The Sideline Report

Iowa Sports Turf Managers Association

August 2011

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For more information regarding articles and advertising rates contact the editor.

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We would like to say thank you to all the companies that have placed an ad in this month's issue of the Sideline Report. Your support for the Iowa Sports Turf Managers Association is very much appreciated.

A Letter from the President- Leap of Faith

Tony Senio, University of Iowa

I had an epiphany two weeks ago following the birth of my second child. As I sat there in the hospital over the next couple of days, I had a lot of time to think. My first thought was how glad I am that I've held strong all of these years regarding no cable television in my house because even with 74 channels on the hospital set, we still watched the same five that we get at home – so much garbage! My next thought was at $10000 (or whatever it will end up costing) for a three day/two night stay, you would think you could get a free round of golf or something.

Eventually the thought process brought me to the aforementioned epiphany - which was a realization regarding how many leaps of faith we take on any given day.

Leap of Faith -The act or an instance of believing or trusting in something that cannot readily be seen or proved

The thought started simply enough. First it was about what a leap of faith we take with the doctors and nurses, the research, the vaccines, our insurance company, the pharmacists and drug companies… Then the thought turned to my older child, and with her starting the first grade in less than a month, the leap of faith we take in the education system, the child-care providers, the parents of the other kids, OUR OWN KIDS… Suddenly I was overwhelmed by a feeling of helplessness and it scared me a bit. I needed to find something I had more control over.

I started thinking about work. I feel relatively in control there. But quickly I realized how much faith it takes to put down grass seed and expect it to turn into a plant. It takes faith to run that sprayer over your fields and trust that product you're putting out is going to be applied correctly and that it will do the job it's intended for. Don't forget the leap of faith you take when you set that irrigation control box trusting that it will deliver the appropriate amount of water at the appropriate time. It takes REAL faith to think that this heat wave will eventually break and that your grass can again begin to send roots deep into the soil and strengthen itself in time for another Iowa winter which of course you will have to take a leap of faith that the grass will survive the winter and begin growing again in the spring. And it takes faith to send out your crew with their daily tasks and trust that they get done in an efficient and professional manner. Thinking about work didn't help at all! It seems I've been running on faith - to the point of wondering how much control I have over anything in my life. You don't have to be a religious person to take these leaps either. It's become a required part of life – a required part of this job for sure. So if you have any great words of wisdom that could set my mind at ease regarding the utter lack of control we seem to have in this world, I sure would like to hear them. Lord knows I'm struggling with the whole thought of it right now. In the meantime, I hope all of your faiths are fulfilled and thank you to all of the well-wishers as I leap into fatherhood again – and according to my wife, FOR THE LAST TIME!

Presenting my new baby girl! Kainoa Elina Senio; born July 19, 2011

Technology for Sport Turf Managers

Jason Koester, CGCS, Grinnell College

The world of technology is moving faster than ever, seems like as soon as you purchase an electronic device a newer, faster, easier to use version is released. Like it or not the high tech world is here to stay. Embrace it and let it help you or fight it and be left behind. Don't get me wrong do I like all the items that we get initiated with no, but many of the tools out there can be very useful. Increased and effective communications, learning a new trait, discover new interests, activities, and also helping your professional career by keeping up on the latest trends, researching problems and troubleshooting them.

The internet is an awesome tool for communication and information gathering. There are tons of tools on the web for the Sports Turf Manager. Type in a detailed search for any Turf related problem and you are bound to find some very helpful information some examples University trial and research sites, organizational web pages www.iowaturfgrass.org/istmahome.htm , www.stma.org, tech bulletins, identification charts, conversion and measurement formulas, owner's manuals, labels for products, product reviews, purchasing, on line trainings, seminars, on line meetings for organizations (ISTMA board of directors recently performed our first on line board meeting)and the list goes on.

E mail, social media, blogs and chat rooms are an excellent communication tool. Keep people informed on your facility happenings, keep in touch with colleagues, share pictures, progress reports and keep updated schedules with all parties involved. http://www.facebook.com/pages/Iowa-Sports-Turf-Managers-Association/113995905321746?ref=ts .Digital newsletters sent to your inbox help save costs, provide high quality graphics, save paper resources, eliminate clutter, reduce printing costs, direct links in text to websites and having the ability to past issue archives at a click of a mouse. http://www.iowaturfgrass.org/Sideline%20Report%20Archive.html

Software including spreadsheets, database and specially turf grass management programs can be a very effective tool for organization of your stats and information that are prudent to your facility. Avectra is an outstanding piece of software the ITI office is using for all members to manage memberships. It is a great tool in which you can update your personal information, sign up for events, pay dues, search for individuals or facilities. Take time to check Avectra https://netforum.avectra.com/eweb/DynamicPage.aspx?WebCode=LoginRequired&Site=ITI

High tech tools are becoming very helpful to help Sports turf managers. Weather monitoring tools like weather stations, rain sensors, ET sensors, soil moisture sensors, surface temp gauges and computer programming are very effective in helping us conserve water and other resources. Remote control access to your irrigation via radio, cell or smart phones is another example. Remote control access to central computers is awesome tool saving man hours and resources. GPS is huge in the Ag industry and starting to filter into sports turf management for precise spraying, measurement and painting will upgrade time and money management.

Being efficient is the name of the game and high tech tools and applications can help you save dollars, resources and time.

IA Vs. MN Chapter Challenge Review

Tim VanLoo, CSFM, Iowa State Athletics

Chapter Challenge 2011 came and went. As always, the experience was great. Before I give a short run down of the events that took place please allow me to explain why this is such a great event. Nowhere else in the country do 2 different chapters get together and go to war. Nowhere else in the country does two chapters get along as well as we do. And nowhere else in the country does two chapters take winning more seriously. I look forward to this in the summer as much as look forward to bow hunting season in the fall. It truly is a great event that everyone should commit to experiencing at least once.

Friday night was softball. We play 9 innings and we pitch to ourselves. 3 pitches are all you get. So the pitcher and hitter need to be on the same page. Minnesota was not only on the same page throughout the entire game, I think the batters and pitcher was reading the same words. They started hot and never looked back. Iowa however started out with 2 different books. I was the first to score and I recall it being the 5th inning. The great part to that was I batted 4th in the order and it was my 2nd at bat that got me on base. If you can do the math we batted 18 or 19 players and not many got on base in the first 4 innings (me included). We finally got reading the same book, but it was a little late. The final score was 10-16. Minnesota took softball, but knew they were in trouble for golf. (Special note to our skipper Joe Wagner: Let's stick to fewer players next year. I don't like being embarrassed.) Also, special thanks to our host Alan Lancaster at City of Coralville.

Golf on Saturday morning at University of Iowa's Finkbine Golf Course was another story for the ISTMA. All five pairing's won for Iowa, actually no match was close. What we didn't do in Softball we did in Golf. Some say it was the best margin of victory in either competition since the start of it. Finkbine is a great golf course in great shape and we defended it well. Minnesota never knew what hit-em, they all needed more time at the driving range that morning I suppose.

We had a beautiful weekend to compete and great people to enjoy it with. Thank you Tony Senio, Joe Wagner, and Andy Eiffert for getting it all situated. The event ran smoothly and great fun was had by all. Please plan to attend next year as it will be in Minnesota.

Iowa and Minnisota teams after the Chapter Challenge Baseball game.

Follow the link below to see complete results from the 2011 Chapter Challenge.
http://www.iowaturfgrass.org/pdfformat/2011%20Iowa%20vs%20Minnesota%20Chapter%20Clash%20results.pdf

ISTMA Election

ISTMA will elect two Board positions at the ISTMA Annual Meeting in January during the Iowa Turfgrass Conference & Trade Show. The open positions are for SW and Central Director, and At-Large Director Details regarding the candidates, absentee ballots, etc. will be included in the December Sideline Report. If you are interested in serving on the ISTMA Board, contact the Iowa Turfgrass Office at 515-232-8222 or contact any ISTMA Board Member.

