

from crushed stone may have the angular sand particles needed, but the fines may not act like true silt and clay particles. Also, mixes with good clay content may contain highly expansive clay particles that can wreak havoc during fluctuations from wet to dry and vice versa.

Now that I know where my infield mix is, can I adjust my maintenance regimen to compensate? If your biggest complaint is a loose field, then most likely your particle size analysis shows that you are low on clay content. Instead of immediately adding clay content, you could first try increasing your watering and rolling regimen.

If your complaint is a field that is too hard, and the analysis shows high clay content, then you could increase watering and nail dragging. Depending on your region and your silt content, increased watering may work against you, so make sure you don't experiment during a critical time of year. If nail dragging does not help, then try a different type of nail with greater weight added on top of the drag.

If changing your maintenance regimen does not provide sustained results, try amending your infield with sand, clay, or an infield amendment. Take great caution when adding sand or clay content. As mentioned before, sand should have a variety of particle sizes from fine to coarse. Too fine of sand may not have the desired results. The same goes for too coarse of sand. When adding clay content, it is inevitable that you will add silt as well. Take care in not adding too much silt content as this will have the opposite effect. It is recommended that you try a small test area first before adding sand or clay content over the entire field. Also, some fields may have

several different mixes added over the years. This may cause a layering effect or pockets with varying particle size distributions. It is a good idea to survey different areas of the field to find out if these pockets exist and make the proper adjustments.

Sometimes a safer route, adding infield amendments, can often make a bigger impact. For hard or low drainage fields, conditioners such as calcined clay can be added. For fields that are unstable or have poor moisture management, organic infield amendments can stabilize the infield. While manufacturers may recommend incorporating amendments by mechanical blending (as we do), many times they can be nail dragged into the top couple of inches to provide short term relief.

Another option to consider adding is a stabilized infield mix, which contains a stabilizing agent, most often organic infield amendments, already pre-blended to work in conjunction with the proper amounts of sand, silt and clay. This can be an affordable option to get you through the season by addressing just the surface. When considering this option, request more information from the manufacturer's rep, if done incorrectly or with an unsuitable mix, a layering effect may occur.

The final option to consider without completely renovating a field is if the infield can be improved mechanically. Usually mechanical blending is used in conjunction with infield amendments, but can be done without their use as well. Ripping and tilling is recommended once a year. Fines do sink to the bottom, your surface may



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become too loose and drainage layers may form. The surface soil particles themselves can also become crushed from overuse, depending on the parent material of the infield mix. Also, soil particles weather and break down from exposure to rain, snow, and sun. Ripping and tilling

once a year evenly blends soil particles, brings fresh soil particles to the surface, and provides a good opportunity to level the infield by adding additional infield mix. Take caution not to till into your base material.

Like most things in life, infield mixes change and evolve throughout the years. This could occur from soil particles weathering and sinking, or from the addition of different mixes and amendments. Regardless of how it occurs, your mix is unique to your field. If you don't have the option to replace the mix with something more predictable, then you must become the expert of your own mix. The best way to become the expert is to experiment and see how your mix reacts to different variables.

GRANT MCKNIGHT, Natural Sand Company

In general, amendment projects tend to be about one-third the cost of renovation. The best way to predictably alter an infield skin without renovation is to follow the T.A.C.S. process: Test, Analyze, Compare and Solve.

Test. In order to improve existing material, it is important to “know what you have.” A soil test report with a particle analysis and size distribution will reveal the cause of many poor-playing infields. For example, an infield with excessive silt content and low sand is often described as playing “soft” and blows away over the course of the season.

There are a number of soil testing facilities across the country, some better than others. A reliable lab will be A2LA accredited.

Analyze. Analyzing the soil test report requires an understanding of the values it renders. The values on the soil test report include: sand content (overall), silt content, clay content. The size distribution portion of the test shows the array and concentration of sand particle sizes within the overall sand content.

Here are some basic principles:

- Sand (overall). Provides structural stability for the infield mix (think sand castle v. mud pies).
- Silt and Clay. Clay provides moisture-retention for the infield mix. Silt binds sand to clay.
- Sand (size). The larger the sand, the better stability it will provide.

