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TURFGRASS CHALLENGES at Sidwell Friends School

WHEN I BECAME THE SUPERINTENDENT OF GROUNDS at the Sidwell Friends School in Washington, D.C., in April 2008, my first challenges were to improve the quality of our 2-acre, multipurpose, non-overseeded bermudagrass athletic field and to reestablish and preserve the cool-season turfgrass in well-worn common areas of the campus. In addressing these issues I wanted to integrate minimal, yet effective, use of pesticides in order to align the environmentally conscience ethos of the school with our turfgrass management strategies.

Sidwell Friends School, a Quaker private school whose students include the Obama girls, has a 15-acre, urban campus in northwest Washington, D.C. for our Upper School and a 5-acre suburban campus for our Lower School in Bethesda, MD. Our Plant Manger, Steve Sawyer, I and a crew of three groundskeepers are responsible for maintaining all turf and landscaped areas of the

campuses, including plants that range from 80-year-old boxwoods to native species perennials. The perennial plants and flowers, which are grown throughout the campuses, including on the green roof of our LEED Platinum Certified, green middle school, are a primary aspect of our sustainable landscape initiative. Our athletic fields include two natural turf fields and one synthetic turf field (a second synthetic field will be completed in September 2010).

CHALLENGES OF MULTI-PURPOSE BERMUDAGRASS FIELD

Our bermudagrass athletic field is used for baseball and softball games and practices in the spring, then boys and girl's soccer games and practices in the fall. Sidwell has varsity, junior varsity, and 7th and 8th grade teams for each of these respective sports. Additionally, the field is used for physical education classes throughout the school year.

This soil-based field had originally been Kentucky bluegrass and it remained so for decades. While searching for a better playing surface which would tolerate our high level of use, the school first sprigged the field with bermuda in the early 1990s when using bermuda in this part of the transition zone was not entirely common for high school sports fields.

Initially, the Vamont variety of bermuda had been planted but the field is now 75% Patriot hybrid bermuda after several seasons of sprigging with Patriot. We have found that Patriot offers excellent wear resistance for our level of use and a dark green color. However, in some areas of the field where drainage is inadequate, the Patriot bermuda has been susceptible to winter kill. Though turf blankets are highly recommended for winter protection of



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bermuda fields in our region, we have not yet invested in blankets for our field.

In the spring of 2008 the field was approximately 30 percent covered with annual bluegrass. The patches of dark green *Poa* growing in the light brown, dormant bermuda were highly unattractive; more importantly, our baseball coach mentioned that the clumps of *Poa* were making it difficult for players to field balls. Ground balls would often strike a clump in the infield grass and then veer off in unpredictable directions.

To immediately address the coach's concern, I applied Revolver to all the *Poa*-infested areas at a rate of 0.4 ounces per 1,000 square feet. By the end of April, a tenacious crop of tufted knotweed, which had plagued areas of this field for years, had reared its ugly head. I made three successive applications of Momentum herbicide (Triclopyr, 2, 4-D, Clopyralid), spaced just 6 days apart. Each application was made in the morning, just after the dew had evaporated from the leaves, for maximum effectiveness. With the exception of a few stragglers, which were spot-sprayed in the following weeks, the *Poa* and the knotweed were under control.

Later, in early September 2008, I applied Dimension (dithiopyr) pre-emergent control to the field at a rate of 0.25 lbs. of active ingredient per acre which targeted the *Poa* before its seeding season. In spring 2009, the field was 95% *Poa* free. Subsequently, it has remained under our action threshold for the field.

The bermuda is not actively growing for the first two thirds of the baseball and softball seasons and it goes back into dormancy during the final third of the soccer season. However, Steve and I have chosen not to overseed the bermuda because Patriot thrives without competition from perennial ryegrass. Furthermore, our not having to overseed this field with 1,000 lbs. of perennial ryegrass seed saves money for other priorities on campus and conserves water, as fall irrigation would be required with a fall over-seeding.

Because our bermudagrass field is used for baseball and softball as well as soccer, we faced a dilemma as to whether or not baseball and softball would have skinned infields beyond the grass diamonds. If we had chosen to have skinned infields, we would later need

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This March, we contracted with Community Bridge, Inc., the local provider of YardGreen grass painting systems and had the entire field painted green.

to install over 11,000 square feet of sod in the infield areas after every baseball and softball season so that soccer would not have to play on bare parcels of soil. Instead we decided that baseball and softball would play on grass infields (with cutouts for the bases, home plate areas and pitcher's mounds) rather than having to sod two fully skinned infields every fall. The baseball playing surface of dormant bermuda has received positive responses from our baseball coaches and other coaches in the Mid-Atlantic Athletic Conference (MAC) in which Sidwell's teams compete.