Another Round with Asocohyta Lawn Disease

Dave Minner, PhD, ISU Extension Turfgrass Specialist
Erika Saalau, ISU Plant Diagnostic Clinic

For the second year in a row Ascochyta has hit lawns, athletic fields, and golf course turf. Ascochyta leaf blight is a grass fungus that causes a rapid straw to bleached appearance of the leaves primarily on Kentucky bluegrass and to a lesser extent on perennial ryegrass and tall fescue. The damaged lawns started showing up around the first of June and out breaks have been occurring all summer long. Some of the more severely damaged areas may require 3 or 4 weeks of good growing conditions to fully recover. The damaged areas seem to occur very quickly; one day the grass appears fine and the next there is bleached tan grass everywhere and most noticeably where the mower tires track. In fact, to those unfamiliar with this problem they think that someone has damaged the lawn with a pesticide or fertilizer application. The Ascochyta related problems I am seeing have nothing to do with product applications. The fungus likes to grow during wet conditions favored by lots of rain or over irrigation. Infectious spores are everywhere throughout the lawn and with a sudden increase in hot temperatures they rapidly infect the stressed grass. Tire tracks show up because the tires spread the spores and also cause just enough abrasion stress for the fungus to enter the plant tissue. Look for bleached leaf tips that are collapsed. It looks devastating because the top part of the plant is severely damaged but the crowns and lower stems are seldom killed. The attacks are so haphazard that it is impossible to give a good recommendation as to when to avoid mowing but in general raising the mowing height and mowing less frequently will reduce your chance of experiencing a mowing track incidence. It is interesting to note that Ascochyta blight in home lawns only occurs in full sun areas and it stops where the shaded lawn has less heat stress.

The damage at first appears very dramatic but the good news is to simply be patient because most of the damage is on the leaves while the crowns and roots of the plant are not damaged. As the plants continue to grow and after about three normal mowings the damaged leaf tips will be removed and the lawn will return to normal. Normally we don't recommend a preventative fungicide because it occurs too haphazardly and a curative fungicide doesn't help after the leaf tissue is blighted. However, if you have experienced this in the same lawns and athletic fields for two years in a row you may want to consider a single preventative application of a fungicide next year from mid May to mid June.

Areas that have been severely injured can be recovered by dethatching, hollow tine aerification, and reseeding in late August or September.

Here are some of the Ascochyta injured lawns that we have observed in Iowa during the summer of 2011.

Ascochyta in mower streaks on athletic field in Iowa City, IA. Picture taken 7/15/11.

Obvious tire tracks from mower associated with Ascochyta in Ankeny, IA. Picture taken 5/20/11.

Close up of Ascochyta symptoms on Kentucky bluegrass. Note the bleached leaf tips and banding of leaf blades. These symptoms are different from dollar spot that has leaf lesions with bleached centers and brown boarders.

Ascochyta can also injure lawns without leaving the mowing tracks. Picture taken in Ames, IA 6/16/11.

Wheel track lawn injury from Ascochyta but notice that the tracks are not present in the shaded areas where the grass has less heat stress. The Ascochyta spores may be present everywhere but it usually requires a period of sudden heat or drought before symptoms appear. Picture taken 6/17/11 Ames, IA.

Are you a student in need of a scholarship for college?

Apply for the ISTMA Scholarship!

Appications are due to the Iowa Turfgrass Office by October 31, 2011

For more information and the application form go to www.iowaturfgrass.org/istmascholarship.htm

ISTMA Awards!

The deadline for ISTMA Awardsis October 31st. The Award forms are available at: http://www.iowaturfgrass.org/istmaawards.htm Nominate a fellow Sports Turf Manager, Field or Facility

More Ascochyta symptoms from Parkersburg, IA. Picture taken 6/18/11.

More Ascochyta wheel tracks.

Low maintenance (no fertilizer and no irrigation) Kentucky bluegrass along roadside showing mower tracks with Ascochyta injury. Even though high nitrogen can cause lush growth that increases infection, in this case turf was injured in a low nitrogen situation. Picture taken 6/17/2011.

Darker green lawn (bottom) with higher nitrogen fertility shows more Ascochyta injury than lower fertility lawn (top). Nitrogen applied at 2 to 4 lbs N/1000sqft/yr is suggested to maintain healthy lawn growth. Picture taken 6/17/2011.

Ascochyta injury without mower tracks in Ames, IA. Picture taken 6/22/11

More Ascochyta mower tracks from Parkersburg, IA

Governor Branstad Takes Control

Mona Bond, Iowa Alliance of Environmental Concerns

On January 14th when Governor Branstad and Lt. Governor Kim Reynolds took office there were many lessons that had been learned by Iowan's from the November elections.

1. Iowa demanded political change
2. 1,133,434 voters went to the polls with 592,494 voting
   for Branstad or a 52% majority
3. It was all about the economy!

Governor Branstad hit the ground running by appointing his top department staff, internal governor office staff and all of the hundreds of appointments to boards and commissions. All of this while putting together a budget and re-evaluating the next four years and what needed to be accomplished.

One of the many things he has completed so far includes signing several executive orders that begin to set the stage for his tenure and goal of creating and retaining jobs for Iowan's.

Executive Order 69 – Rescinded the requirement of the "Project Labor Agreements" and opened the door for fair and open contracting for publicly funded construction projects. This should lower the cost of such projects and ensure that all workers, both union and non-union, have a fair and equal opportunity to work on Public Works Projects being built in Iowa.

Executive Order 70 – Rescinded the Executive Order 42 issued by Governor Thomas J. Vilsack that utilized a process granting the restoration of citizenship rights automatically of those convicted of a crime upon their release. Without this order all convicted offenders will need to reapply for their citizenship rights.

Executive Order 72 – Rescinded the Iowa rule implementing the federal RICE NESHAP standard for emergency engines because the federal RICE NESHAP standard for requirements for existing stationary diesel engines is likely to change. He further declared that the regulatory burden imposed by the RICE NESHAP rule hurts the interests of people of the State of Iowa.

Executive Order 73 - Declared that the State web portal and online information technology presence should be improved to meet the needs of the citizens of Iowa. He directed that a Website Standardization Committee be created to promote the implementation of accessibility improvements in technology on the Web. The objective is to standardize the state executive branch IT system for better communications and cost savings.

And last but not least is Executive Order 71, the order that has had a significant impact on regulated industries and will continue to have impact for many years.

What Exactly is Executive Order 71 and What Good Will It Do?

Governor Terry Branstad, early in 2011, had listened to people on the campaign trail and made good on a promise to help businesses with burdensome regulations that impede job growth.

The purpose of Executive Order 71 was to require state agencies look at the regulations placed on small businesses specifically and identify those that hurt job growth and development and yet continue to protect the public.

In Iowa, some of the regulatory requirements currently in place are required by federal law and thus require Iowa to adopt and implement them to maintain state primacy. Some of the regulations in Iowa's administrative rules go beyond the federal requirements and that is what the Governor is seeking to review. Executive Order 71 requires each state agency to follow the following procedures when making new rules:

1. Cost Benefit Analysis - Each agency must take steps to minimize the adverse impact on jobs and the development of new employment oppor tunities before proposing a rule. "Cost-Benefit Analysis" includes a comparison of the probable costs and benefits of the proposed rule to the probable costs and benefits of less intrusive or expensive methods that exist for achieving the purpose of the proposed rule.

2. Jobs Impact Statement – Each agency shall provide a jobs impact statement to the Administrative Rules Coordinator in the Governor's office prior to notice of intended action.

3. Preamble to Rulemaking Notice – The jobs impact statement shall be published as a part of the preamble in the Iowa Administrative Bulletin un less determined otherwise by the Administrative Rules Coordinator.

4. Public Comment Period – Each agency shall accept comments from stakeholders and other interested parties prior to release of a Jobs Impact Statement

5. Transparency – There shall be public notices throughout the process

6. Job Impact Statement – The statement should give particular weight to jobs in the production sectors of the economy including manufacturing and agricultural. Consideration will also be given to the impact to existing and expanding businesses. De partments must identify the objective of the pro posed rule, applicability and specific legal authority for agency to adopt the rule and identify the cost to state, local governments, public and the regulated entities including regulated businesses and self-em ployed individuals.

7. Impact on Job Creation – The department shall show whether a proposed rule would have a positive or negative impact on private sector jobs and employment opportunities in Iowa; and describe and quantify the nature of the impact the proposed rule will have on private sector jobs and employment opportunities including the categories of jobs and employment opportunities that are affected by the proposed rule, the number of jobs or potential job opportunities and the regions of the state affected; and identify, where possible, the additional costs to the employer per employee for the proposed regulation; and include other relevant analysis requested by the Administrative Rules Coordinator.

8. This Order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity, by any party against the State of Iowa, its Departments, Agencies, or Political Subdivisions, or its officers, employees, or agents, or any other person.

The Governor has declared that "Now is the time to make Iowa's main streets truly open for business with the jobs we so desperately need." He goes on to say, I want to work with local governments to reduce commercial property taxes to less than the Midwest average. This will attract new businesses and jobs to Iowa—jobs for your communities. We also need to improve and enhance Iowa's economic development efforts. My proposal is to establish the Iowa Partnership for Economic Progress, a private-public partnership similar to the successful effort in Des Moines and other cities. We need to tout our state's strengths to the country and world. Through this partnership, we will market Iowa's remarkable qualities and create new opportunities for job creation.