Compare. A lack of specifications for infield soils has plagued this

industry. By studying our projects, we have found the following to be true:

- Sand (overall). Should make up about 58-75% of the soil profile. Facilities with high-level maintenance will require less sand than fields with volunteer maintenance.

- Silt and Clay. Combined, these values should not exceed 42% of the soil profile. The ideal ratio of silt to clay is 0.5 - 1.0 (silt to clay ratio = silt ÷ clay).

- Sand (size). The majority of the sand should fall between the very coarse, coarse and medium sand ranges. Large concentrations of fine and very fine sand indicate a lack of stability within the mix.

Solve. Determine what objectives need to be met (i.e., increasing sand content, decreasing silt to clay ratio, decreasing very fine sand content, etc.), then choose a material and a method for the amendment project.

It is very important to only use materials that identify their particle makeup as verified by an independent soil test report. Engineered soils can be made into specific amendments for your project. Here are some general guidelines:

To increase sand content: Use a soil with a sand content higher than your current levels. Be sure that the amending soil does not contain an abundance of fine and very fine sand, and that it has a silt to clay ratio of 0.5 - 1.0.

To decrease sand content: Use a soil with a sand content lower than your current levels. Be sure that the amending soil has a silt to clay ratio of 0.5 - 1.0.

To decrease silt to clay ratio: Using soil with more clay than silt will always decrease the silt to clay ratio.

To decrease very fine sand content: Use a soil with minimal amounts of fine and very fine sand content. Be sure that the amending soil has a silt to clay ratio of 0.5 - 1.0.

Amendments require incorporation into the existing soil profile. We recommend tilling to a depth of 2-3 inches for optimal blending.

It is best to obtain another soil test report a few weeks after your amendment. The test report will reveal the changes made to the infield skin profile. If further amendment is required, simply repeat the T.A.C.S. process until you are satisfied with the test results.

JEFF LANGNER, Surface Athletics

The first step to improving an infield mix is to really understand the kind of field you are working with. Every infield mix a combination of sand, silt, and clay, plus any conditioners or additives incorporated previously.

A field that is made of 100% sand would be loose, free flowing, and would drain well. When dry, however, a sandy field would produce an unstable and unpredictable surface. With the right amount of water it will be firm and playable but forgiving, allowing for sliding and clean ball hops. Consider a beach where the water meets the shore. This area would make a very playable surface!

The other two components of soil, silt and clay, present contrasting characteristics to sand. Drainage is poor, creating puddles and slippery areas and causing rain-outs. When clay and silt get too dry they become rock hard, often cracking, creating dangerous hops and

possible injury. These issues can be greatly compounded when clay and silt get compacted due to heavy traffic. If kept at the right moisture level and properly maintained, however, clay and silt are very stable and wear resistant making them ideal for high impact areas.

A blend of the three components is necessary to attain a safe and playable field that is easier to maintain. Knowing the makeup or composition of your existing infield mix will help determine how you approach conditioning the field, and how you manage moisture on the field. Water management is critical to providing a safe and playable field, no matter what mix of soil components are at play.

Calcined clay field conditioners help improve fields of any soil composition, because of their ability to reduce compaction and hold moisture. For example, Turface has 74% internal pore space, meaning that there is significant space within the particles to hold air and water. This keeps the field from becoming compacted, and promotes drainage in times when the field endures heavy rains.

And calcined clays don't just moisture but, similar to the effect of a sponge, will release water back into the surface of the playing field over time as things dry out, preventing the hardened, cracked fields that become such a burden in the hot summer months.

The multiple benefits of these products make them an effective addition to any infield mix. The amount of product added to the field should take into account not just the existing infield mix, but other factors such as the amount of traffic the field endures, the availability of irrigation and the frequency of rainfall, the number of field managers able to maintain the field, along with the frequency of field maintenance that takes place.

A field that doesn't have the benefit of frequent watering, endures high traffic, or lacks routine maintenance will benefit from a slightly higher amount of calcined clay conditioner worked into the field.

