because it is better. It would be hard to sell a field if a company said the reason they sew and hot melt is because it is cheap, the lines will be crooked, your in-lays/seams will be elevated, and it will all be held together with roofing tar.

Telling the customer that sewing and hot melting is stronger has a better ring to it. Using sheep shears to accurately put in field markings is like using a chainsaw to accurately cut crown molding. Sheep shears should be used on sheep, carpet knives should be used on carpet. Roofing tar should be used on roofs; synthetic turf adhesive should be used on synthetic turf.

ST: What do you think installers do incorrectly most often?

Fowler: Measure incorrectly and use installation processes which adversely affect field symmetry.

ST: What aspect gives you the most trouble as installer?

Fowler: Without a doubt dealing with

engineers. It seems like every project we go to there is always a new engineer on site who has done a couple of fields but somehow has all the answers. Schools have much better luck when they do design build projects. It saves money and leaves the fields in the hands of the people who build them everyday.

ST: How important is the adhesive choice and installation? I've heard that's a typical problem.

Fowler: This is very important. Twocomponent adhesives are recommended for strength and durability. In the early days turf companies would use whatever inexpensive glue they could get their hands on to install their fields. This caused seam failures and gave gluing a bad reputation. The gluing procedure was not the problem. The improper adhesive products were the problem.

ST: Have you used anything but crumb rubber as infill?

Fowler: We have installed fields with

recycled rubber, EPDM rubber, sand, coated sand, and various organic infills.

ST: What about the new organic infill? What do you think is the best infill material or is that not a concern of installer?

Fowler: Rubber is the best infill. When these fields first started everyone said how great they were for the environment by recycling tires and building new sports facilities. Ten years later everyone is concerned that their kids are playing on old ground up tires and the effects from the dust particles. There are more airborne rubber dust particles on every road in America than there are on any synthetic turf athletic field. EPDM rubber is considered cleaner and safer but it comes at a much higher price.

Justin Fowler is president of Sports Turf Direct, which supplies seaming materials (including STA-1000) and installs athletic fields for most major turf companies as well as lower cost private field projects.



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Tips for painting synthetic turf fields

TECHNIQUES for painting synthetic turf fields are very similar to painting natural grass but there are a few important points to always keep in mind. By using the following four rules, application and removal of synthetic turf paint will be much easier:

1. Groom the field

It is important that you groom your field and remove excess debris before painting. This includes removing any remaining old paint. This will provide the new paint with the best surface so it can properly adhere to the turf blades. Grooming makes the individual fibers stand tall. This allows the entire blade to be painted. If the blades are matted down, only one side will be painted and it will affect the "pop" the paint gives spectators.

2. Avoid painting the field when it is wet

It is important that the surface of your field has had the opportunity to properly air out after a morning dew or rain storm. If necessary, dry the field with a backpack blower or fans. Wet artificial turf poses a problem because it will not allow the paint to properly cure. The bond between the paint and the blade will be weak and will not hold up well to game day use. The optimum condition for painting synthetic turf is warm and dry.

3. Paint infill systems with an airless sprayer

The goal of painting synthetic turf systems is to use as little paint as necessary and to keep the paint out of any infill material. Airless machines set below 1100 psi atomize the paint at the tip, allowing the striper to paint the fibers rather than the infill. Low pressure machines tend to spray a stream of paint that can run down the blades and get into the sand or rubber. CO2 machines should be avoided as the gas can react with some paints designed for synthetic turf and ruin the paint.

4. If possible, do not dilute the paint

If the paint is too thin, it will run down the fibers. The result will be a weak line. Diluted paint will also likely color your infill material, leaving "ghosting," even after you have removed all of the paint from the blades.

Doug Schattinger is president & CEO of Pioneer Athletics, www.pioneer athletics.com.



John Mascaro's Photo Quiz

>> Answer: from page 17

These off-colored half moon areas appeared just off the 20-vard line on this high school stadium field the day after a game. It also appeared as well on several other areas around the field. The first time they showed up the grounds crew had to do some detective work to figure out what caused these marks. As it turns out, some majorettes for this high school band decided to add some additional flare to their halftime show by adding a flaming jump rope to their routine. Luckily, the damage in the pictures was mainly superficial. The flaming jump ropes singed the Bermuda pretty good and burned the ryegrass leaf tips. The grounds crew reoverseeded the areas and they grew out in about 2 weeks. Also, there were two areas where they had also set buckets with lighter fluid in them for the show. The buckets also killed the Bermudagrass in two perfect circles. In those areas, the rootzone was flushed with water and re-overseeded. Since this stadium shares the field with youth, junior varsity as well as high school sports, the Sports Turf Manager requested that they eliminate all fire from halftime shows but they occasionally sneak it in. At least the fields are natural grass!