Iowa Turfgrass Field Day Review

Andrew Hoiberg, Iowa State University

Iowa Turfgrass Field Day has returned! All of us associated with this event are thrilled to have it back and we know the turf industry is as well. Below you will find a recap of the 2011 Field Day program and some take home messages from the research and demonstrations that were highlighted at this year's event. We would like to thank everyone who pitched in to help, all the speakers, the vendors, and most of all, the attendees. Without a great industry like we have in Iowa, none of this would be possible.

This year, we decided that it would be best have color coded groups with repeated talks so people could follow one track or switch between them to make sure they were able to attend all the talks they were interested in. The 'Red' group was for Pesticide Applicator Training, the 'Blue' group focused on fertilizers, herbicides, and the NCR bentgrass trial, while the 'White' group's talks included summer seeding methods, updates on moss and algae control on putting greens, apps for turf managers and GPS spraying. operation.

As is the tradition with Field Day, Pesticide Applicator Training (PAT) was on the bill for this year. The PAT kicked off with a discussion about drift and non target effects of herbicides, followed by pesticide stewardship, right of way by Dr. Bob Hartzler, and lastly, a visual demonstration showing phytotoxicity with Dr. Minner. Dr. Minner and myself set up a small demonstration trial with 1x, 2x, and 3x of five popular herbicides to show what can happen if you aren't careful with boom overlap. In most cases, phytotoxicity was not an issue, which helps hide user error, but does not free the user from their job of proper preparation and equipment.

Following are highlights from the 'Blue' group:

NCR Bentgrass: Dr. Christians showed us the NCR Bentgrass variety trial that aims to maintain bentgrass with limited fungicide inputs and to test different varieties' natural resistance to disease pressure, namely dollar spot and brown patch. This trial is still underway; so far, the variety "Declaration" is the variety that others are measured against for natural disease resistance.

Natural Fertilizers: Quincy Law, a recent graduate of the ISU turf program, filled us in on his Ajinomoto natural fertilizer study. The objective of this study was to determine the effect of natural fertilizers upon growth and shoot density of "Penncross" creeping bentgrass. Previous work with an amino acid containing product, GreenNcrease, had resulted in higher shoot densities when applied to mature turf. Treatment applications of three natural products at varying rates, along with urea, were made every two weeks to fairway height turf (0.5 inches). Color, dry clipping weight, dollar spot ratings, total nitrogen analysis of clipping tissue, and shoot densities were all recorded monthly.

Plots receiving applications of GreenNcrease, an Ajinomoto product, had significantly higher shoot densities. GreenNcrease applied as a biostimulant along with a regular fertility regime may increase shoot density. An increased shoot density provides for a more

This year participants were welcomed by the Iowa State Logo painted on research area. Painted by Andrew Hoiberg and Quincy Law.

Listening to Dr. Christians update on Imprellis while the rain passes

Joe Pfiffner, CGCS, Todd Loecke, and Greg Harkin, CGCS

competitive turf stand and better playing surface. The trial completed in 2010 is being repeated on the same plots to investigate the effect of these products when used over time.

Imprelis Update: As rain dampened the first hour or so of field day, we packed as many as possible inside the turf shop and had Dr. Christians give us an update on Impreslis. As many of you know, there has been recent backlash against Imprelis as it is suspected of causing damage to White Pine and Norway Spruce. We have no solid evidence of anything yet, but there are certainly enough reports of damage to warrant cessation of Imprelis treatments where nearby trees could be damaged. It appears as though the herbicide is washing into the soil and being absorbed by mature root systems that extend well beyond the traditional drip line cutoff for spraying. If you have any problems with Imprelis, please contact DuPont, but we must be patient, this problem will not solve itself overnight and DuPont will be inundated with incident reports for the near future at the very least. We are confident that the problems will be sorted out and DuPont will make up for any problems Imprelis may have caused you. Stay tuned for updates.

Nitrogen based establishment: This trial is attempting to answer whether or not we can use increased rates of nitrogen during establishment of both Kentucky bluegrass and perennial ryegrass to speed up the production of aboveground plant mass to improve the wear tolerance during traffic stress. So far, we have been able to detect differences in nitrogen rates as far as fill in and plant maturity, especially when compared to the untreated controls. This trial is still fairly young and traffic has only recently started, but from what we have seen thus far, it looks like applying 0.25 lbs N/1000 ft2 per week for 8 weeks of establishment for a total of 2 lbs of N produced the most aesthetically pleasing perennial ryegrass with regard to color and density. Incremental increases beyond 0.25 lb N per week caused ryegrass to grow excessively, which could potentially increase mowing requirements. We will continue to monitor how the different nitrogen rates react to traffic stress to see if we can confirm or contrast the adage that increased nitrogen results in a less wear tolerant turf.

For Kentucky bluegrass, more nitrogen is necessary to achieve a dense stand that can withstand traffic. We have also had to use 4 applications of Tenacity herbicide at 4 oz/A spread throughout the spring and summer to keep weeds at bay and give the KBG a chance to establish enough for cleated traffic. It appears that at least 0.5 lbs N/1000 ft2 per week for 8 weeks during establishment is necessary to achieve maximum density. However, as we continue to collect data on this study, we may find out that rates of 0.75 or even 1.0 lbs N/1000 ft2 per week are best for rapidly establishing KBG.

Next are some of the highlights from the 'White' group:

Summer seeding: During this talk, some of the ideas about seeding rates and timing were discussed to give turf managers more tools when deciding when to seed, for what purpose, and how much to seed during different times. The philosophy and science behind traditional seeding rates and higher than normal rates were discussed and a demonstration was in place to show what different seeding rates look like as well as ways to determine how much seed you are putting out without properly calibrated equipment. Lastly, we discussed how higher than normal seeding rates can reduce herbicide inputs by outcompeting weeds.

If you ever need to determine how much seed you have put out, there is a simple rule you can follow. If you are sticking to normal seeding rates (1.5 lbs/1000 ft2 for KBG; 8 lbs/1000 ft2 for PR and TF), you can always pick out a 1 square inch area and could how many seeds you see. You should count somewhere around 16 seeds in a square inch for either of the seeding rates listed above.

Higher than normal seeding rates are necessary when we introduce cleated traffic to a turf stand. We don't hesitate to recommend turf managers putting out an initial rate of at least 20 lbs/1000 ft2 when starting from bare ground to get as much wear tolerant biomass established as possible before traffic starts. This method of seeding at higher rates can also result in an essentially weed free stand of grass, especially with a quickly establishing grass like perennial ryegrass.

Moss & Algae control: Dr. Minner gave a good overview of the different types of moss and algae that can

inhabit bentgrass putting greens, or anywhere conditions are right for their growth and development (wet, low mowing height, high N). He also showed preliminary results of a study that uses different methods and chemicals to control silvery thread moss on greens. Two products, MossBuster (oregano oil as an active ingredient), and QuickSilver herbicide (carfentrazone), which has labeled rates and instructions for silvery thread moss control, are being evaluated both in combination with each other and on their own at different rates to determine the most effective control of silvery thread moss. The main problem with the MossBuster product is that it can have an extremely phytotoxic effect on bentgrass, however, it is extremely effective in killing silvery thread moss. Conversely, QuickSilver is effective, but not as effective as MossBuster at finishing off moss populations. So far, a low rate of MossBuster combined with a low rate of QuickSilver, applied frequently (1 week apart), has shown the least phytotoxicity and the moss control is on par with higher rates of each product in combination or on its own. This study is still relatively new and we will continue to monitor the effects of each treatment.

Apps for turf managers: Dr. Marcus Jones has been watching the turfgrass technology front very closely over the past few years and was able to give attendees a short discussion on a relatively new 'App' for newer smart phones. iStimp is an app that claims to act as a stimp meter on golf greens. Essentially, you set the ball in the small divot of the 'home' button on the iPhone, set it on the ground, and lift up until the ball starts to roll. Once the ball has rolled its distance, you use a built in ruler to measure the distance. The phone then calculates what the reading would be on a regular stimp meter. Dr. Jones is working on a research project that will test the effectiveness of this app when compared to the traditional stimp meter. Keep tuned to the iaTURF blog for updates on this project.

GPS spraying: GPS based technology has been around the agriculture field for a few years now and it's slowly starting to creep its way in to the turf industry. We were fortunate to have a few of the current models on the market present at field day this year. We also saw a demonstration of how the technology works; the sprayer can minimize drift, minimize overlap, steer itself, calculate exact rates of application, and many other things. It's truly an amazing technology and it probably won't be long before everyone has some sort of experience with one of these machines.