For a full renovation on a 90-foot field (high school, college, or pro), for example, it is recommended that 8-10 tons of product be incorporated into a field at a 4-inch depth with a roto-till, resulting in about an 18% rate by volume. For fields with smaller budgets, 4-5 tons could be incorporated into the top 2 inches using a nail drag, or even a ½ ton of product could be applied as a topdressing to at least create a consistent playing surface.

There is a significant difference in the improvement one could expect to see from a field based on these varied methods of application, and amounts of product. Understanding your existing infield mix and evaluating the external factors surrounding your field will help you better get started on a long-term maintenance program for your field, so that even if immediate renovation isn't a possibility, you can at least get the "ball rolling" on a better, more playable field.

LARA WEINSTOCK, Game Time Sports Systems

To improve an existing field you can add products to help improve infield surfaces at a nominal cost. Consider adding 4-8 tons depending on the size of the infield surface and the type of material the skinned surface is made of. The materials will need to be worked into the top two inches of the existing infield dirt. Before any amendments, consider edging the base paths and the arc, and reduce or eliminate lips if possible. Try to promote surface drainage by re-establishing the grade of the skinned surface so it slopes toward grass

areas. Mechanical weed management and good routine grooming practices will promote a safe playing surface, and a good visual experience until funds and more time allow for a more extensive repair or upgrade.

DAVID A. CYGAN, Pro's Choice

I always tell prospective customers they should think of soil conditioners as the icing on a cake. Some field managers think that you can dramatically change an infield with conditioners. While conditioners will improve any infield, the best results occur when conditioners are added to soils consisting of sand, silt, and clay.

The amount of conditioners will vary depending on what is wrong with the field. If drainage is an issue, more material would be needed. For example a high school or college field with 90-foot base paths and poor drainage might require 10-12 tons of conditioner. A field that is hard and compacted can usually be helped with 6-8 tons of conditioners.

Note, when I refer to conditioners I specifically mean "MONT-MORRILLITE" clays. These have been the industry standard since 1941. These types of clay are heat treated and are actually turned into a ceramic sponge. They are the only mineral that can absorb excess water, hold it, and release it when conditions become dry. They do all this while maintaining their particle size, and they continue working year after year. ■

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Recovering turf from severe weather

Editor's note: This is a report from several regions around the country on how turf managers handle their turf in the wake of some severe weather in 2010.



PENNSYLVANIA

SportsTurf: What is or was your worst problem this year due to the weather?

James F. Cornelius, CSFM, West Chester Area SD: Our worst problem was the extreme weather pattern; periods of either too much rain or lack of rain with hot dry weather played havoc on the athletic field turf. In the Northeast we dealt with high humidity and cool nights that provided the perfect environment for diseases.

ST: What did you do last fall (or are doing now) to solve the problem?

Cornelius: Knowing past history and making the correct or almost-correct guesses of future weather patterns was our biggest tool. In Fall 2009 we began our aeration program much earlier, we aerated more than usual, we fed our turf higher amount of slow release fertilizers and we over seeded all the fields heavier than ever, applying over 71,000 pounds of seed in order to thicken the turf and provide

ample seed to reduce late season wear areas from the end users.

In the spring of 2010 we aggressively top-dressed, applied more fertilizer and seed. Due to the users' schedules we were limited to irrigation until the middle of June when we were able to deep water the fields on a rotating basis in order to prevent an early dormancy.

Around the beginning of July we backed off the irrigation to allow the fields to go dormant during the high stress period and educated our users on protecting the turf from cleat injury, moving around the field areas to reduce wear areas and where possible we shut down fields and moved users to less significant fields at our elementary schools.

In the fall of 2010 we overseeded, applied fertilizers, and with the help of our users who consistently applied seed provided to goal mouth areas, filled divots, moved daily warm up routines around the field and more heavy aeration and deep slicing, we were able to re-

cover the fields quickly. By the third week of the fall season the weather patterns became favorable and we took advantage of welcome rain storms.

ST: What do you plan on doing in the spring to continuing solving the problem?