Photo submitted by David Presnell, Landscape & Turf Technician for Gainesville City Schools and Bobby Gruhn Field in Gainesville, GA.

If you would like to submit a photograph for John Mascaro's Photo Quiz please send it to John Mascaro, 1471 Capital Circle NW, Ste # 13, Tallahassee, FL

32303 call (850) 580-4026 or email to john@turf-tec.com. If your photograph is selected, you will receive full credit. All photos submitted will become property of *SportsTurf* magazine and the Sports Turf Managers Association.

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Facility&Operations

Diamond Nation complex all synthetic



PANNING 65 ACRES, the Diamond Nation complex in Flemington, NJ consists of six new A-Turf synthetic fields, creating the largest baseball and softball complex on the East Coast, according to synthetic surface provider A-Turf.

Four fields are 90 feet and two are 60 or 70-feet fields. Each of the larger fields is designed so that they can be converted into two Little League-sized fields, each with its own backstop, dugout and bullpens. This feature gives the complex the ability to host up to 12 games simultaneously and the versatility to have both baseball and softball games.

Diamond Nation will play home to the Jack Cust Baseball Academy, as well as the new Jennie Finch Softball Academy. Cust, the Oakland Athletics designated hitter, is from Flemington; he, along with his two brothers and father have operated one of the largest youth baseball facilities on the East Coast since 1997. Diamond Nation is across the street from the original facility, which features three AstroTurf fields along with indoor batting cages and a health and fitness center. In the winter, a dome is put over all three fields. The entire academy and complex is now more than 700,000 square feet and attracts some of the most talented teams and players in both youth and college and high school showcase tournaments.

"Diamond Nation is the start of a new era of baseball. Serious athletes looking to take their game to the next level now have a state-of-the-art facility, delivering a playing experience like no other," said Cust. From the new A-Turf fields to the indoor training facility, Diamond Nation will cater to competitive tournaments for athletes of all ages, as well as offering one-on-one training with top coaches and instructors.

Installation took place (and continued) during one of the wettest springs and summers for New Jersey. The project included more than 80 trucks worth of material, making pre-planning for shipping and staging crucial to a successful outcome.

Each A-Turf field is engineered specifically for the unique demands of baseball and softball and are designed with a slight reduction in fiber pile height and a modest increase in the weight of sand in the rubber and sand infill to match the ball roll and bounce of natural grass, says the company.

"Having a hand in creating a truly unique baseball and softball experience is what A-Turf is all about," said Jim Dobmeier, A-Turf



founder and president. "As a baseball player, a coach, and most importantly as the company behind the Diamond Nation fields, my days are spent raising the level of play and giving athletes the opportunity to succeed.

"We are definitely seeing growth in the number of synthetic baseball and softball fields being installed," Dobmeier said. "Traditionally, the athletic field business has been oriented more toward oval or rectangular-type fields for football, soccer, lacrosse and field hockey. But over the years, we have seen an increase in demand for synthetic grass fields for baseball or softball. In some cases, the design is for a larger, multi-sport field, which includes baseball or softball. In other cases, we are building stand-alone fields, specifically designed for that sport.



<image>

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Facility&Operations By Murray Cook

Baseball World Cup in Europe challenges US turf managers

IN SEPTEMBER Europe hosted the 2009 Baseball World Cup. Twenty teams traveled to seven countries to compete in 22 stadiums and the finals were played outside of Rome. To say the tournament was a success is an understatement, but the logistics of managing the fields, teams, equipment etc., was intensely challenging.

The magnitude of this event was daunting but at the same time no athlete was injured from poor field conditions (not to mention Team USA brought home the Gold Medal!). Each field required specific improvements and upgrades before and during the events. In the summer of 2008 I made the first round of venue evaluations for this tournament that created controversy among the federations. Some initial sites were removed and new sites added. It was important to set the field of play standards high for this tournament due to the fact MLB level players would be participating.

