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On the cover:

Eric Jones, head groundskeeper for the 2013 STMA Schools/Parks Softball Field of the Year Park Hill South Lady Panthers Softball Field, Riverside, MO, lines his field before a game last year. Jones started with the Park Hill School District 15 years ago as a summer worker and now manages the high school's sports complex and campus.

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From the Sidelines

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Is verticutting making a comeback?

Verticutting, also known as dethatching, was a victim of budget cuts and personnel losses over the past few years, according to Glenn Musser, president of TurfTime Equipment in New Holland, PA. “If a manager had to choose between aeration or dethatching the manager would most often choose aeration,” Musser said. “Many fields were able to survive a few years without dethatching without seeing significant turf problems. However within the past 2 years those fields were starting to see fungus and insect damage. The accumulated thatch layer prolongs highly humid conditions, which favors diseases. The neglected thatch layer will also cause the grass to develop a shallow root system which makes it less able to survive tough conditions, especially in the heat of summer.”

Musser said now he’s seeing some sports field managers adding back dethatching as part of their management practices. “They realize that aeration without dethatching is not the Best Management Practice. To control diseases and push the turf roots downward, dethatching is a valuable part of the schedule.”

We exchanged emails with James Bergdoll, CSFM, the turf manager and maintenance superintendent for Elizabethtown Sports Park in Elizabethtown, KY on his verticutting practices. Why is he now verticutting? “We like to lightly verticut our bermudagrass fields at the beginning of the growing season to stimulate lateral and vertical growth and remove any dead material that could be matted into the canopy,” he emailed. “In the growing season, a deeper cut removes more material to allow moisture and oxygen to reach the rootzone more easily as well as control thatch. We also like to verticut following core aeration to help break up the cores and redistribute that material into the soil pro-

file. Verticutting can also aid with overseeding by opening the canopy giving ryegrass a place to make soil to seed contact. Adversely, verticutting aids in the transition by removing ryegrass and stimulating bermudagrass growth.”

Another verticutter is Darian Daily, the sports field manager for the Cincinnati Bengals. “We verticut our fields to promote lateral growth of our bermudagrass, help control thatch and organic build up, and to help ‘wake up’ the bermuda as it comes out of dormancy, by opening up the canopy to allow sunlight and heat down to the ground,” Daily said.

Bergdoll: “In the past we verticut only one or two times a season but we are planning to increase to hopefully three or four times a season. I have found that we need to be more aggressive with the bermuda to keep it stimulated and give it room to grow. We actually had an issue last summer where the bermuda was growing almost too aggressively and the runners were growing on top of the canopy.”

Daily: “We verticut three or four times a year depending on field use. Most of the time it is in the spring and early summer because I have found the Patriot bermudagrass in my area doesn’t respond well once the temps get above 90°. We use 1 mm blades in our verticutting because they don’t damage the bermuda as bad as the 2 mm blades did. We used the 2mm blades when we had cool season with success, but the 2 mm seemed, I felt, too aggressive for the warm season grass and took more time to heal.”

We asked Bergdoll and Daily for any tips for others to get best results when verticutting. “Watch your timing; obviously you want to verticut when the turf is actively growing due to the aggressive nature of verticutting. Verticutting too late in the season can weaken the turf going into dormancy potentially making it more susceptible to winter kill. Periods of heavy field use

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STMA: working for YOU!

Can you believe it is May?! The warmer temps are here to stay, and the fields are in full use (or overuse depending on who you ask). Most of you are extremely busy keeping your fields safe, playable and looking good. Topdressing, fertilization, aeration, irrigating, painting, mowing, edging, grooming and general cleanup and maintenance are all taking center stage. Students and professors are finishing the school year, while other members are winding down the trade show season.

Just a quick note to say "THANKS" to our Commercial Members who continue to add value to STMA. Their dedication to your success, mentoring, product development, and sponsorship, coupled with timely, quality service and general support make them great partners who advance the profession.

Dedicated volunteers and staff are full into committee work. Calls are being made; work plans are being set; and recommendations are forthcoming. Committees directly enhance the value of membership by providing the tools and resources to strengthen your knowledge and professionalism. Here is an update on some of their work: 1) a task group has been formed to review the Innovative Awards so that we maximize the benefits to commercial members and to you by providing cutting edge products and services; 2) the Conference Education Committee is reviewing the many proposals you submitted so that we have well-balanced and pertinent topics; 3) the Conference Committees and the Finance

and Audit Committee will be reviewing the conference budget to present to the Board in July; 4) the Conference Tours Committee is busy finalizing some great venues to visit. Conference is only 7+ months away! I hope you share my view that trying something new is a good thing. Denver, a new conference venue, should be exciting, enriching and a welcome spot to gather after a long season.