Cornelius: From our experience we will attack the fields as early as possible. The cold weather has set in faster this year [Dec. 10] so the extra work that was done earlier in the fall will hopefully pay off. We have yet to make a decision on whether we will be using any grow tarps and with the early below freezing temperatures we may have missed that boat.

Our strength unlike most has proven to be in our educating the end users on field maintenance, field care and do's and don'ts. Once you educate and you communicate your plans and goals (providing they the end uses benefit as well) to them and you have a proven record it works it makes dealing with the extremes and the unknowns much easier.

IOWA

ST: What is or was your worst problem this year due to the weather?

Chris Schlosser, Iowa Cubs: I am not sure what our worst problem was—either the record snowfall and amount of time it covered the turf and a little snow mold problem in the spring, or one of the wettest years in history combined with heat, humidity and disease that occurred because of the constant rainfall and not being able to dry out completely.

These historic amounts of moisture led to a root problem of shallowing up and all our chemical applications never lasted for the proper intervals. The last

Up here in the Pacific Northwest the 2010 summer was very uneventful, almost normal. We had cooler than average temps and average rainfall.

-Jason Moore, CSFM, Tualatin Hills Park & Rec, Beaverton, OR

problem was the amount of time the tarp was covering the field. The rain patterns were so incredible you had to start planning days in advance of an upcoming homestand to make sure you were covered because of rain and dry time leading up to and in games. We (the turf and grounds crew) just tried to survive and keep our sanity.

ST: What did you do last fall (or are doing now) to solve the problem?

Schlosser: After the tough year the rains shut off for pretty much all fall and we were able to stress the field and drive some roots down with normal practices. I did put one liquid snow mold application down and followed it up with a granular PCNB before we froze. Just trying to get a little more residual in the plant to last if we have another winter like last.

ST: What do you plan on doing in the spring to continuing solving the problem?

Schlosser: For 2011 I am planning for the worst case scenario happening again. After the schedule was released we

are trying to limit outside events and games so we have enough time to do our cultural practices, which were limited because of a high number of events last year. For chemical applications we are working them in more often and cutting down the interval cycle. We are usually on a 14-day preventive program and now I am looking at a 10-day because the breakthrough last occurred on that 9th or 10th day. Overall we didn't have any turf loss; what was damaged grew out of it and came back with normal practices.

OKLAHOMA

ST: What is or was your worst problem this year due to the weather?

Jeff Salmond, CSFM: The only problem was dealing with drought and not being able to water during the day. Any watering during the day, for example on a baseball infield, was done during lunch breaks, which is equivalent to a slight syringe. Throughout the whole summer, we had camps and clinics during the day and

in the evenings because of the heat. The only time we were able to get sufficient water was at night. But we could not water too heavy as to make it wet for activities the next day. We also were not able to perform as many cultural practices, especially verticutting and aerification.

ST: What did you do last fall (or are doing right now) to solve the problem?

Salmond: We did more multiple needle-type aerifications, gypsum applications and a little heavier watering.

ST: What do you plan on doing in the spring to continuing solving the problem?

Salmond: We plan to use growth blankets to promote and initiate earlier turfgrass growth and build up moisture in our root-zones in anticipation of a warmer, drier spring and cooler, wetter summer. We also hope to change up any consistent wear patterns for turfgrass recovery. ■

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What I wished I had learned in turf school

JOSH MCPHERSON, CSFM, University of Missouri

I wish I knew that I should apply for scholarships. After serving on a board that gives away a scholarship, I was surprised at the lack of people that actually apply for them. I never applied for scholarships in school because I never thought I would receive one. The same philosophy can be carried over to the STMA's Field of the Year program. I believe many people do not

apply for Field of the Year because they do not think they can win.

ABBY MCNEAL, CSFM, Wake Forest University

I wish I had learned stronger communication skills to better talk with coaches, athletes, parents, and user groups. These are the irate people that we have to teach about our jobs, yet all of them think they can do a better job since they each have their own home lawn.