The primary objective was to provide a safe playing field for the athlete. To ensure safety Chad Olsen and I assembled a group of US sports turf managers to assist with the renovations and game day operations. The logistics to transport the turf management team between Sweden, Germany, Croatia, Spain, Italy, Holland and Czech Republic was challenging to say the least. To reflect on the event we asked each of the sports turf managers that had a part in the renovations a few questions related to the overall experience. We held several phone conferences and shared reports of each venue to ensure each individual had the best knowledge related to the conditions of the playing field they were headed to. Their answers provide a compelling story as it relates to sports field maintenance.

What did you learn from your experience working in another country?

Rick Newville, sportsturf manager for the Amateur Softball Association, Oklahoma City: From all my experiences of working in other countries (Greece, Cuba, Italy), I have learned to appreciate the luxuries of the equipment we use here in the USA. Forget about the high dollar power equipment most of us use. Many venues I have had the pleasure to provide assistance lack the basic hand tools that we take for granted: shovels, rakes, string lines, etc. I have seen many crews who lack an edger, use garden hoes around the entire skin and warning tracks to edge the field. Once a crew in Athens actually used pocket knives to edge the field until a power edger finally arrived.

Tom Nielsen, director of sportsturf

Some common hand tools and products that we can [easily] purchase are not available so you have to adjust your way of doing things and even learn from the local groundskeepers.

operations, Louisville Bats: I learned from my experience in Rotterdam that I really have it good in Louisville. For example, when I need a piece of equipment, I can order it or rent it and have it delivered to the stadium. Also, I learned that the Rotterdam city employees face the same challenges as city employees in the US. They are not able to key on one field because they have 150 fields [to manage].

Jeff Nancarrow, sports turf manager, Daytona Beach Cubs: I did three stops in Italy: Parma, Reggio-Emilia and Bologna. At each venue, the people were very accommodating and helpful, but they just did not grasp the magnitude of the event. It seemed they were treating the task at hand as just another local event. From a learning standpoint, I learned to be more assertive in accomplishing what needed to be done.

Dennis Klein, turf manager, Texas Rangers: Working in another country is always a challenge with the language barrier. This was one of many times that I have assisted the Brickman sportsturf team, but the first time to be at a venue by myself. It was more difficult in Croatia to communicate because not as many people speak English as they do in other countries

Eric Ogden, turf manager, Daytona Beach Cubs: Learning to think on my feet and to adapt to the tools and techniques would have been the major lesson learned. Being able to make tools when needed or just using the tools they have to make things work. That was a lesson I will take with me throughout the duration of my career.

Joseph Skrabak, sports turf manager, Staten Island Yankees: Baseball in Spain/Italy is heavily influenced by local politics. Having the crews and managers focus on field safety and playability was my most difficult task.

Kevin Moses, sports turf manager, Camden River Sharks: We should be thankful for the industry and resources we have in the United States. Working overseas you have to think outside of the box at times to get things done. Some common hand tools and products that we can drive down the street and purchase are not available so you have to adjust your own way of doing things and even learn from the local groundskeepers.

Budgie Clark, former sportsturf manager, Washington Nationals: Get a lot of sleep. You are a one-man show when it comes to field maintenance. Communication is a factor as well. The concept of field maintenance is very limited.

Brandon Putman, sports turf manager, York (PA) Revolution: I learned that it would benefit most to search for available tools and equipment before engaging in difficult projects because what is available will determine what can be accomplished. Determining resources before the event would also be helpful.

What was the most challenging thing(s) you had to deal with? How did you overcome them?

Newville: I think the most challenging thing is the language barrier. It always helps to have a good interpreter, but many times there isn't one available. Sometimes you have to be a pretty good mime to get your point across.

Skrabak: Moving tons of material from off the field to the areas

where they were needed. I made quick friends with the construction supervisor to bring needed material with a loader when it was possible. Working without good hand tools. Just make do with what you have.

Nielsen: The most challenging thing I had to deal with was adapting to the equipment. They did not have the same tools that I am used to using. Also, the equipment is not as accessible as it is here in the US.

Klein: The most challenging thing was the lack of clay in the infield skin mix. It was a sandy soil that was very difficult to keep wet and together. The field condition was very good. All the teams were shocked that Croatia had such a place.

Ogden: The most challenging thing by far that would standout mostly for me would have to be the language barrier. Being able to establish main words to get the task at hand accomplished made the job easier as each day passed. With time overcoming that makes such an event as this, become as successful as it was.

Nancarrow: Language barriers. Translators were available at each place, but not on a consistent basis. Each place was operating on volunteers, so English speaking people came and went depending on their own schedules. Luckily, the Italian language is somewhat similar to the Spanish language. I have a good "work" vocabulary in Spanish. I was just able to get my points across using a combination of Spanish, English and Italian.