Drs. Minner, Christians, Lewis, and Jones led a guided tour of turf diseases, insects, and weeds that seemed to be enjoyed by all. Some of the highlighted pests this year were: bluegrass billbug, Japanese beetle, summer patch, dollar spot, brown patch, all the summer annual weeds, and chemical burn. Lots of great questions came in and the tour seemed to be informative and hands on for all who attended

After a morning of great talks, we all retired to the registration tent for a delicious Hickory Park catered lunch. It is always great to see the camaraderie between turfies, and it was very evident from the impromptu groups of them sitting around the tent enjoying lunch and sharing stories with one another.

If anyone has any questions, comments, or concerns about Field Day 2011, please feel free to contact me, Andrew Hoiberg (android@iastate.edu) or any of the other speakers. This truly was one of the best field days I've been a part of and we owe it to a great turfgrass industry in Iowa. Thanks to the vendors and attendees for a wonderful day! We'll see you next year!



What Would You Do?

Responses by Members of the ISTMA

Aeration and topdressing are two very important aspects of sports turf management. We have all heard the science behind aeration and topdressing, but we all have different philosophies as to when and how to practice them. We are heading into fall and it is a time of year when a lot of us will be pulling out the aerator. Let's find out from some of our local turf managers what their philosophies are when it comes to these two practices. I would like to thank Joe Wagner (JW), TJ Brewer CSFM (TJB), Chris Schlosser (CS), Tim Van Loo CSFM (TVL), and Brad Thedens (BT) for taking the time to help us with this article. We asked them a few questions on the subject and here are their answers.

How often do you aerate?

JW: As much as we can, time, field availability, equipment availability (since we share tractors with the parks department), and man power are the factors that prevent us from accomplishing our cultivation practices that we try to do. My preferences would be that we slice our fields every month, deep tine 5 times a year and solid tine when we over seed with the seed a vator.
TJB: I like to aerate as often as possible. I will aerate the whole field when the team is on the road for an extended trip or just do high traffic areas during long home stands or short road trips
CS: Depends on weather and the homestand. But usually 2 core aerations one spring one fall. Then we either knife or solid tine after every homestand. So I would say a total of 6 full field aerations and another 3-4 knife aerations in our tarp areas or wear areas.
TVL: On our sand based fields I will aerate 5 times between May and July. I will try to affect 30% of my surface area per year. All aerations on the sand based are with hollow tines so we can harvest all the cores. On our native fields we will aerate twice and mix in some slicing.
BT: We try to aerate anywhere from 3 to 5 times a year depending on the number of events and time that we have.
What are your thoughts on hollow tine vs. solid tine? When do you use them and why?
JW: I prefer solid tines over the hollow tines for three reasons, first is you can aerify during events and it does not affect the play, second it makes the fields more playable during the wet springs and summers we have been getting for the past few years, well ever since we installed irrigation it has been raining a lot throughout the 9 month period of events we have. My third is the time factor it takes to collect the cores after we hollow tine, summer is our off time for soccer, we have limited play and can move camps around so we can hollow tine during that period.
TJB: I use a balance of both. I like to core at least three times after the season is over and maybe three times during the season if there are long enough road trips. I use solid tine during home stands or short road trips due to the added labor of sweeping the cores. I would core every time if it was feasible. I like to remove that thatch and organic layer as much as possible.
CS: I do both and also use knifing tines so I can do it more often and not disrupt play. Anytime you can punch a hole with weather permitting such as rain, heat and cold we do. With as much activity on our field it needs to be allowed to breath to help with recovery.
TVL: We use both. I always use hollow on the sand based because I want to remove the cores each time. On our native fields we will use both types depending on the season or our aeration goal.
BT: We use a combination of both the solid and hollow tine, we don't always have time to go out and hollow tine so that's when we like to at least get some holes into the fields with the solid tine. Hollow tines are used before and after the spring season and also after the fall season, weather permitting. After our hollow tine aerations we usually go behind with a broadcast spreader with some seed to recover the main wear areas. The solid tines are used during the playing season so we don't disrupt the playing surface and allows us to get some relief in our goal mouths and sideline areas which are our most problematic areas

Deep tine or not?

JW:I prefer the deep tine machine , we purchased one about 12 years ago and have beat it into the ground using it as often as possible, we try to solid tine with it 4 times a year and pull cores once a year, do goal areas as needed for repair and traffic wear. This spring we made the time to deep tine 24 ballfields and 20 soccer fields, it has been a few years since we had done that but made the time this year, it was about a month process.
TJB: I don't see a benefit on a sand based field for deep tining. When I aerate I am trying to break through the original sod layer and maybe a little bit more. By its nature sand does not compact much and I imagine a majority of the compaction in the sand is in the top ½". My goal in aeration is to get air and water into and through the thatch and organic layers.
CS: I don't deep tine Principal Park. With as much as we aerate we don't have much compaction except in high traffic areas. These areas are usually re sodded at the end of the year. I believe in the importance of deep tine aerification but we just don't need it here.
TVL: I have used deep tine in the past. The use of these machines, in my opinion, all depends on what you are trying to accomplish with aerifying.
BT: The city does not own a deep tine currently so this doesn't allow us to do any. We are currently working on getting one our budget that will get used throughout the different sports facilities. Once we have that we will be deep tinning at least once a year.

What is your general reasoning behind aeration?

JW: It improves the turf, drainage of the fields, relieves compaction issues, I have heard several times from the assortment of speakers from the education events during my time as a member of ISTMA aerify, aerify, pound the turf as much as possible and believe in it. Just a good practice and part of the journey as a turf manager. It's a boring process being the operator of a deep tine machine but it gives me a chance as a turf manager to see every square inch of the playing surface and evaluate and start come up with a plan for repairs.
TJB: I aerate for several reasons. 1.) Reduce the thatch and organic layer on my field. 2.) Reduce compaction. 3.) Increase air movement in that top layer – minimize the formation of a black layer or "snot layer". 4.) Increase the rate rain water makes it through to the sand and drainage tile.
CS: To allow the turf to breath, reduce our compaction, promote growth, enhance drainage and overall to produce healthy plants.
TVL: For my sand based fields I aerify as much as I can to remove any organic matter that may be accumulating in the top few inches of the rootzone. I am trying to maintain the same porosity throughout the sandy rootzone. While doing that I maintain air flow and drainage. Aerifying native soil fields will decrease compaction, maintain air flow, and create rooting opportunities for the turf.
BT: Our main goal or reasoning behind aeration is to alleviate compaction and help with water and air infiltration in our native soil fields. In addition to that main goal, we also like to use aeration to help us with our overseeding program. We do a lot of overseeding after aeration due to time it would take to run a slit or drill seeder.
Do you topdress after each aeration?
JW: When we core tine in the off season or have limited play on the soccer fields we top dress, try to get some sand in the holes, try to put down about a 1/8" layer, budget constraints to prevent us from putting down more so we do not do all the fields but as much as our available funds allow.
TJB: No I always try to topdress after each core aeration and usually after solid tine when I do the whole field. When I am just aerating high traffic areas or don't have the time I will skip the topdressing. Its not that I don't want to topdress, it is the time that I don't have to do it.
CS: We try to topdress after each core aeration because we harvest all cores off. With solid or knifing we will still topdress but we limit how much and where it goes. So the wear areas usually will get lifted a little more.

What Would You Do Continued

TVL: Only on my sand based fields.
BT: No we do not topdress after each aeration. We don't do any traditional topdressing to our soccer fields. When we hollow tine aerate we go multiple directions and pull as much material as we can to the surface, once that is done we drag the fields to help 'smooth' out any small problems. If we have a larger depression or dip we will hand topdress those areas to achieve a leveler playing surface.

What do you use to topdress (sand, native soil, organic material) and why?

JW: Pure sand, it's cheaper, with limited funds we try to purchase as much as we can to do as much area as we can.
TJB: We use the mason sand from a local quarry. Our sand base is comprised of the same material so it is cheap and convenient to use.
CS: We use 100% USGA Top Dressing Sand. If we have some 90 - 10 left over we will put that in our higher traffic area. We use the same sand as the field was constructed with to keep the profile the same.
TVL: I use sand that is very similar to the original rootzone. This helps maintain a consistent rootzone.
BT: We do not have a regular topdressing schedule for our fields. The only topdressing we would do is small problems areas and those are done with a native soil similar to the current fields.

What is your general reasoning behind topdressing?