The few negative comments we heard about our dormant baseball field were in reference to the lack of color. Some asked, "What happened to our grass?" others inquired as to why we were "playing on dirt." Many people in Washington, D.C. are Northeasterners, who are often not familiar with bermudagrass or its habits. This March, we contracted with Community Bridge, Inc., the local provider of YardGreen grass painting systems and had the entire field painted green. We hope that green paint on the field will please the baseball spectators as well as attract the sun's heat, which may help bring the turf out of dormancy more quickly.

In June, after the spring baseball and softball seasons have ended, my crew and I cut down the pitcher's mounds, dig and remove the infield soil mix from the skinned areas (we stockpile the infield mix for re-use the following season), and install 2,500 square feet of Patriot bermudagrass sod into the cutout areas of the field. When soccer practice starts in late August, the players have a fully green surface, with no indication that the field had been configured for baseball and softball just three months earlier.

USING HYBRID BLUEGRASS IN COMMON AREAS

Around the administration building, a 19th-century manor house called Zartman House, and other common areas of campus turf, we are using Scotts Thermal Blue bluegrass. Thermal Blue is a hybrid of Kentucky and Texas bluegrass varieties, which had been developed to be more drought and disease tolerant than existing Kentucky bluegrass varieties.

Use of Kentucky bluegrass in the Washington, D.C. area has become rare over the past 25 years because it would die during droughts, whereas tall fescue could go dormant during droughts and revive with fall rains. D.C. humidity also causes dollar spot disease outbreaks in Kentucky bluegrass. Therefore, most D.C. area lawns had switched to turf-type tall fescues in the 1980s despite the risk of brown patch disease and intolerance to wear for which tall fescue is also known.

Steve Sawyer had decided 5 years ago to try overseeding the common areas of the campus with Thermal Blue bluegrass mostly because of the hybrid bluegrass's aggressive use of rhizomes to spread and fill in areas damaged due to foot traffic. Thereafter, we have found that the hybrid bluegrass has performed well under the intense pressures of constant foot traffic from students walking to class or playing Frisbee and by an annual spring graduation ceremony, which is set up on the back lawn of Zartman House,

followed by nearly 3 months of summer camps with activities taking over nearly every square foot of turf.

We overseed the turf areas that receive the most traffic in both the early spring and the early fall. We core aerate and the slit-seed the hybrid bluegrass into the soil at a shallow depth of 0.38 inches. We lightly topdress all seeded areas with an organic material, such as Leafgro, to protect the seed and to enhance the overall turf quality.

After overseeding, we try to prevent foot traffic caused by students' "cutting corners" across turf areas by installing homemade barriers using grade stakes and ropes. I bought a bundle of 1 x 2 x 36-inch oak grade stakes to use as fence posts. I drilled 0.875 inch holes at the top of the stakes through which the ropes are threaded. To improve the appearance of these rough cut stakes, I sanded them and then applied wood stain and outdoor polyurethane to the stakes.

With the stakes set approximately 10 feet apart and a light brown 0.625 inch twisted nylon & polyester rope, I barricade the turf areas to be protected. Originally I had intended to take the stakes down after the seed had germinated but I received positive feedback from others on campus about the appearance of the barriers and their positive impact on the gardens. Additionally, these barriers certainly cost less than either metal or plastic post and chain systems that I had seen on other properties.

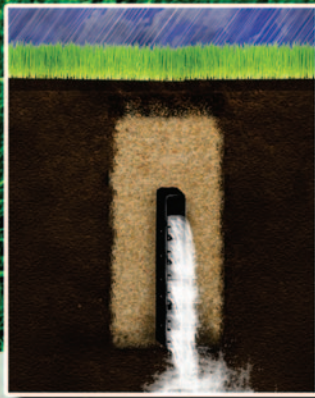
ENVIRONMENTALLY CONSCIENCE PESTICIDE USE

Our Integrated Pest Management (IPM) approach to pesticide use on the athletic fields and areas of campus turf is to try to keep pesticide use to a minimum. Because environmental concerns are prioritized at Sidwell Friends School, we have the leeway to take our chances with regards to pest infestations. Essentially, we are willing to

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tolerate a goosegrass outbreak, for example, in a turf area where students routinely congregate; therefore, we may not apply a pre-emergent control to those areas.

Conversely, we apply preemergent controls to full-sun areas of the Zartman House lawn and on the bermuda field because summer annual weeds and grasses cannot be tolerated in these areas.