Moses: The biggest obstacle, which relates to all of the fields, was the infield skin. The red infield material that is used did not compact very well and needed to be completely hydrated in order to hold together. If it dried out the skin became way too loose which resulted in large divots. Most irrigation systems I encountered had a 360 rotor behind the mound that covered the infield grass and skin and that was their usual means of watering the skin. It was a challenge to get across the importance of watering the infield and to get the local groundskeepers to get the hose out and spend the time watering the skin multiple times a day, even in the pre-game routine. The language barrier was also a big obstacle as a lot of the times the interpreter was not around very much and I had to communicate with the local groundskeeper with neither of us speaking the same language. Using the little bit of English and Italian we had both learned or picked up and by pointing and making hand gestures we managed to get the job done.

Clark: Not having the proper equipment and supplies to work on the field. No way to overcome the problem. Use what is available.

Putman: The most challenging aspect was the volunteer staff. A lot of the Italian staff had normal work schedules that were priority for them, which is understandable. I was able to figure out the times they could be at the field and planned tasks accordingly. However, there were times when I was by myself working on the field.

What was your opinion of the field condition at the venue you worked on? Before and after?

Newville: The overall field condition before my arrival was very poor. It was still in poor condition when I left the venue. I am sure it was in much better condition by the time a game was played at that venue. I only spent 2 days at each venue, and really only had time to address the mound, plate, and bullpen areas. These areas were drastical-

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ly better upon my departure. During my stay, I also addressed other safety issues at each venue with the grounds personnel. They assured me the issues would be resolved by the time a game was played.

Skrabak: Give field c minus. Not much difference before and after. The natural turf would not take many games.

Nielsen: When I arrived in Rotterdam, I was surprised at how good of shape the field was in. When I left, I felt like I had made some good changes on the field. I think that the people maintaining the field learned some useful tips from me that will be implemented in maintaining the field and should raise the quality of the playing surface.

Klein: I do feel that all of the countries I have been to over the years could use training on field maintenance. The people are very eager and take great pride in their complexes.

Ogden: The venue itself showed great potential upon arrival. Major details were taken care of but it was the absences of the "little things" that groundskeepers at our level take pride in. Teaching the local grounds



crews those aspects of a field is what really brought such great response to those who saw the field before.

Nancarrow: I will choose Bologna, as I was there the longest. Turf was terribly poor, 95% crabgrass. I actually like the infield material they use. It can take a lot of weather and be playable with a little effort. Mounds and plate obviously lacked the clay we use in the states. The "Reggio" clay provided a better surface, but it was terribly difficult to work with. Almost like concrete in a dry form. Very sticky when moistened.

Moses: In Regensburg, Germany, at Armin-Wolf Arena the playing field was in very good condition. They had done a lot of renovation work before hosting the World Cup and it really showed. The main work was in rebuilding the bullpens and adjusting the slope on the game mound. With a proper turf maintenance program the field can really improve (topdressing to help smooth the outfield and stop the infield from bowing out, weed control, overseeding, etc). Hosting the World Cup definitely improved the playing surface and hopefully they will continue to build on the knowledge and experience they learned to continually improve the facility.

Clark: The fields would not have been playable if we were not able to be part of the World Cup Tournament.

Putman: In Florence, the biggest issue was the clay areas and turf. Even though the rain held off while I was there, the mounds were left uncovered during the rain before my arrival. All the clay areas had to be rebuilt. The mound clay used had high silt content, which makes it tacky and difficult to work with. The turf was unlevel with some deep low spots that I had to fill with infield material. They did not have a mower

onsite, so for the first game with USA the turf was 3 inches long. The next day we were able to get it cut with a contracted service.

Would you do it again if asked and if so what would you do to make it a better experience for you and the field you worked on?

Newville: I would definitely do it again as it was a very valuable experience for me. I not only enjoyed working with each field crew in preparing their fields, but educating them on proper maintenance. Each crew was very appreciative of us being there to assist them.

Skrabak: Undecided, but probably yes. I'm 61 next year. Bring or ship hand tools and have all transportation issues worked out before-hand. Turf always taken care of by municipality or contract, have no control over mowing. Took 8 hours to mow field in Chieti.

Nielsen: Yes, I would absolutely do it again. Next time, I would try to bring more of my own hand tools. It would have been nice to have one day, maybe the day before returning to the US to have time to do a little sightseeing. A standardized groundskeeping manual with photos of fields, mowing patterns, equipment and instruction in the language of each particular country would be enormously helpful. I brought my own manual that I have created and made copies for the field workers in Rotterdam.

