sticking to the specified materials in the design and construction documents.


Irrigation contractors also need to know how to handle the commercial construction process, including requests for information, change orders, as-builts and other procedures and documents, and their associated costs.

Most consultants want to attend pre-construction meetings and need access to the site during installation. They do a lot of field work, including numerous site visits during construction. Irrigation consultants have an obligation to the client from beginning to end. That's what makes a consultant so valuable to a project.

TICK-TOCK

All parties win when there's an irrigation consultant involved throughout the design and construction processes. Owners and architects have finished projects that look as good in the field as in their minds. Irrigation suppliers get more of their product on the site with fewer problems. Contractors install better systems that they won't have to constantly service or warranty. And superintendents will have healthy turf and plant material with minimal replacements.

And, most importantly, the client will have a durable, efficient irrigation product with few complications. **GCI**



In 2004 Wilmington CC grounds committee decided it had waited long enough and committed to move ahead with a total renovation project to bring the South Course up to current championship standards.

Regrassing during renovation

Wilmington CC uses several turf varieties on the various parts of its South Course.

by Peter Blaise



Waiting gets old. Just ask 17-year Wilmington CC superintendent Dan Pierson.

Severe turf injury occurred repeatedly at the Wilmington, Del., facility in the high-stress months of July and August during the late 1980s and early 1990s due to a pathogen that University of Maryland researcher Dr. Peter Dernoeden called the Woodmont Funk. The name arose because it was seen only at Rockville, Md.'s Woodmont CC and Wilmington CC.

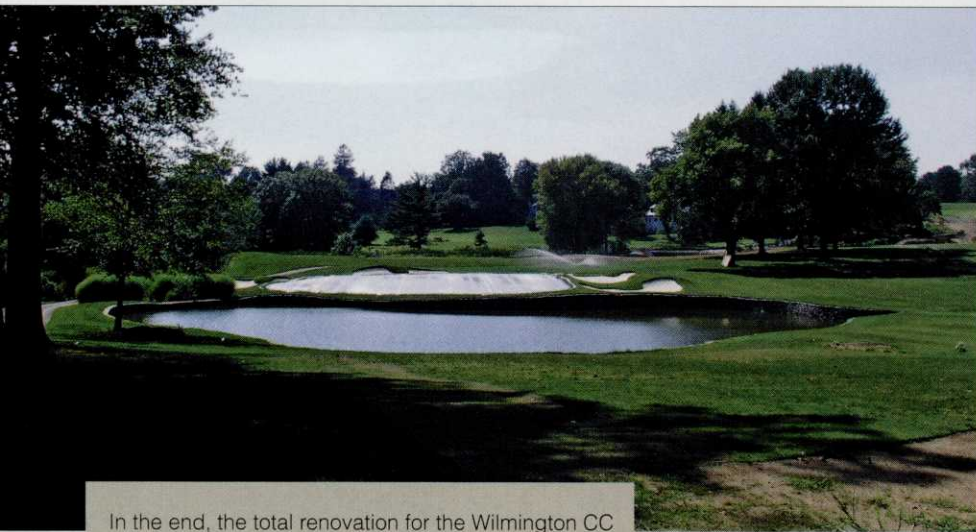
The Wilmington facility chose fall 1994 – a year after Pierson replaced renowned superintendent Paul R. Latshaw at the 36-hole facility – to start gassing and regrassing the Robert Trent Jones-designed South Course with Crenshaw bentgrass. The club originally excluded fairways from the project even though USGA agronomist Stan Zontek suggested including them since the course would be closed. The grounds committee deemed it inappropriate to take the added risk but recognized replanting the fairways would

be a distinct possibility in the future.

With the Woodmont Funk crisis averted, the club again considered replanting the fairways. A consensus developed to wait for Roundup Ready bentgrass, which seemed the next big thing. But regulatory concerns delayed approval year after year. In fact, Roundup Ready turf has yet to hit the market.

By 2004 the club decided it had waited long enough and committed to move ahead with a total renovation to bring the South Course up to current championship standards. (The second course is the 18-hole, Dick Wilson-designed North Course). The private facility hired architect Keith Foster in 2005 to develop a master plan.

In selecting grasses, Pierson called on his own replanting experiences, observations of what worked at other nearby layouts and consultations with Rutgers University turfgrass researcher Dr. James Murphy. He decided to use several Seed Research Oregon (SRO) varieties on the various parts of the South Course.



In the end, the total renovation for the Wilmington CC project cost ended up just shy of \$5 million.

