

that combines mechanical brushing, suction, and an infill return system to remove surface debris and embedded contaminants.

Metal removal. Use a magnet attached to your maintenance equipment to remove ferrous metal objects from the field.

Weed and pest treatment. Treat with herbicides or pesticides, as required.

Partial removal and reinstallation of infill material. Remove the infill, as necessary, to get rid of embedded foreign matter that has contaminated the infill system, relieve grass fibers that may be trapped in the infill, or improve drainage.

FIELD REJUVENATION— AS NEEDED MAINTENANCE

As fields mature, the accumulation of unwanted or foreign contaminants is inevitable, especially deep within the infill layer. Events, such as flooding or dust storms, may introduce extreme levels of contamination.

This may cause surface hardening and water permeability issues, and compromise field performance. When a field begins to show signs of deep compaction, such as g-max readings that exceed desired levels or significant drainage issues, full field rejuvenation may be desired. These maintenance services are performed using specialized field rejuvenation equipment and personnel and may include: removal of the vast majority of dirty and contaminated infill; untangling matted and compacted fibers; a combination of re-installation of new infill and/or the cleaning of the original infill; and removal of dust, debris and application of a disinfectant to treat for bacteria, if the original infill will be processed and cleaned.

SPECIAL CIRCUMSTANCES— AS NEEDED MAINTENANCE

While not intended as a complete list, the Synthetic Turf Council wishes to provide guidance on certain special circumstances which may require solutions on an “as needed” basis.

Field Markings: Temporary paints can be used if formulated specifically for synthetic turf. Ideally, paint should be applied only to the turf fibers, and not into the infill; although this will not be possible if infill levels are too high. Remove and reapply paint after a maximum of four applications to

avoid hard-to-remove build-up.

Service companies with specialized equipment are available that can paint and remove lines, logos, end zones, graphics, etc. Permanent lines, logos, etc. can age differently than the playing field turf. They may harden or shrink at different rates that will affect Gmax. Special grooming or other techniques may be required.

Heavy Rain: If significant ponding occurs after heavy rainfall, it may be an indication of a variety of factors, such as clogged or damaged underground drain pipes or discharge outlets, base unevenness, debris in the infill, or infill surface tension. For infill surface tension, a field builder approved surfactant or laundry fabric softener can be used to break the surface tension allowing the turf to drain. After heavy rainfall, it is advisable to check the infill levels in case of migration with the field slope.

Snow and Ice: Generally snow and ice should be left to melt and drain off the system without assistance. At times, however, it is necessary to remove snow or ice to make the field playable for a scheduled event. The working principle for removing snow is to do so as near to game time as possible. This reduces the likelihood of new snow build-up and will reduce the risk of ice from cold winds whipping across a damp, newly cleared surface. Because ice and wet snow removal is particularly difficult, it is important that you take measures to prevent the build-up of ice and wet snow. Use only pneumatic tires on equipment used for the removal of snow and ice. If a snow plow is used, make sure the blade is guarded with PVC pipe and corner elbows or rubber tips, and the height is adjusted to leave ¼-½” inch of snow on the surface. This is to avoid surface damage. The remaining snow should be left to melt in the sunlight as brushing the remaining snow may also remove the infill. Avoid using a tarp on the field during freezing weather.

Tarps, unless vinyl or poly-coated, can freeze to the surface, and will be very difficult to remove.

In some cases it may be necessary to use a weighted lawn roller over the field to break up ice. The broken ice can then be swept off the field. Generally, if the sun is out and the ice or frost is not excessive, it tends to melt rapidly, especially when

players are on the field.

Static Electricity: Surfactants like liquid laundry fabric softeners can reduce static electricity.

Stain Removal: Most stains can be removed easily with a solution of hot, but not boiling, water and a field builder’s approved household detergent. Brush the stain with a stiff bristle brush, scrub the area with soap and water, rinse with clean water, and pat dry.

Equipment Leaks or Spills: Prevent leaks or spills by checking equipment and its components thoroughly before use on turf; do not fill fuels, oils, fluids while equipment is on the field. Wipe any excess grease from any/all fittings. Petroleum-based spills can damage the synthetic turf. Use only the newer biodegradable fluids, if available for your equipment. Don’t use petroleum-based fluids. Check with the equipment manufacturer to verify the biodegradable fluid is compatible with the equipment and its warranty. If a leak occurs when using petroleum-based fluids it is important to minimize the damage by stopping and capturing as much fluid as possible. If it gets on the turf, use spill leak towels to soak up the majority of the fluid. Vacuum out the infill in the affected area, use a solution of household dishwashing liquid and water to break down and clean any remaining fluid from the turf. Once the turf is clean, you will need to install new infill.

Gasoline and diesel: Don’t fill equipment while it is on the turf. Do not overfill. Newer equipment has an overflow tube that drains directly under the equipment and onto the ground. Use a catch pan while filling to prevent accidental spillage. Use



grease sparingly and wipe any excess off of all fittings, bearings, chains, etc.

REMOVING FOREIGN OBJECTS AND CONTAMINANTS

Chewing gum can best be removed by using either ice or an aerosol to freeze the gum, which can then be chipped or broken off the turf fibers. If gum has been smeared across fibers, peanut butter will soften and breakdown the gum so that it can be wiped off.

Sunflower seeds, peanut shells, pistachio shells, etc. should be removed as soon as possible by using a hand held or back pack blower. To minimize or eliminate the movement of infill, do not point nozzle directly into the turf. Use minimal throttle to decrease the volume of air.

Metal objects should be picked up by a magnet that is attached to grooming and brushing equipment.