Klein: I always enjoy working with Murray and Chad. The projects are always well thought out and organized. It truly makes me thankful for what I have at my stadium after I go on these types of jobs.

Ogden: I would return in a heartbeat to work internationally. The one thing that would make the renovation of these fields easier would be implementing the tools we use here in the states to the fields we work on abroad. A simple gift package of the necessities would turn those fields into venues people ache to play on.

Nancarrow: I would absolutely do it again. For a better experience, I would ensure that materials and products were on hand prior to my arrival. At all 3 venues, we lost at least a day due to lack of product. The first two didn't have clay on hand. The last one had clay, but no pitching rubbers or home plates.

Moses: Yes, I would do it again and I would try to incorporate more of a teaching aspect into the experience. With the limited time we had on the fields and with the communication barrier it was sometimes difficult to get the reasons behind what I was doing across to the local crews. I would also bring some tools with me such as a square 8x8 tamp and a 3 foot steel rake to make the job a lot easier.

Clark: Yes, I would love to be more involved with international baseball and to be able to take their field maintenance to a higher level with the proper equipment and supplies to work on the field.

Putman: Of course, I love the international work. I feel that a document in the local language that outlined procedures and necessary equipment, tools and materials would lessen confusion. It would also give us a basis on how to identify items in the native language, i.e. how to say rake in Italian. If the document were sent ahead of arrival, it would give the administrators of that facility time to acquire the necessary items for the tournament.

FIELD OF THE YEAR



THE SPORTS TURF MANAGERS ASSOCIATION (STMA) has honored Oregon's Pape Field with its prestigious Field of the Year Award for the university and college soccer division. Built in 1998 in conjunction with the Ed Moshofsky Sports Complex, Pape Field stands out as one of the nation's finest collegiate soccer venues and is home to the University of Oregon women's' soccer and lacrosse programs.

The 81,000-square-foot field sits adjacent to three football practice fields that encompass a total of 265,000 square feet, with the entire area also used by other varsity teams during off-season conditioning. Underneath the turf, the underlying drainage system is equally stateof-the art, with a herringbone design and lateral piping every 15 feet, atop a sand base that facilitates quick drainage. The root zone is 12 inches of modified USGA blend sand from the Columbia River Basin, and lies over a 4-inch gravel blanket. This system, when first installed, had a percolation rate of 14 inches per hour. A fully automatic RainBird irrigation unit is also permanently in place, and its 64 heads provide a 1/4 inch of water in 45 minutes.

Pape Field is maintained by Oregon grounds manager Eric Fasbender and his staff, who's work on the Kilkenny Practice Field previously won the 2007 Field of the Year Award for football. [Editor's note: Fasbender has since left Eugene and now is at LSU.] "I am tremendously honored to have Pape' Field recognized in this manner," Fasbender said. "This award is a testament to our staff and the hard work that they put in behind the scenes. Whether the sun is shining or the rain is falling, they are out there to make our athletic fields are the best in the country. I have always dreamed of winning a Field of the Year Award, and now we have two of them!"

FIELD OF THE YEAR

Pape Field annual maintenance plan

January

Equipment maintenance/repair Remove growth blankets mid-month Mow at 1 ¼" as needed

February

Paint lacrosse weekly Mow at 1 ¼" as needed Sweep field as needed

March

Fertilize bi-weekly w/ STS 1000 and ammonium nitrate plus calcium at ½ lb. N/1000 Poa annua control spray application Paint lacrosse weekly Mow at 1 ¼" as needed Sweep field as needed Seed goal areas weekly

April

Fertilize bi-weekly w/ STS 1000 and potassium nitrate plus calcium at ½ lb. N/1000 Paint lacrosse weekly Paint soccer weekly Mow at 1 ¼" 3x/week Sweep field as needed Seed goal areas weekly

May

Fertilize bi-weekly w/ STS 1000 plus calcium at ½ lb. N/1000 Poa annua control spray application Paint lacrosse 1st week of month Paint soccer 1st week of month Aerate, overseeed and topdress mid-month Fertilize with Rx Gold after overseeding for establishment and growth Mow at 1 ¼" 3x/week

June

Fertilize bi-weekly w/ STS 1000 plus calcium at $\frac{1}{2}$ lb. N/1000 Paint football last week of month Mow at 1 $\frac{1}{2}$ daily