Sports turf managers are always training these people about the importance of our work and why they need to adapt some of their needs/desires to provide a good playing surface for all. Apparently we have the ability to grow grass overnight and make field surfaces dry during rain (or snow) events, so they make requests that are reasonable to them and out of the world to us. The ability to talk in a manner that they understand would certainly have paid off by now.

Another skill that I wished I had learned is the ability to manage the wild ideas that marketing/ promotions departments provide for fan entertainment. I always thought the fans are there for the game, so why do we need confetti,

Coaches and general managers are on everyone's list of people we need to communicate with regularly...

>> **ERIC FASBENDER, CSFM,**
right, jokes with LSU baseball
Coach Paul Mainieri.



fireworks, race cars, motorcycles, 100+ dancers with pompoms that leave debris everywhere, animals (live mascots), and mattress races?

Lastly, I wish I would have found the course that would have taught me about "other duties as assigned." I would take that class several times now, where can I sign up?

LUKE YODER, San Diego Padres

When I was at Clemson from 1990-1994, I did not know what email was and no one had a laptop. I still had an electronic typewriter. It would have been nice to learn a little about computers but I missed out on that boat

I could have benefitted from spending more time, or taking a class, dedicated to reel and bedknife adjustment, sharpening, grinding, adjusting height of cut, and so on, or in other words on specialized golf and turf equipment maintenance

Another good class would have been "Infield Skin 101," covering maintenance, installation, renovation, etc., that really got into Particle Size Analysis of infield skin, percentage of sand/silt/clay, and breaking down each size of sand, etc., really getting into how they test infield material, and how to read a report.

Or how about one on how to evaluate different types of soil reports and tissue tests from different labs and different soils across the country, and how to make adjustments with minor and macro nutrients in order to get to a level that the plant will maximize growth without compromising long term or short term health.

Finally, a class that would teach you how to never say "NO" to upper management when they ask "Can we do this on the field?" This class would teach you how to give a very diplomatic/politically correct answer that would make you look like a team player while clearly stating the pros and cons, i.e., "Sure we can do it but this is what it will cost and this is what will result when we do."

ERIC FASBENDER, CSFM, Louisiana State University

It is a terrifying but exciting thing when you realize that you have graduated college and have to enter the real world. You are trading the relative safety of the classroom

and getting together with friends in the evening hours for a beverage in favor of the unknown world where you have to make decisions in real time that can affect the outcomes of games and players experiences. Disease always looks different on a slide projector in a classroom than when you are looking at it in person and having to devise a solution. The knowledge we gain through or formal education and continuing education is an important foundation to our careers but there are also invaluable lessons to be learned outside the classroom.

One topic that I wish my professors touched on more was the development of your working relationships. The people you surround yourself with and the relationships we build off the field are a key component in how successful we can be on the field. Developing relationships not only with your crew, but with coaches and the other departments within your organization can help you to dodge or sidestep possible damage or wear to our playing surfaces and also increase our visibility when our fields are look-

ing good. Too many times we are only recognized when something bad happens.

Coaches and general managers are on everyone's list of people we need to communicate with regularly, but how many of us just pop in to say hello to our marketing department, equipment managers or sports information staff? These are the people that can help us avoid potential problems because they are on the front lines with us. Once you take the time to get to know them and have a chance to educate them about what our job is all about, you can work together to minimize the impact to all parties involved. The more people you can have in your corner, that understand what it is that you are trying to accomplish, the better your fields can perform.

The important thing to remember is that whether you have been in this industry for 30 years or just recently graduated, it is never too late to implement new ideas and you are not alone. Once we realize that the more people we have on board with what we are doing, the easier our job becomes. ■

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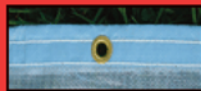
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>> Image courtesy of Kaivac.



One option for keeping your indoor facility clean

Editor's note: This article was supplied by Robert Kravitz of Altura Solutions Communications, a firm that works for building-related manufacturers and organizations.

KYLE FREY, a 21-year-old junior from Drexel University in Philadelphia, was one of his school's star wrestlers when he noticed a small lesion, much like a pimple, on his arm. Frey, who worked out with his team on an almost daily basis, thought little of it at the time.