JW: On our native fields we try to incorporate sand into holes, it also over time develops a sand layer; it makes an attempt to fill some low spots within the field area as well we hope. The Ankeny workshop from a few years ago we as Turf Managers was able to see that you can develop a sand cap over time from topdressing, another benefit from attending the educational events ISTMA has to offer. We are attempting to do that at a smaller scale on some of our adult soccer fields.
TJB: I like to topdress for several reasons 1.) to smooth out any imperfections in the field. 2.) to fill in aeration holes and create a channel for air, water, and roots. 3.) Create a cusion to protect the crowns of the grass plant. 4.) To increase shear strength, reduce divoting, and help break up any "snot" layer.
CS: Our heavy topdressing is to keep the field level and smooth. We bury the turf twice a year and then drag and broom it in. The rest of the time I want the sand to fill any divots and also to protect the plants themselves during the season when we frequently light topdress through the playing season.
TVL: Maintaining a consistent rootzone is my biggest reason for topdressing. I really worry about losing macropore space in the top part of my root zone from organic matter. My hope is to fill the core spaces with fresh new sand.
BT: The major goal of our 'topdressing' is to help level out the small depressions that are across the playing surface. Along with that we are also able to get some cover on our seed that we put down after our hollow tine aerations.

As you can tell from these managers there is no right answer. There are a lot of different ways to go about choosing when, with what, and how aggressively to perform these tasks and hopefully these answers will help you develop your own aeration and topdressing program. Good luck this fall!!

Irrigation Workshop Review

Tim Van Loo, CSFM, Iowa State Athletics

The irrigation auditing workshop in late June was a great success. A combined 28 sports turf managers and irrigation contractors were able to learn from Hunter's, Lynda Wightman. The workshop focused on preparing individuals to become Certified Landscape Irrigation Auditor's. This process is a key component to show our dedication towards conserving our greatest natural resource and also showing our employers a willingness to become an expert in every part of our trade.

The first morning was spent getting familiar with the auditing process and vocabulary. It had that high school feel, but the information was much more useful. Lynda did a great job presenting all the information that we would need to go and perform an audit on Johnny Major's practice facility. I was surprised at how much information I was familiar with, but at the same time learning a plethora of new informa
tion.

The audit after lunch was interesting. Of course we picked a windy day which is not ideal, but the principles we learned were the important part. We were able to do enough of an audit to show that my system wasn't the most efficient system, but wasn't the worst either. We did do some trouble shooting on low pressure at the irrigation heads and found that the valves had pressure reducers on them. After turning those up were able to get better pressure at the heads and better coverage. I still need to go and see if the system is more efficient now.

The second day was spent back in the classroom going over more important calculations and information that one would see on the auditor's test. Lynda did a great job presenting all information. I was surprised that the irrigation auditing process was so involved. I had my eyes opened on the irrigation auditing process and now fully understand the importance of it.

A special thanks to Lynda again for donating her time and materials to our chapter. I am not sure why she likes our Iowa chapter so much, but personally I am grateful she does. She is a great person, very knowledgeable, and always willing to help.

Another special thanks to our corporate sponsors: Industrial Sales, John Deere Landscapes, Commercial Turf and Tractor, D&K Products, and Des Moines Forage.

Using Irrigation Efficiently

Jeff Wendel, CGCS, Iowa Turfgrass Institute

Seems like every publication I read comes with an article or opinion about turfgrass irrigation. Much of what is printed or published is either inaccurate or grossly slanted. However, public opinion is powerful and we must be careful with our irrigation systems and methods to avoid a serious challenge in the future.

I recently saw an article that claimed that turfgrass irrigation covers for more area than any food crop. Regardless of the accuracy of that statement, the fact is Turfgrass Managers need to be the very most efficient and meticulous of all irrigators. Our industry needs to take the lead in making sure that irrigation systems are properly designed, installed and maintained. We also need to become the very best in terms of managing water resources, programming irrigation schedules and understanding the inner workings of the systems we utilize.

One way to demonstrate your commitment to irrigation efficiency is to gain a professional certification. The Irrigation Association offers certification for contractors (CIC), Designers (CID), Landscape Water Managers (CLWM). Probably the most relevant certifications offered for our industry are the Certified Landscape Irrigation Auditor (CLIA) and Certified Golf Irrigation Auditor (CGIA) categories.

Certification will not only attest to your commitment to efficient irrigation, but can make you more marketable and give you an edge when competing for employment. An added benefit of the Certified Irrigation Auditor programs is the improvement you will make to your current irrigation system, as well as improvements in maintenance, scheduling and distribution uniformity.

As our water resources continue to be challenged, professionals with proper training and certification will grow in value. Visit: http://www.irrigation.org/Certification/CGIA/CGIA.aspx for more information.

SportsTurf MANAGERS ASSOCIATION IOWA CHAPTER

Iowa Sports Turf Managers Association
Traveling Sports Turf Workshop- September 27th 2011
Kirkwood Community College, Cedar Rapids, IA 52406

The Iowa Sports Turf Managers Association is proud to announce the first traveling sports turf workshop in the Cedar Rapids corridor. This will be a full day of interactive stops for which topics of equipment maintenance, internship experiences, complex construction, and sod production will be presented.

The workshop will start at Kirkwood Community College in the Horticulture Department. Participants will get a look at a premier turf teaching facilities. There will be a short presentation about seasonal equipment maintenance, along with an interactive employer/student internship panel, for which students and employers will talk about their internship experiences and expectations.

Following Kirkwood the workshop will load-up and move north to Linn Mar School District. Here participants will get a firsthand look at the latest construction methods in a new high school sports complex. Presenters will include Steve Nelson and Jamie Johnson from Linn Mar School District, and Steve Bush and Jared Aubry from Bush Sports Turf.

Finally we will move to Blue Grass Enterprises. Mike and Aaron Loan will give participants an in-depth look into the Blue Grass operations. Specifically, Mike and Aaron will review the methods of producing Iowa's top quality sod as well as reveal details about how to get the most out of sod for athletic fields.

The day will conclude back at Kirkwood's Horticulture Building. We do encourage all participants to take advantage of the Bus travel arrangements.

Go to http://www.iowaturfgrass.org/istmahome.htm for more information and to register online.

ISTMA would like to Thank the following Industry Partners for their support of this workshop.

Kirkwood COMMUNITY COLLEGE

BUSH Sports Turf

Blue Grass Enterprises, Inc.

SHIVEHATTERY ARCHITECTURE + ENGINEERING

Iowa Sports Turf Managers Association

Traveling Sports Turf Workshop – September 27, 2011
Kirkwood Community College, Cedar Rapids, Iowa

SportsTurf MANAGERS ASSOCIATION IOWA CHAPTER

8:30 **Registration w/coffee & donuts**

9:00 **Welcome & Overview of Days activities & Kirkwood Horticulture Program –**
Troy McQuillen – Assistant Professor Kirkwood Community College

9:10 **Student/Employer Internship Panel**
Joe Wagner – City of Iowa City Athletic Department
Tony Senio – University of Iowa Athletic Department
Tim Van Loo, CSFM – Iowa State University Athletic Department

10:00 **Load buses for Linn Mar School District**

10:30 **Linn Mar School Athletic Field Construction Project**
Participants will partake in a live construction demonstration at Linn Mar Schools new athletic field complex

12:00 **Lunch**

1:00 **Load Buses for Bluegrass Enterprises**

1:15 **Bluegrass Enterprises Presentation**
Participants will see sod production at its best in Eastern Iowa. Bluegrass Enterprises will give live demonstration of their sod production methods.
Ice Cream Social to follow presentation

2:30 **Load buses back to Kirkwood Horticulture**

3:00 **Workshop Conclusion**

- -

Registration Form

Traveling Sports Turf Workshop – September 27, 2011

Name:________________________________

Company:______________________________

Address:______________________________

City____________State_______Zip________

Phone:_______________________________

Pre-registration by September 20
___ Members ($35)
___ Non-Member ($40)
___ Student ($15)
STUDENTS MUST PRE-REGISTER

On-site Registration
___ Members ($40)
___ Non-Member ($45)

PAYMENT METHODS:

BY MAIL: PLEASE MAKE CHECKS PAYABLE TO: **IOWA SPORTS TURF MANAGERS ASSOCIATION**
MAIL REGISTRATION & PAYMENTS TO: Iowa Turfgrass Office, 17017 US Hwy 69, Ames, IA 50010-9294

BY FAX: Credit card payment OR Purchase Order ***ONLY***- Fax 515-232-8228

Type of Card: __Mastercard __VISA Purchase Order#_________
Credit Card #________________________________Exp. Date___________
Card Holders Name (Please Print)________________________________

Signature____

Please direct questions to:
515-232-8222
or
jeff@iowaturfgrass.org
sarah@iowaturfgrass.org

Southeast Director Update

TJ Brewer, CSFM, Burlington Bees

Holy cow, it's August!! I hope all of you are having a great season. It is the time of the year when some of us are almost finished and others are just getting started. I have had a great season so far, but I can't wait for it to be over!! We are just past the half way point as I write this and it seems like it just started! Okay, so put those last two sentences together and it doesn't really make sense. I think we are all in the same boat: love what we do, but can't wait for the off-season!! I just realized there is no point to this article…

Our team won the first half championship of the Midwest League with a dominant performance! We pulled together a 24 – 11 home record! It has been a lot of fun… it's always better when they win! Our overall first half record was 45 and 25, that's one win shy of our combined win total from last year (we were terrible). The field has been in great shape. We have had a little bit of heat up to this point (and I know I am going to regret saying this!) and our fair share of rain, but all together it has been a great year to grow grass. As a lot of you know I have been waging a war on poa annua for the last couple of year and just an update… it is back… but I think I am on the right track(okay I know I have been saying that for five years now)!