Our approach to broadleaf weeds is to crowd them out with healthy, dense turf-

grass. We have implemented a vigorous overseeding and topdressing program for the fall and early spring (spring over-seeding is done only in high traffic of shady areas). Because white clover, for example, is partially a result of inadequate soil nutrient levels, we focus our topdressing efforts on these areas as part of our approach to eliminating the clover. With the exception of high profile areas, such as areas near sidewalks, we usually let winter annual weeds

die on their own with the help of mowing and higher temperatures which come in mid-spring.

Higher bluegrass mowing heights of 2.125-2.25 inches in the spring and fall and up to 2.5 inches through the summer for the hybrid bluegrass have also been a critical factor in keeping weeds out of our turf. We have some densely shaded areas in which fine fescues are growing and these areas do best if they are *never* mowed. Sharpening our mowing blades weekly helps with preventing turfgrass diseases from spreading which is important because fungicides are never used on our campus due to concerns regarding inhalation hazards.

After overseeding, we try to prevent foot traffic caused by students' "cutting corners" across turf areas by installing homemade barriers using grade stakes and ropes.

When we do make pesticide applications, we do so in the early morning hours before students and faculty arrive, or on weekends. We use Lesco's Eliminate for broadleaf weed control because it has noticeably less odor; thereby, the application brings less attention and causes less worry to others on campus. Once we have decided what level of pest infestation is tolerable, our IPM approach has made our jobs easier while also availing us the environmental and economic benefits of using less pesticides on our campuses. ■

William T. Patton, Jr., is superintendent of grounds at the Sidwell Friends School in Washington, DC.



JOHN MASCARO'S PHOTO QUIZ

John Mascaro is President of Turf-Tec International

Can you identify this sports turf problem?

Problem: Cracks in field

Turfgrass Area: Soccer stadium

Location: Denver, CO

Grass Variety: Kentucky bluegrass

Answer to John Mascaro's Photo Quiz on Page 31

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Better fields in spring come from work in the fall

Editor's note: Some readers no doubt have had a rough spring due to the rough winter. This article points out some things you can do this fall to make next spring easier no matter the weather.

ATHLETIC GROUNDS PERSONNEL across the nation know how important post-season field maintenance is to survive and get a jump on the next season. In the Northeast we experienced a winter season that most have not seen. Mother Nature dealt us not only one Nor'easter but three, one in December followed by two only days apart in February. Since spring sports start the first week of March, we were looking at more than 30 inches of snow on the grounds with multiple piles and drifts throughout.

We questioned when the fields would come around to get the athletes out—would the fields not only be safe but would they hold up due to the extreme amount of moisture they were holding? During the February storms we knew that the ground was insulated well and ironically the frost level was minimal at most since once the plow trucks left the hard surfaces they became swamp



As the natural fields began to melt out we found that all of our post-season fall work on the infields, aerations of the natural turf and all the goalmouth repairs had survived the winter season well.



buggies at best. The last week of February warmed during the day to above freezing and of course the synthetic turf fields started to show through with the exception of where the snow drifts had formed. Ironically we found ourselves considering whether to plow them or not (we have always stuck to our guns in not plowing them due to the damages that can occur).

As the natural fields began to melt out we found that all of our post-season fall work on

the infields, aerations of the natural turf and all the goalmouth repairs had survived the winter season well. Now the waiting game was on waiting for the fields to dry. Surprisingly, within 3 days of the snow melting the fields started to come around to where we could aid in the drying process. Our most prominent tool (a new Smithco battery-powered infield groomer) had yet been on any fields since we bought it in December and never had the chance to test it.

Using the center bar tines to scarify the infield and making small adjustments to any grading issues we were able to open 15 baseball/softball fields in the first week of the season. Some may say this is luck, some may say so what, but the bottom line is learning that the post-season, fall field preparation is probably the most valuable thing we can do. Put the fields to bed at the end of the season in a condition that is better than when the season starts is the most valuable thing one can do.

We accomplish this in many different ways. We limit the outside users on the number of events that a field can withstand, we have changed our season ending dates for outside users to work our schedule (the season ending date on the middle school fields is 3-4 weeks before the high schools) this allows us to work the fields, rebuild the mounds and plate areas, correct any major lip area although by teaching the outside users this is minimal, add material where needed, topdress the fields, aerate and heavi-

ly seed as well as apply a late fall fertilizer.

We identify any/all fencing repairs, scoreboard issues, benches, bleachers and pathway repairs that we can do during the slower winter months with or without snowfall. By staggering the dates we shut fields down we allow the outside users to schedule accordingly, allowing them the most time our fields will support. Having all baseball and softball fields to bed by Thanksgiving is always our goal and then we concentrate on the multipurpose fields with a deadline of December 7.