A few days later, however, following a match, Frey noticed the "pimple" had grown considerably and was beginning to hurt. By the next

morning, the pimple was as large as a golf ball and very painful.

Frey's trainer rushed him to the emergency room, where Frey learned he had methicillin-resistant *Staphylococcus aureus* (MRSA), a potentially deadly infection that usually requires treatment with several antibiotics in very large quantities. Frey was released after a 5-day hospital stay, healthy but curious about where he acquired the disease. His doctors believed he might have caught it from another wrestler—someone who had the disease and wasn't aware of it—or, more likely, he caught it from a contaminated wrestling mat and/or gym equipment, or even from surfaces such as benches in the locker room.

This is happening in exercise facilities, gyms, and fitness centers across the country; in fact, MRSA infections are now a risk literally anywhere people go to exercise and stay in shape.

Most who frequent the gym have avoided the kind of dramatic, life-threatening experience that befell Kyle Frey. However, according to a position paper just released by the National Athletic Trainers Association (NATA), "Skin infections, along with other infectious diseases, are extremely common" among people who use gym facilities. In fact, the paper goes on to say, skin infections lead to more than half of all the outbreaks of infectious diseases among participants in competitive sports.

"Prevention is key to minimizing the problem and, in all fairness, gym and locker room users, young and old, can also do a lot themselves to stay healthy," says John Richter, technical director for Kaivac, developers of the No-Touch Cleaning system.

Richter has several suggestions for facility managers that can help keep facilities and those who use them healthy:

- Managers should communicate with facility users regarding the problem. The more people are aware infections can be transmitted in gym and locker room settings, the more careful and cautious they are likely to be.
- Facility users should follow proper hand hygiene. Gym users should either wash their hands after using gym equipment or use

Pay **SPECIAL ATTENTION** to mats

WRESTLING MATS, along with mats used for tumbling, aerobics, and other sports/workout activities, are of special concern when it comes to preventing the spread of disease in gym/workout facilities. These mats should be cleaned daily or more often if used frequently throughout the day. Mats that are not affixed to the floor should be rolled up so that the underside of the mat and the floor beneath may be cleaned as well.

Because our goal is to eliminate cross-contamination, an EPA-registered disinfectant should be used to wipe down mats. A knowledgeable distributor should be able to help gym owners/managers select the best disin-

fectants for their particular needs.

It is important to note that disinfecting is typically a two-step process. Clean the mat first, using an all-purpose type cleaner, to remove debris, stains, etc. Then, once the mat is clean and dry, disinfect using an EPA-approved product.

Always use the disinfectant exactly as instructed. This includes dilution as well as the "dwell" time noted on the label. Most disinfectants must dwell on a surface for several minutes in order to be effective. Further, if using terry cloth or microfiber cleaning cloths make sure they are clean and change them frequently. Recent studies indicate that as the

cloth becomes soiled, it can spread as many or more contaminants than it collects, defeating the entire disinfecting process.

Another option is to use a no-touch or spray-and-vac machine to clean the mats. First, the machine applies chemicals to the mat. Then, after proper dwell time, the area is rinsed by the machine and the built-in wet vac can be used to speed up drying. This process tends to be much faster than cleaning through manual practices. Further, some no-touch systems, using just water, are now recognized as "sanitation devices" per EPA criteria. This is a much "greener" way to clean sports mats as well as a chemical cost savings. ■

disinfectant wipes, which many gyms are now providing to their users. Gym equipment can be a breeding ground for serious infections.

- Visitors should always shower after exercising. Women tend not to shower after exercise, while men are more likely to do so. However, showering with antibacterial soap can wash away germs and bacteria before they have the opportunity to develop into a disease or infection.

- Users should avoid sharing personal items such as razors, towels, or soaps. Sharing of such items can lead to the spread of infectious illnesses.

- Managers should make sure soap dispensers are kept clean. Consider using soap dispensers refilled with soap cartridges rather than systems that have soap poured into them; studies report that these types of dispensers are healthier and more sanitary.