I had the opportunity to go to the 2011 College World Series and it was awesome… No I don't know if it was as good as "The Blatt" because I was never there, but it was a great time!! My wife and I got to see those games. I thought the whole thing was great, there were 25,000 fans in the stands and only a handful of people actual fans of the two teams playing. Maybe 2,000 fans per team. That leaves 21,000 people just rooting for baseball… it makes for a very exciting game, a lot of wave action, and I would suggest it to anyone who is a true baseball fan!

I had a thought at the College World Series when I had to go pee at the brand new TD Ameritrade Park. As I was walking into the bathroom and facing the wall of urinals (at least 25, each with a line) I wondered what ever happened to the trough? I mean really that was like a rite of passage growing up, to "stand at the trough". I don't miss that "there is someone staring at my junk" thought crossing through my head, but it just seemed more convenient! Rarely did you ever see a line at a trough, you could always find a spot to squeeze into(which is actually kind of gross thinking about it). Now we need our elbow room and privacy guard, kinda sounds like the suburbs. Now the big question: with all of the push to "go green" don't you think a trough is more eco-friendly? I would like to see the numbers on that. I don't know where else there are troughs, but we still have them down here in Burlington at the local dirt racetrack… and I appreciate them for that!!

Thanks for reading this, I hope you don't feel like I have completely wasted your time. Keep up the good work, and Thank you for all of those things you do that no one else notices!!

The Spartan Cap Athletic Field System

A.R. Kowalewski[1], J.R. Crum[2] and J.N. Rogers, III[2]

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[2]Michigan State University, Crop and Soil Sciences, East Lansing, MI

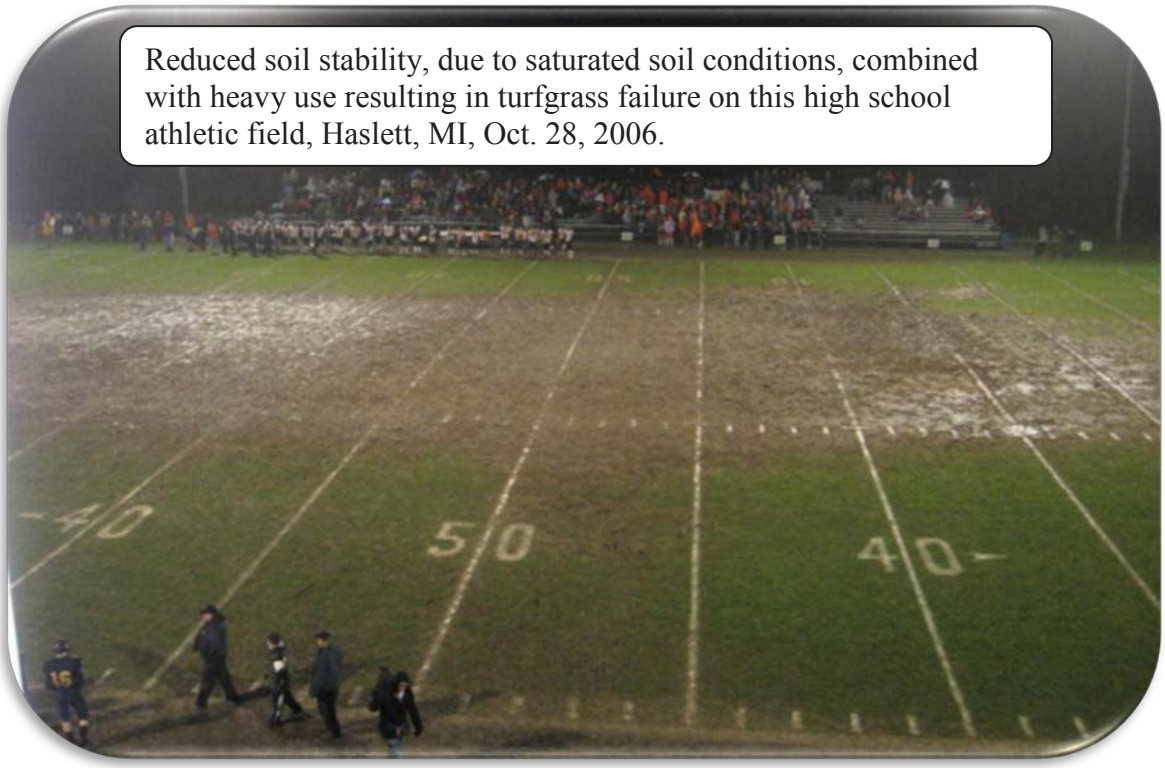
January 7, 2011

The typical high school athletic field serves as a focal point for social gatherings and adds to a sense of community pride. It is typically one of the few fields in town with lights, making it host to a variety of after school and work events including football, lacrosse, soccer, cheerleading, and band. Therefore, having an aesthetically pleasing and functional high school athletic field is often important to a variety of members in the average community.

Okemos high school soccer field, Okemos, MI, May 20, 2009, renovated using the *Spartan Cap System* in May 2008.

The Problem

In order to have a significant number of events on a natural playing surface and provide reasonable playing conditions throughout the fall, regardless of weather conditions, the root-zone must be primarily sand-based. Unfortunately, the majority of high school athletic fields are constructed on native soil. These fields rely on surface drainage during periods of heavy rainfall, failing to provide adequate drainage of surplus water. Saturated field conditions substantially reduce soil cohesion if the native soil is high in silt and clay, adversely affecting traction and stability. Reduced stability in combination with heavy use in the typical fall athletic season results in turfgrass failure, decreased overall playability and diminished visual aesthetics.



Reduced soil stability, due to saturated soil conditions, combined with heavy use resulting in turfgrass failure on this high school athletic field, Haslett, MI, Oct. 28, 2006.

The Solutions

Current solutions to this problem include complete field conversion to a synthetic or sand-based turfgrass system.

Synthetic Field: The first, most expensive, option is the installation of a synthetic athletic field, which ranges from $600,000 – 1,000,000. The typical annual maintenance cost of a synthetic field is $5,000 – $22,000.

Sand-Based Field: The second option is a conventional sand-based field with a gravel drainage layer will cost from $400,000 - 600,000, and take your field out of play for half of the year. This involves excavating 12-16” of soil and installing drain tile, a 4” gravel layer and a 12” sand based root zone. This type of field has an annual maintenance cost of approximately $25,000.