Your Board had a very productive March meeting (on which you should have received an update from your category rep), and we are gearing up for the July meeting.

You have at your disposal a talented and dedicated staff who complete all of the behind-the-scenes work that keeps STMA moving in a positive direction. Kim, Leah, Nora, Kristen and Shant are working for you and ensuring that your membership has value. They do those little things and sometimes big things so you can focus on being a professional sports turf manager. As someone who was a long time NESTMA Chapter Board member, I can tell you from experience that the volunteer spirit can only go so far. You have great ideas, great suggestions and are doing great work, but without the common thread of headquarters and people working behind-the-scenes many things would simply not get done. So, concentrate on what you do, do it well and know that the day-to-day operation of STMA is working for you.

In this month of remembrance, let us also not forget Mother's Day or Memorial Day. For without those people we would not be where we are today. ■



THERE'S A TEST FOR THAT

▲ Author Sam Ferro busy at work in his lab in Linwood, KS.

Testing of soil, turf, and irrigation water now plays a very important part in building and maintaining quality fields. A variety of laboratories with expertise in various disciplines specialize in sports turf testing and are eager to assist the sports turf manager. Whether it's routine soil fertility management, disease diagnostics, drainage evaluations, or one of the many other issues that affect turf managers, there is a test for that. This article is intended to provide a brief introduction to

some of the tests that are available and information on how they may aid in providing successful fields.

NEW FIELD CONSTRUCTION

Sand-based athletic fields typically require soils and drainage to be brought in from off-site to construct the field. Before any soils are used for construction, they must be tested to determine compliance with project specifications or goals. The laboratory may also prepare trial blends of the sands, soils, and/or amendments in efforts to assess and optimize performance of the rootzone materials. Quality control testing is performed during construction to ensure quality consistent materials are used.

Drainage gravel should be tested for both natural and synthetic turf construction. For natural turf, gravel is assessed for performance and compatibility

» Important factors to evaluate

are sodium content, carbonate and bicarbonate content, total dissolved solids, and chloride amongst other analytes. These parameters can affect soil and turf quality, as well as the irrigation system.

with the rootzone. Synthetic turf gravel should be tested for drainage and stability.

Typical construction related laboratory tests include particle size analysis, mix ratio testing, infiltration rate testing (also known as percolation or permeability), and soil porosity evaluations.

ROUTINE MAINTENANCE

Soil nutrient testing should be part of every athletic field manager's tool bag. Macro-nutrient and trace element testing allows the turf manager to monitor current conditions and determine a baseline for their fields. This testing also provides a check of the effectiveness of fertilizers and soil amendments, and it offers the ability to adjust products and fine-tune applications based on science.

Samples should be sent to labs that specialize in turf testing. These labs will provide test results along with interpretative guidelines to aid in understanding

the data. Recommended testing intervals vary depending on intensity of management. Low input fields may only need testing every 2-3 years, while higher input fields benefit from annual testing.

Plant tissue analysis offers a snapshot of the nutritional status of the turf at the time the sample was taken. It provides information on the relative health of the turfgrass and interrelationships between all essential plant nutrients. Managers can determine if a specific nutrient is lacking before symptoms appear. When tissue testing is used in conjunction with a soil analysis, it can provide information on critical nutrient levels and how best to correct problems.

Irrigation water quality can be an important issue for sports turf managers. This is especially true for those who are using recycled water or gray water to irrigate fields. Important factors to evaluate are sodium content, carbonate and bicarbonate content, total dissolved solids, and chloride amongst other analytes. These parameters can affect soil and turf quality, as well as the irrigation system. Testing to monitor irrigation water quality can help prevent problems from arising with turf and equipment.

Many turf managers don't realize that topdress materials should be evaluated before use. Layering can occur if too fine of a topdress is used over the existing soil. When a finer soil layer builds up over an underlying coarser layer, there is a tendency for excess water to be held in the upper layer. This can lead to increases in disease pressures, shallow rooting, black layer formation, or excess surface compaction. A simple particle size test can determine topdress/rootzone compatibility and limit the potential for layering.

Testing of baseball/softball skin areas can help to pinpoint mix needs before purchasing sand, clays or amendments. Skin test results can be compared to industry standards for guidance regarding maintenance needs. Multi-field managers can use test results to aid in creating consistent performance throughout the complex.