July

Fertilize bi-weekly w/ STS 1000 plus calcium at ¼ lb. N/1000 Paint lacrosse first week of month Paint soccer second week of month Aerate and topdress late in month Fertilize with Rx Gold after aeration and topdressing for turf recovery and growth Mow at 1 ¼" daily

August

Fertilize bi-weekly w/ STS 1000 and potassium nitrate plus calcium at ¼ lb. N/1000 Paint soccer weekly Mow at 1 ¼" daily Seed goal areas weekly

September

Fertilize bi-weekly w/ STS 1000 plus calcium at ½ lb. N/1000 Paint soccer weekly Poa annua control spray application Aerate and topdress mid-month Fertilize with Rx Gold after aeration and topdressing for recovery and growth Mow at 1 ¼" daily Seed goal areas weekly

October

Fertilize bi-weekly w/ STS 1000 and potassium nitrate plus calcium at ½ lb. N/1000 Paint soccer weekly Aerate and topdress mid-month Fertilize with Rx Gold after aeration and topdresssing for recovery and growth Mow at 1 ¹/₄ ³ 3x/week Sweep field as needed Seed goal areas weekly

November

Fertilize bi-weekly w/ STS 1000 and potassium nitrate plus calcium at ½ lb. N/1000 Poa annua control spray application Paint soccer weekly until mid-month Aerate, overseeed and topdress mid-month Fertilize with Rx Gold after overseeding for sees establishment and growth Cover field with growth blankets Mow at 1 ¼" as needed Sweep field as needed

December

Equipment maintenance Monitor seed germination and establishment

Steve DiNatale and Kenny Hoffman also were honored for the second consecutive year as Oregon's assistant groundskeepers. Jason Anderson was the grounds intern for the year.

The STMA Field of the Year Award program began in 1992 and there are five field types for which awards may be given: Baseball, Football, Soccer, Softball and Sporting Grounds (Lacrosse, Rugby, Field Hockey and Tennis). For each field type, awards may be given in three categories: Professional, College and University, and Schools and Parks. This year there were a total of just 10 awards presented.

"I have always thought that Pape Field was one of the best in the nation," said Oregon soccer head coach Tara Erickson. "It's nice to have that validated by this award and is a testament to our fantastic grounds crew. My greatest compliment about Pape Field is that I never have to worry about it and how the surface could affect my team or the game. I know it is going to be perfect for us every single day."

From the award entry: "Since installing Kentucky bluegrass on our grass fields on campus, we have had great success with our turf, but we continue to strive to get better and push the envelope when it comes to innovative ideas and practices. In January 2008 we took on a new challenge, in addition that we face regularly like overseeding, Poa annua control, and battling the weather. Our new challenge was to become a "green operation" and work to be "sustainable" in our maintenance practices. This goal has been one of the most difficult to achieve, especially given the timetable to execute the plan, but it has also been the most rewarding.

"We began this quest by examining our fertilizer program and looked for ways to reduce inputs and maximize efficiencies with our products. Our old program consisted of all granular, slow-release applications that would be applied every 3-4 weeks. We wanted to know how efficient this program was, so we began to take soil and tissue tests monthly to see how the nutrients that we applied were being taken up by the plants. The results showed that many of the nutrients were leaching out or were being tied up in the profile and were not available to the plants. We knew that our old program was successful in growing outstanding turf that was durable and recovered well from wear, but it was not 'green'.

"With our soil and tissue samples in hand we began to research different products and programs that could meet our needs. We wanted to improve our efficiencies but not lose any of the performance we had come to expect from Pape Field. After all, it played host to not only games and practices for women's soccer, but also served as the competitive and practice field for women's lacrosse as well as being home for Oregon football, soccer, and lacrosse camps in the summer. Our search ended with a combination of soluble and liquid fertilizers to be applied bi-weekly that would be available to the plant immediately and remained soluble in the profile so the plant could access the nutrients.

"In addition to the change in product we also began to research adding microbial populations that could help mine the nutrients that were present, but not available to the plant. Early (2008) fall we added a large population of microbes to help reduce thatch and free up nutrients that were locked in our soil. Thus far, the results have been successful and we look forward to seeing what the future brings.

"Changing something that was proven effective took a leap of faith, but the change has taken Pape Field to the next level with playability, wear resistance, turf recovery and overall turf health, while allowing us to become better stewards of the environment by maximizing use of fertilizers. We will continue to push the envelope with innovative thinking and outstanding actions."