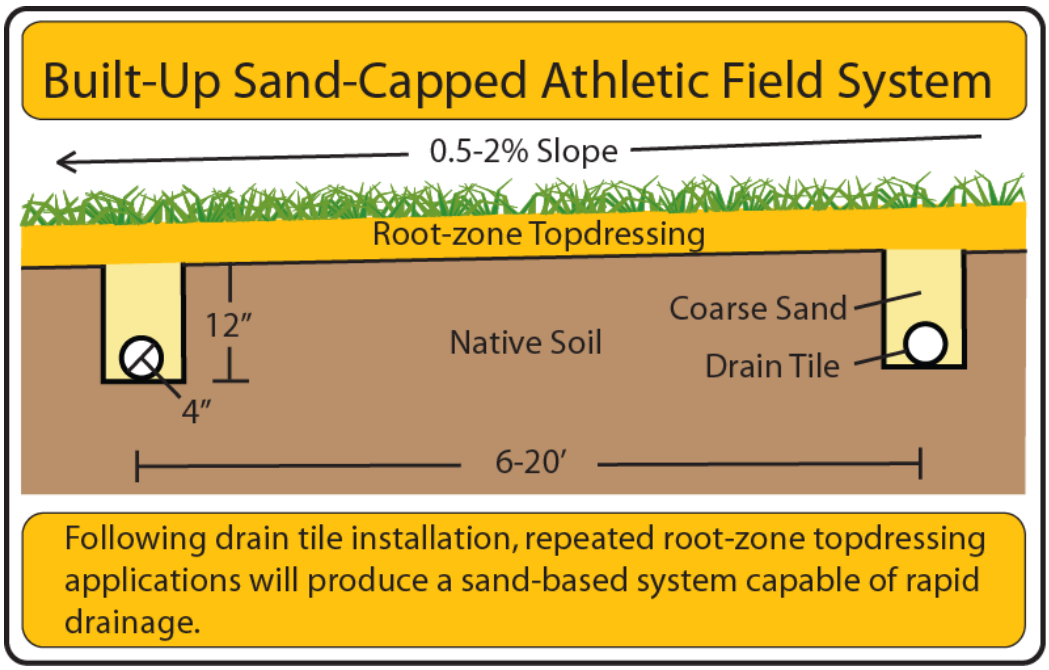
Sand-Cap Model: The third option for sand-based athletic fields is the sand-cap model, which has been employed many times in Michigan under the direction and guidance of Dr. John N. Rogers and MSU over the last 7-years, and can cost from $150,000 - 300,000. This method is less expensive because only a small layer of topsoil (2-5”) is removed from the field, and replaced with a 5-6” layer of specifically blended high sand-based root-zone material. This sand material should be well-graded; particles distributed across a range of sizes, containing approximately 90% sand – 10% silt+clay, to optimize stability and drainage. The turfgrass is then reestablished from seed, which can take up to an entire growing season to be ready for use.

Spartan Cap System: The fourth, least expensive, option is an alternative to complete field renovation using drain tile installation and subsequent sand topdressing, providing a built-up sand-capped system known as the *"Spartan Cap System"*. The *Spartan Cap System* is a cost effective renovation procedure, which can be done for approximately $58,200-103,800 [price includes irrigation system installation ($15,000), 6-20' drain tile spacing ($60,000-14,400, respectively), and 2 inch sand topdressing layer ($28,800; labor and material) accumulated over time], that does not take the field out of play. Annual maintenance cost for a field such as this is approximately $8,000. Improving the playing surface with this renovation process will substantially reduce the annual maintenance budget of a typical field ($8,000 to $25,000), because annual reestablishment, whether it be by seed or sod, is no longer necessary.

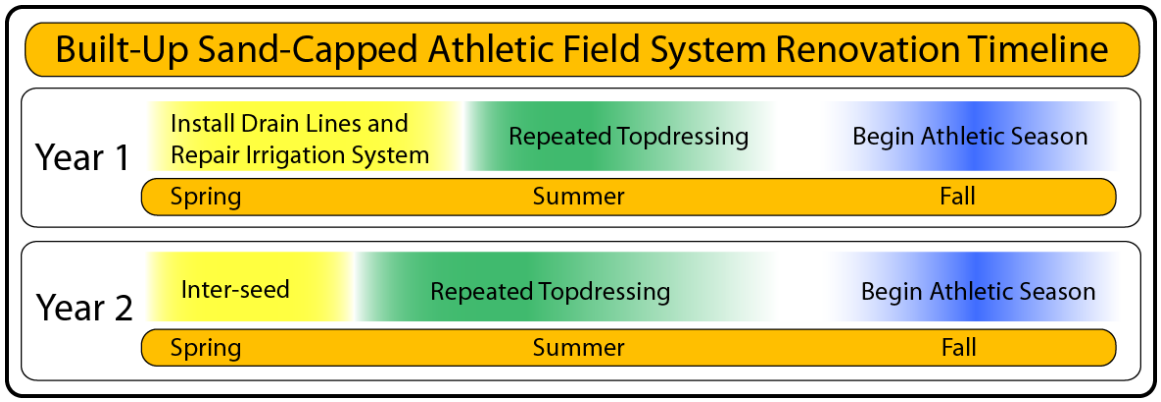
Left: Cutting drain lines and installing drain tiles, Intramural Field, Michigan State University, East Lansing, Michigan, July 200.
Right: Sand topdressing being applied at Haslett High School, Haslett, Michigan.

The 2010 Michigan Sports Turf Managers Association (MiSTMA) Field of the Year, Okemos, MI, Sep. 11, 2009, renovated using the *Spartan Cap System* in May 2008.

The concept behind the *Spartan Cap System* is to combine the advantages of the sand cap system (drain tiles and a sand-based root-zone) while providing almost uninterrupted availability. The idea is to cut drains in the existing field running lengthwise on 6-20' centers depending on the surface grade and slop, put drain tile in the lines, back fill with pea stone and then sand, or a coarse sand alone. After the drain lines have been backfilled to field level with sand they will need to be fertilized, with a controlled release product, seeded and mulched, with a product like HydroMulch, PennMulch or straw, to ensure repaid turfgrass establishment. At this time it is important to correct any low (wet) spots in the existing slope by leveling them with topsoil; soil removed during drain line installation would be appropriate for this task. Subsequent repair to any irrigation line damage is necessary. Following this begins an aggressive topdressing program during the summer using the well-graded 90% sand – 10% silt+clay root-zone material descried earlier.



Root-zone topdressing would be coupled with annual field maintenance, including inter-seeding, fertilization, cultivation, and etc. The goal would be to add at least 2" of root-zone as fast as possible without compromising fall time playing quality. Therefore, if renovations were done in the spring on a field in the Midwest the topdressing program would begin in early June and go only through early August, with each inch of well-graded root-zone material costing about $14,400 ($6,000 labor and $8,400 materials). The topdressing stops in early August to allow the recently applied topdressing to settling prior to fall use. During the first year the root-zone may not reach a depth necessary to prevent saturated surface conditions, particularly in low lying areas, but the drain tiles will prevent standing water from developing, providing a system that is better than original conditions. In the following spring the topdressing process would begin again to add the rest of the material, further increasing the systems drainage capacity. The end result is a well drained, stable, sand-based field at a fraction of the cost required for other renovation processes.