First opened in 1959, the 50-year-old layout still sported push-up greens slightly modified with aggregate material that “continue to give us a few problems today because they do not hold together well,” Pierson says. But the old putting surfaces also offered some advantages. They were very large, averaging almost 9,000 sq. ft. with excellent surface drainage and expansive cupping areas that allowed the maintenance staff to effectively disperse traffic and minimize wear.

In the end regrassing of the greens was done for two reasons; eliminate *Poa* contamination that had evolved since 1994 and improve grass variety to something potentially more cold-tolerant with an earlier spring green-up.

Additionally, as young trees matured at the originally open layout, foliage became a major issue that adversely affected turf health and diminished the many beautiful views. Tree removal is a tough sell to members. It helped that Oakmont CC undertook a major tree-removal project a few years earlier that received positive reviews. “Foster recommended we remove trees to improve the vistas of a wonderful and classic part of the Brandywine Valley,” Pierson says. “We removed about 600 on an ‘as appropriate’ basis as the project proceeded.”

Foster rebuilt all the bunkers to current standards and to better fit the landscape. He also rebuilt all tees, relocating some where necessary. He added yardage, proper angles, and new tees to create a fourth set throughout. The back tees now play at 7,350 yards.

To minimize downtime, builders redid the South Course in two phases. The first was the driving range, practice area, clubhouse grounds, a couple tees and the area exiting

the 18th green. The bulk of the course work occurred in the second phase. The project took 18 months between 2006 and 2007. The South Course reopened June 18, 2008.

Pierson utilized Hendrix and Dail products, using methyl bromide to fumigate the greens. He knew the traditional fumigation material, which is being phased out for golf course use per government order, would work well.

Pierson chose Basamid to sterilize fairways. He says it may be the second-best product (after methyl bromide) to sterilize soil, but is tricky to use. The fine powder must be drop spread. Water activates the material (which must be irrigated a minimum of 1 inch immediately after application to activate the product) by turning it into a gas with the water acting as a barrier to keep it in the soil. Basamid works best on turf areas – bare soil

in no bentgrass germination in those areas, even after delaying seeding for up to three weeks. Repeat seedings were needed to fill in completely. But by the following June, the fairways were in excellent shape.

Following fumigation, Pierson settled on SRO’s Tyee as the new greens grass. According to SRO literature, Tyee creeping bentgrass reportedly performs well under temperature extremes that can be experienced in transition zone locales like Delaware. It maintains a dark, green color through the heat of summer and into the winter that provides an appealing contrast with other grasses in the fairway. It has improved resistance to brown patch and dollar spot – common transition zone problems – as well as copper spot, pythium blight and fusarium.

Like bentgrass siblings such as Penn A-1 and Penn A-4, Tyee requires extensive management for thatch control, including topdressing and verti-cutting. But the extra effort yields a superior putting surface, reduced syringing, less herbicides and reduced thatch production compared to other high-density bentgrasses.

Germination occurs in three to five days in temperate conditions and six to 10 days in colder daily temperatures. The first mowing is around 21 days and limited player use is possible in six to eight weeks.

“Tyee is reportedly, and seems to us, superior to other new varieties in terms of less bloating (meaning less scalping) and higher disease resistance,” Pierson says. “We cut our greens at 0.100 inch, weather permitting, and could likely go lower. Tyee established a little quicker than anything else we have tried. We are very optimistic it will continue to show

In the end, regrassing of the greens was done for two reasons; eliminate *Poa* contamination that had evolved since 1994 and improve grass variety to something potentially more cold-tolerant with an earlier spring green-up. — Dan Pierson, Wilmington CC

is a different animal – needing only aggressive aeration to ensure gas penetration.

When a fine-finished grade is accomplished on a fairway with any contour, aeration is still required to ensure penetration. The application of substantial amounts of water can create wash outs. Working with Basamid in these areas resulted in some *Poa annua* seeds surviving and contaminating small amounts of turf. It also seemed to concentrate the chemical in basketball-sized spots resulting

excellent heat and drought tolerance.”

SRO’s 007 creeping bentgrass was the choice for the long-awaited fairway replanting. Seed Research developed it for improved dollar spot resistance, medium bright green leaf color, no cool-weather purple coloration, and a vigorous, uniform, moderately dense growth habit. It has rapid establishment and competitive growth against *Poa annua* all year long. It adapts well for low mowing on greens or for reduced fungicide use on fairways and

tees. "It has a hardy color that contrasts well and provides definition to Tye," Pierson says. "It is aggressive like Tye but with a broader leaf. Some courses are using it on their greens. We are mowing it at 0.380 inches in the fairways, but I'm sure we could cut it even lower."