We have learned over the years that the more we work with our users, from the Pee Wee leagues to the Senior Adult leagues and all those in between, whether outside permitted user or our own athletic teams, in how to care, manage and make daily repairs allows our end of season bedding of the fields much more manageable and the cost is minimal compared to total renovations. With budgets being cut we have already placed ourselves in a position to hopefully survive the cuts and

restrictions that are still to come.

Do yourself a favor, talk to users, listen to their concerns and make a willing effort to work with them. Many of them have resources available that we may not know about, many are willing to spend time working for a common goal; many can raise funds that the school district cannot match by increasing taxes. Funny how residents will scream, kick and fight over raising taxes but will turn around and hand over money to children when they come knocking on the door or hold fund raisers to support a good cause.

I guess my grandmother was right when she said \$1 was too much to spend but when sold for 99¢ you made a killing. Give up your penny to earn a dollar, you may find yourself on the winning end. ■

Jim Cornelius, CSFM is buildings and grounds supervisor for the West Chester (PA) School District and serves on the STMA's Editorial Committee.



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New type of perennial ryegrass good in traffic

A S A SPORTS TURF MANAGER you are looking for ways to make sure your grassed areas are evenly covered. Under heavy wear this can pose a serious challenge with bare spots developing in highly used areas.

Researchers are watching for varieties that help alleviate this problem. One grass caught the eye of one such researcher in Virginia about 10 years ago.

Dr. Joseph Wipff noticed a particular grass in plots where varieties were being tested for wear tolerance. A 2,000-pound wear machine was repeatedly pulled by a tractor across the plots. What really caught his eye

was a grass growing at the ends of the rows where the tractor and machine turned around. The area with the heaviest traffic was covered with a fast growing grass. Further investigation showed that this grass was producing pseudo-stolons and regenerating faster than other perennial ryegrasses. These pseudo-stolons are sometimes called runners. They are growth shoots

emerging from the auxiliary buds at the base of each plant. These pseudo-stolons then root down and produce a daughter plant, a trait not usually observed in perennial ryegrass.

Wipff isolated this new type of perennial ryegrass and sent seed to Oregon for further testing. Christiaan Arends, turf product manager for Barenbrug USA reports, "We tested this seed at our research farm, and the plantings were each 3 feet wide within a year. That is unusual for a perennial ryegrass; the others in the plot measured less than 1/3 that size. At this point we knew we had an unusual plant."

More testing has been done at various locations around the country. Pam Sherratt, sports turf extension specialist at The Ohio State University, observed what is now called regenerating perennial ryegrass (RPR) in their research plots. She says, "The grass is very wear tolerant. Like other ryegrasses, it germinates very quickly."

Sod growers have also done some testing on these new grasses. Zach Kuenzi, Kuenzi Turf & Nursery, Salem, OR planted 3 acres last May 1. They seeded at the rate of 150 pounds per acre. They fertilized with 16-16-16 at 300 pounds per acre at seeding. The majority of the seed germinated within 7 days. The 3 acres were fertilized on June 17 and July 23 at the rate of 250 pounds per acre each time with 20-0-0 urea. Kuenzi reports, "The plot established very quickly, filled in fast. It has great texture, color and is very full. It was full enough this fall that we could have harvested it if we had wanted to. It was a full month ahead of other grasses planted around the same time." He also reported that the grass came through the winter in great shape.

A stoloniferous perennial ryegrass was just the ticket for Bill Gallagher in Rhode Island. Gallagher is the property director at the Ocean State Soccer School in North Kingston. It is a volunteer position as are all positions at this 10-acre facility. When Gallagher took over about 6 years ago his only experience with turfgrass was his home lawn. He relied on his local seed salesman and reading excerpts from *SportsTurf* to help him learn about maintaining a soccer field. In terms of the number of participants, Ocean State is the largest soccer program in Rhode Island. When they added the second five acres to their facility 5 years ago and expanded their competition team program, Gallagher had all sorts of challenges. His seed salesman told him about some testing a seed company was doing with a new stoloniferous grass and encouraged Gallagher to try some in a few heavy use areas. He picked the toughest test: the goal mouths showing the most wear.

Gallagher says, "It came up so quick and kept spreading so well, I had no more problems around the goals." When the time came last fall when his fields were showing wear and he needed to overseed, he again turned to his seed supplier for help. His rep, Howard Allen at Allen's Seed Store in Exeter, recommended a mixture including 30% of the soon to be introduced RPR ryegrass. Gallagher says, "We needed something quick and durable. Since I had the experience a couple of years ago and Howard had always been most helpful, I went with his recommendation. The grass came up looking great and was filling in beautifully when the season closed down. We were all very pleased.

Allen reports, "We have tried this new seed on numerous soccer fields, especially at the goal mouths and every one of them reports