Routine testing of synthetic turf? Yes, even artificial fields can benefit from analytical services. The consumer products safety commission and leading industry groups recommend biennial (every other year) Gmax testing for synthetic turf fields. In addition to Gmax analysis, synthetic field evaluations should include height of fibers, infill depth, inlay and seam analysis. This data supplies the information needed to show whether fields are in compliance with industry standards, pinpoints problem areas and provides recommendations for remedying trouble spots.

PROBLEM DIAGNOSTICS

It is extremely important to diagnose and eliminate turf problems before they become major issues.

Turf growth problems are often a result of improper nutrient levels. Soil and plant nutrient evaluations can provide guidance to correct and optimize growing conditions.

Many turfgrass diseases and problems look quite similar, making

visual diagnosis difficult. For an accurate diagnosis, samples can be sent to a turf pathologist. These scientists evaluate turf samples for pathogen signs and disease symptoms, identify problems, and make recommendations regarding management of the problem.

Every field has some pathogenic nematodes feeding on the plant roots. Many nematodes are harmless to plants, but others can cause damage. Nematode testing can indicate which nematodes are present, whether they are harmful, and provide guidance regarding control of pathogenic species.

Diagnostic profile core testing provides the ability to peer down below the surface of the field, and to see how the rootzone and drainage are working (or why they are not working). Intact subsurface soil samples (usually 6 to 16 inches deep) are broken down and evaluated at various depths throughout the soil profile. This allows for in depth portrayal of soil composition, soil layering, water holding and drainage characteristics. By providing detail on current soil conditions, profile core reports are especially beneficial when making field renovation decisions.



SAMPLING

The test results generated by the lab are only as good as the samples submitted for testing. If samples do not properly represent the field, then test results may lead to incorrect conclusions and recommendations that not only do not help but may

harm the field. Thus it is crucial that proper sampling techniques are performed. Different tests may require varying sampling and sample shipment requirements. If you are unsure of appropriate sampling techniques contact the testing lab for instructions.

As you can see, there is indeed a test or tests available to prevent, diagnose, and/or treat a multitude of field conditions. Most laboratories have personnel that are ready to discuss your particular situation before testing, and they are also ready to help you interpret and understand test results. Make testing a part of your turf management program, and you will see a positive impact on the appearance, playability, longevity and profitability of your sports fields. ■

Sam Ferro is president of Turf Diagnostics & Design, a leading physical testing laboratory serving the sportsturf, golf, and landscape markets.



ORGANIC MANAGEMENT and other systems employed in maintaining turfgrass

▲ **Calendar-based** preventative and curative applications can provide very good turf quality; however, the lack of site specificity can result in poorly timed and/or unnecessary fertilizer and pesticide applications.

There is increased interest in turfgrass management strategies that are intended to reduce or eliminate synthetic pesticides and, in some cases, synthetic fertilizers. Consumers' desire for organic food and its perceived benefits has translated into a growing demand for turf products and contracted services described as 'organic' or 'synthetic pesticide free'.

While the mischaracterization of a turfgrass management program may be entirely unintentional, marketing non-organic products or services as organic has numerous consequences, most obvious the customer not receiving what is being sold. In some cases, where synthetic pesticide free programs or organic management have been deemed 'successful,' these successes have served as a rationale to legislatively prohibit synthetic pesticide use. These 'successful' programs may have, in actuality, incorporated synthetic fertilizer and synthetic pesticide applications at some recent juncture, requiring a more accurate description of the programs, albeit a description less marketable than 'organic.'

The objective of this article is to describe the following turfgrass management philosophies to better enable

sports fields and grounds managers to sort-out common terminology used in the marketplace today: calendar-based preventative and curative applications; Integrated Pest Management (IPM); management without synthetic pesticides; and organic management.

For the purpose of clarity in this article, the term 'synthetic pesticide' includes products that meet each of the following criteria: 1) The product has a United States Environmental Protection Agency (EPA) pesticide registration number; and 2) The product is **not** approved for organic production per United States Department of Agriculture (USDA) National Organic Program (NOP) or Organic Materials Review Institute (OMRI) guidelines.

CALENDAR-BASED PREVENTATIVE & CURATIVE APPLICATIONS

Schools and municipalities are contracting-out pesticide and fertilizer applications at a more frequent rate. The lack of trained and licensed personnel, limited availability of application equipment, and other issues related to product storage have created a strong demand for contracted applications. Calendar-based preventative