On the tees, Wilmington CC blended 007 with Quality Seeds' Shark creeping bentgrass, a Murphy recommendation, to give the tees a color similar to the fairway. Pierson introduced a SRO ryegrass blend for the courtesy cut leading from the tee box and the step cut around the edges of the fairway.

One major challenge during the replanting process was a mini drought while seeding in 2007. The dry weather kindled some brief discussions of the possibility of replanting with less-water-thirsty Bermudagrass or zoysia grass, which might be possible in a transition zone area even as far north as Delaware. But Wilmington members preferred a grass that does not go into dormancy and turn brown in the fall.

The club also maintains a Patriot Bermuda-

grass practice tee it previously overseeded with ryegrass. Over time the ryegrass diminished the Bermudagrass base and renovation was required this season. The staff big-rolled the replacement Patriot sod and will try overseeding with Riviera Bermudagrass seed to see if the club can keep the base longer.

"Bermudagrass might work here if you could get past its aesthetic shortcomings. It may get some additional consideration when we eventually replant the North Course," Pierson says. With the 007 fairways in their third full season, Pierson would prefer to topdress at a rate of five to eight tons per acre as many as eight to 10 times per year to achieve optimum turf health, firming and smoothing the playing surface and reducing thatch. Weather and an aggressive club calendar have reduced the optimum number to a more realistic five or six times per season.



The putting surfaces are aerified and topdressed as often as possible during the season by applying sand first, and then aerifying on close pacing with Soil Relievers mounted with 5/16" x 12" solid tines, followed by a PlanetAir

Turf Aerator spiking in a cross pattern. Light dragging and rolling is all that is required to return the surface to excellent playing condition almost immediately." Total renovation cost ended up being less than \$5 million.

Through negotiations with the construction contractor, Pierson accepted being general contractor. Taking on this role saved money but was time consuming. Locating, pricing, ordering, scheduling and coordinating took on new meaning as the project progressed. Suppliers delivered large quantities of materials from around the country. The logistics were oftentimes dizzying. Meantime, Pierson was responsible for the second course, other club amenities and participating in the renovation itself.

"Almost immediately, our staff was needed for a great deal of support to the contractor as well as in many facets of the renovation that we had agreed from the beginning would be our responsibility. Bottom line, my advice to others would be to let the 'general contractor' title stay with the construction contractor. It is well worth the money." GCI


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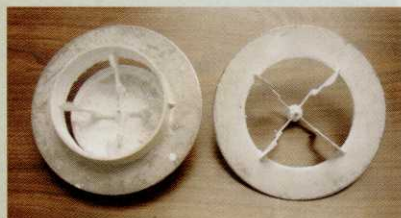


Travels With Terry

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.

SPREADER MOUNTING

A unique fertilizer spreader mounting was accomplished by Bart Miller, former superintendent at the Whiskey Creek Golf Club in Ijamsville, Md. The Lesco Commercial Plus rotary spreader, with an extended hopper, had a 1.5-inch piece of angle iron bolted to it, which was welded to a 2" x 2" female receiver hitch, which allows the spreader to be installed/removed quickly. A Valley Industries Class III receiver hitch was welded upside-down to the front of the Ventrac aerifier which was mounted on the Steiner 430 Max four-wheel-drive tractor. A new, longer on-off cable was installed that allowed the operator to open and close the granular material flow operation. The 12-volt wires from the rotary spreader motor to the battery, with quick disconnects, ran to an on-off switch on the dashboard for the operator. The spreader initially costs about \$500, the hitch and receiver was about \$300, the angle iron, bolts, etc. were in stock and the labor time was about four hours.



HOLE-IN-WHITE MODIFICATION

The modification Shannon Wheeler, East Golf Course superintendent at The Club at Admiral's Cove in Jupiter, Fla., did to the Hole-In-White template took about 30 minutes labor time and the cost was negligible because the materials were in inventory. Wheeler first traced the outline of a putting green cup on a piece of 1/8" thick steel (an old stop sign). The edges were then beveled up so that it would rest on the top of the cup once in the ground. He then drilled a hole in the middle of the piece of steel and put the set screw from the Whole-In-White "tray" through the hole and re-set the nut. The new plate on the bottom prevents any paint drops from hitting the bottom of the cup and any excess paint from caking up the edge of the cup while allowing for the same consistent paint around the exposed soil of the fresh putting green cup. Wheeler then took an old plastic practice putting green cup and cut 1" off the top. He then lined up and cut grooves half way through the new ring so that the ring would rest on the existing supports on the Hole-In-White "tray." This new ring prevents "ghosting" on the turf from the paint mist when painting the cup. This modification saves the staff from having to put a towel in the bottom of the cup to prevent drips and another towel around the outside of the "tray" to prevent "ghosting." **GCI**