- Visitors should bring two sets of clothes. Gym clothes should be worn only at the gym and washed after each workout; street clothes should be worn after taking a shower. This limits the possibility that germs and bacteria that may have gathered on gym clothes are transmitted to the wearer or others.

As mentioned earlier, exercise equipment can become contaminated during the course of the day. Yet in the past, most gyms were cleaned only at the end of the day, just like other types of facilities.

“However, this has not proven adequate in gyms because of the way they are used and the number of people coming and going, using the facilities,” notes Richter.

Instead of cleaning only at the end of the day, many private gyms now prefer a method best described as “continuous cleaning.” Continuous cleaning means that sanitation professionals frequently mop floors; wipe down machines, mats, mirrors, sinks, counters, and restroom fixtures; and perform other cleaning tasks throughout the day while the facility is open and in use.

“This type of cleaning can sometimes prove disruptive in an office-type situation but surprisingly, it can work very well in a gym or exercise-type facility,” Richter says.

However, more extensive cleaning, what Richter refers to as “hygienic cleaning,” is required in shower and locker room areas.

“This may also mean rethinking the way locker rooms have been cleaned for decades and adopting new methods, products, and technologies,” he says. “We are dealing with public health threats that simply were not much of an issue a decade ago, but which now call for [the use of] new and more effective tools and systems.”

His suggestions for hygienic cleaning include:

- Using EPA-registered disinfectants designed to kill a broad spectrum of germs and bacteria.

- Using microfiber cleaning cloths and mop heads, which have proven to be much more effective at cleaning floors and surfaces. Color-coded microfiber cloths allow users to designate a color for cleaning each type of surface — so, for example, only red cloths would be used to clean toilets, eliminating the risk of cross contamination.

- Using microfiber “smart” towel cloths. These cloths are divided into eight quadrants, allowing users to use a fresh, clean quadrant for each surface they clean. This is another way to reduce the risk of cross contamination.

- Using spray-and-vac cleaning equipment. Even with microfiber

cloths — and certainly with conventional cleaning cloths and mop heads — cleaning tools can spread germs and bacteria from one surface to another as they are used. Spray-and-vac systems eliminate this problem. Similar to indoor pressure washers, they effectively remove contaminants from surfaces, which are then vacuumed up or released down floor drains.

COST QUESTIONS

As much of the country faces continued financial issues, gyms and other fitness centers may have a drop in membership and revenue. The question arises: Can such facilities afford to adopt continuous cleaning programs or more thorough, hygienic cleaning methods?

Richter says many facilities have faced this challenge by having existing staff members take over many cleaning tasks. As to the hygienic cleaning suggested for locker rooms, “Considerable savings can be realized by switching to spray-and-vac cleaning systems,” he says. “[This is because] studies indicate fixtures, restrooms, and locker rooms can be cleaned in one-third the time using this equipment” (based on studies conducted by worldwide cleaning association ISSA and published in *The Official ISSA 554 Cleaning Times*, updated October 2009).