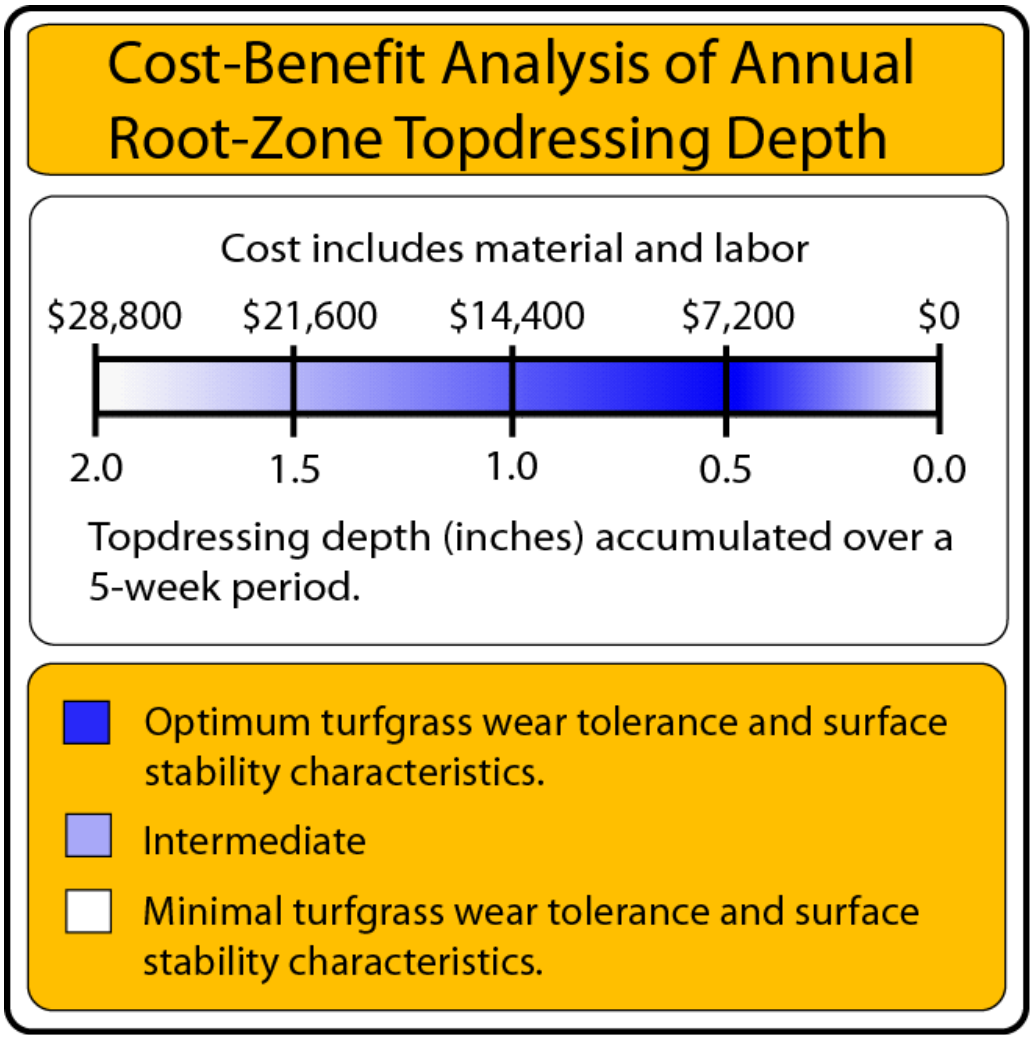


The Research

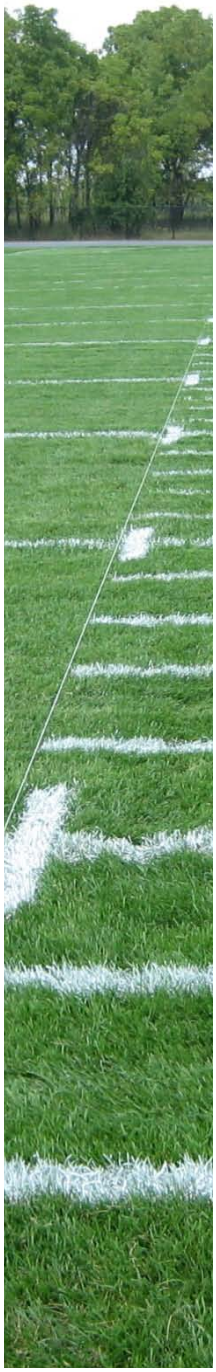
In 2007, two research projects were designed and initiated at the Hancock Turfgrass Research Center, East Lansing, MI, to address the feasibility of the *Spartan Cap* renovation process. Well-graded 90% sand – 10% silt+clay topdressing material, developed by a team of turfgrass scientist at MSU in the later 90's for athletic field construction, was utilized for the following research projects.

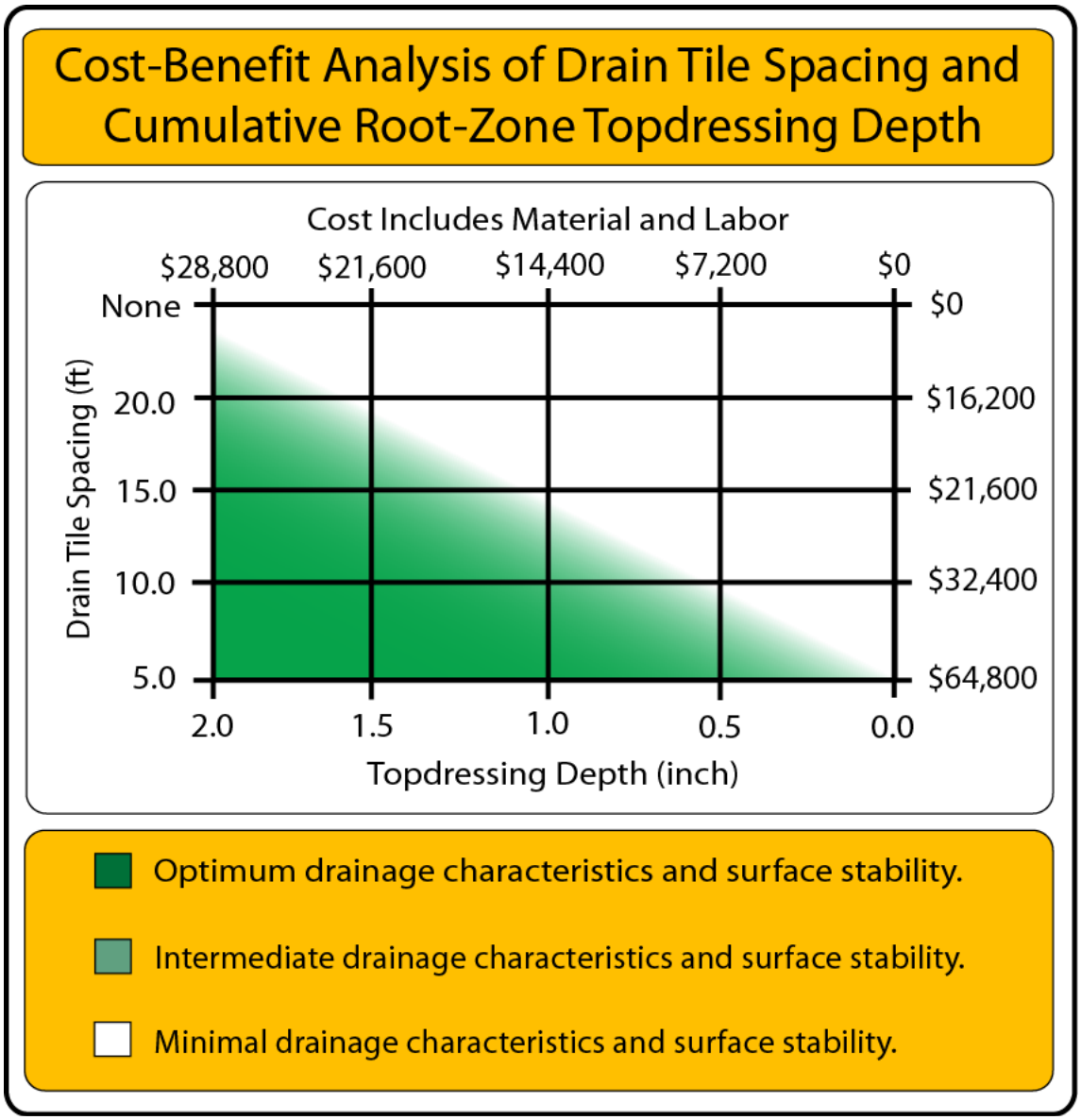
Experiment 1: The objective of the first experiment was to evaluate the effects of cumulative sand topdressing rates and summer traffic on the fall wear tolerance and surface stability of a cool-season turfgrass stand. Finding from this body of work determined that ½" of topdressing applied over a 5-week period, and restricting summer traffic on a newly established turfgrass stand, will provide the greatest surface stability (shear strength) in the subsequent fall. Topdressing depths regardless of rate improved turfgrass wear tolerance (ground cover and shoot density), but aggressive rates, greater than 1 ½", diminished surface stability. Therefore, ½" applied over a 5-week period is suggested to provide the optimum wear tolerance and surface stability. If annual topdressing depths greater than ½" are desired, it is recommended that field managers spread out applications over a period of time greater than 5-weeks to avoid compromising surface stability. For instance, if 1" is the desired annual topdressing depth, this depth of sand should be applied over a 10-week period.

Sand topdressing, four applications (½" depth), applied over a 5-week period, Hancock Turfgrass Research Center, East Lansing, Michigan, July 27, 2008.



Experiment 2: The objective of the second experiment was to establish intercept drain tile spacing, in combination with sand topdressing, necessary to improve drainage, turfgrass wear tolerance and surface stability on a sandy loam soil. Preliminary findings from this research suggest that as little as ½" of sand can used to improve athletic field playability by substantially decreasing the surface moisture content. Findings from this research also determined that a drain tile spacing of 13', which will substantially reduce installation costs ($22,400-28,000; material and labor), is adequate to provide sufficient drainage and stability when 1" of topdressing [$14,400; material (300 tons of sand spread across 72,000 ft^2) and labor] has been applied. However, 2008 results suggest that if 2" of topdressing ($28,800) has been accumulated and an adequate surface slope is available (≥1%) drain tile spacing can be increased to distances greater than 20'. Drain tile installation at 20' spacing would cost approximately $14,400-18,000. It is important to note that drain tiles are necessary to prevent standing water from accumulating along sidelines and other low lying areas and therefore should not be completely excluded from the renovation process. Conservative recommendations based on this research suggest a drain tile spacing of 13', and a 2" sand topdressing layer accumulated over a two year period for a total of $66,200-71,800 (cost includes a $15,000 irrigation system).





For more information regarding the *Spartan Cap* renovation process and specifications contact the following…

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