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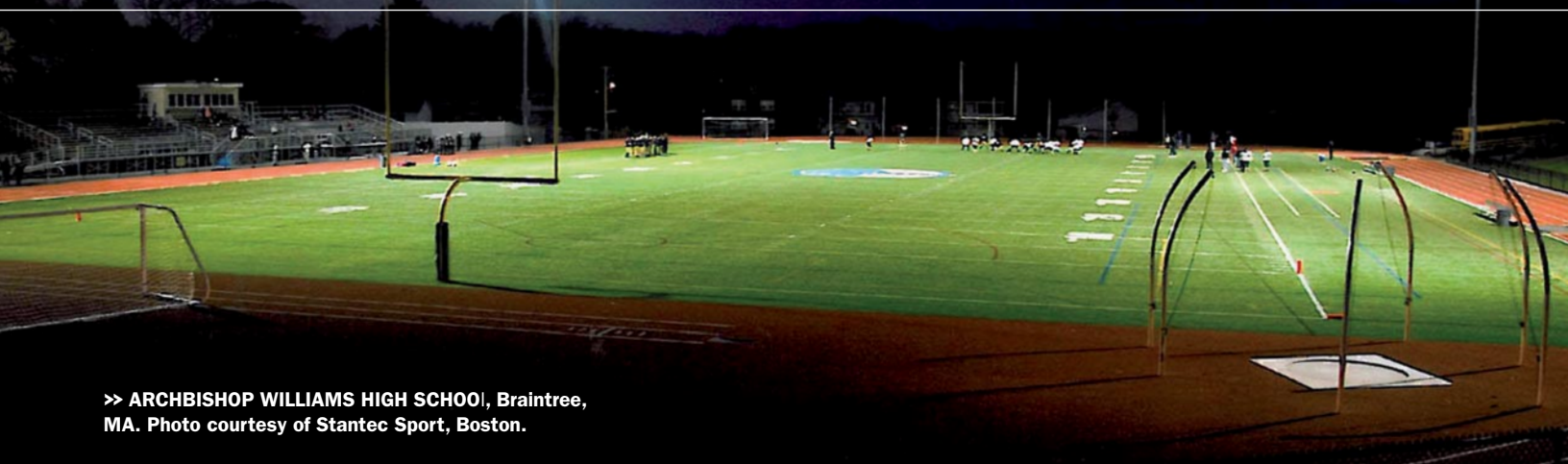
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>> ARCHBISHOP WILLIAMS HIGH SCHOOL, Braintree, MA. Photo courtesy of Stantec Sport, Boston.

Tips on maintaining infill synthetic turf

For the better part of the past 15 years, the sports turf landscape has been swamped with filament style, infilled synthetic fields. Although there is no doubt they are a vast improvement over the original Astroturf, they have still sparked debates of all kinds within the groundskeeping community.

Synthetic fields have gotten better and better over the years with millions of research dollars going into finding ways to make them look and play more like real grass, and dramatically improved construction methods are a far cry from the early days when it seemed like every field was installed by a road builder who thought he could grade for an athletic field.

While there is no doubt that synthetic turf has a place in the industry, no self-respecting groundskeeper wants one as his prized game field. After all, we are in this business to grow grass and to make it lush, green, and beautiful, not to groom plastic. Still, we have evolved enough to recognize that having a synthetic field or two for a Division I or professional football team for two-a-day practices, etc., can be a savior for turf managers fighting the daily battle against the damage the ever larger players

can do to field in a short period of time.

In fact an actual game seems like a walk in the park compared to practice because the number of players on the field at any given time is limited to 22 and the play is, for the most part, spread all over the field, without the dreaded repetition of drill after drill in the same location. The same is true for all the overused high school and community fields with no realistic budget or proper level of manpower to manage them correctly.

MAINTENANCE FREE MYTH

As turf managers, we have learned a tremendous amount about these infill synthetic fields over the years and the equipment available to maintain them has grown by leaps and bounds, largely driven by a market need that now makes it profitable to manufacture this equipment.

We have learned it is a myth to believe these fields do not require any maintenance. In fact they are anything but, and some calculations have shown that factoring in the cost of the initial installation, plus the investment in specific equipment for their maintenance, and the inevitable replacement of the field 8-10 years down the road, means there may be very little, or even no savings at all over that time. The issues with these fields are well documented; some have been improved, some are curable, and some simply cannot be cured. Dr. Andy McNitt at Penn State has been conducting a very extensive study for 10 years addressing every conceivable aspect of the surfaces and using natural grass fields as a sort of benchmark for how they stack up, can be changed, improved, and maintained to minimize some of the less desirable issues that they pose.

Some of the early problems that were not anticipated involve compaction of the infill to levels that rival the hardness of Astroturf and cause leg fatigue and concussions, extreme heat on the surface caused by the black rubber infill and underlayment, silica sand dust from the sand infill that has been linked to silicosis, and bacteria that grows on the largely sterile surfaces. The results of some of these studies have given rise to solutions to some of these problems; some have proven to be less of an issue than originally thought, but some have proved they cannot be overcome with any reasonable activity. Altogether however, this is

Some moisture in the field gives the players better footing, and cuts down the sand and rubber flying that we see on very dry fields.