Moss, mold, or algae may appear in underutilized areas of the synthetic turf, particularly if it is in shade and damp. Specialty products are available to treat these organisms and fungi; consult your field builder. If moss, mold, or algae are allowed to harvest and spread, the field may need to be rejuvenated.

Weeds are easily removed by hand if the infestation has not become too excessive. Treatments are also available.

USE CONSIDERATIONS

It is very important for a field owner to understand that certain activities, use and other circumstances may impact the field quality, wear and tear, appearance, warranty and performance of a synthetic turf field. If any doubt exists, the field builder should be consulted. The following are some of the suggested considerations for the field owner:

- Make sure in advance any maintenance equipment, personnel, techniques, repairs and materials comply with the field builder's specifications and warranty.
- Verify that the design, synthetic turf system and maintenance specifications will result in the desired performance outcomes prior to selecting your provider.
- Monitor the performance of your field throughout its useful life with periodic field testing and frequent inspections.
- The following may damage the syn-

thetic turf: accidents, vandalism, spiked shoes, animals, wire brushes, fires, fire-works, floods, chemical reactions, acts of God, the use of dry cleaning fluids or improper cleaning methods, high pressure sprays exceeding 500 psi, storage of heavy materials on the field; non-approved infill materials, and non-approved artificial lights.

- Certain activities may damage the synthetic turf such as bicycle traffic, track and field events, golf activities, concerts, etc. Special events and activities should be reviewed with the field builder before the event occurs to ensure that damage is not done. You should also consider consulting with a company that sells field protection.

- The quality of the sub-base will directly affect the appearance and performance of the synthetic turf system. Select a base contractor only after carefully checking synthetic turf experience and capabilities. Significant importance should be assigned to grade, stone quality, drainage, etc. If the base is compromised, then the surface will be compromised.

- Footwear. Suitable footwear should always be used. Metal spikes should be prohibited and cleats are preferred. Flat-soled rubber shoes greatly intensify the wear and tear on the synthetic turf.

- Use patterns. It is very important to spread the field use to various locations on the field to prevent uneven or accelerated wear in certain areas.

- Vehicles. Do not park vehicles on the field, especially in the heat of the day, or leave vehicles on a wet or hot field for long periods of time. Engine exhausts should not be faced down toward the playing field, and a hot muffler or exhaust pipe should not touch the surface. Use lighter vehicles with LGP (Low Ground Pressure) tires with round edges to prevent rutting. Do not use cleated or traction tires. Heavy vehicles (over 300 pounds) should have a maximum tire pressure of 35 psi. Make wide, not sharp, turfs, and only when the vehicle is in motion. All vehicles should move at slow speeds. All vehicles should move at a slow speed. Avoid abrupt and sudden braking, as well as sudden acceleration or spinning of the wheels, especially on wet surfaces. Consult the equipment manufacturer to learn load limits. All vehicles must be checked before use on the field to determine if they are

leaking oil or gas. If so, they should be repaired before entry onto the field.

- Concentrated heavy use protection. Stage or other set-ups for special events or activities, such as graduations, are normal. Proper field protection of the synthetic turf must be provided to prevent damaging it. Use plywood, interlocking plastic panels or similar weight distributing materials under all chairs and tables; consult the field builder or a field protection company. Use field protection that does not have a dimensional profile, e.g., corrugation, because the profile will transfer onto the turf and require heavy grooming to remove. It is imperative that no anchoring spikes, posts or footing be driven into the turf. Once the field protection is removed, the area should be groomed and swept with a magnet to remove any misplaced or dropped nails, screws, etc.

- Helicopter landings may be necessary to remove an injured player, for example; the rotor wash will likely cause infill to be displaced. As soon as possible evaluate the area and groom or brush as needed.

- Protect the synthetic turf as needed with approved tarps when nearby renovations, e.g., running track recoats or installations, cleaning or painting of bleachers, construction or repairs to lighting, renovations of adjacent natural turf fields, etc., may cause harm to the synthetic turf. Contact the field builder for a protection recommendation. Improper plastic protection will cause heat damage.

- Prevent heavy equipment from accessing the field or, if necessary, cover the field with appropriate protection to distribute the weight of the equipment.

DISCLAIMER

Due to the unique situation of each synthetic turf installation, other considerations may arise that are not addressed by these guidelines. Such considerations should not be ignored or minimized, but should be addressed by your field builder or industry specialists. This document does not in any way, imply, suggest or guarantee that a warranty, environmental, or performance issue could not arise if these guidelines are followed. These voluntary guidelines are not standards, and are not to be used as the basis for warranty or other claims. ■

JOHN MASCARO'S PHOTO QUIZ

Answers from page 17

I COULD NOT RESIST having a snow photo in July! This stadium field has lines of melted snow from end to end but the real problem is not the melted snow, it's the fact that some of it is not melted. When the director of maintenance arrived at this facility, there were several problems that were apparent and some were not as apparent. When this snowfall was observed on the field from the upper deck, the director of maintenance noticed that the electric undersoil heating system was not working correctly. The club previously thought that poor management was responsible for uneven discoloration of the grass. As it turned out, portions of the field were not being heated during cold weather these areas would turn off color while the areas where the field heating was working properly remained green. It turned out that the electric heating cables buried about 8 inches deep had been damaged at some point, causing all of these problems. To correct the problem, the entire pitch and construction profile will be replaced in summer 2013. The heating system will also be replaced with water based pipes and a boiler system. ■

Photo submitted by Phil Sharples, Director of Maintenance, Eastern Europe for SIS (Support in Sport) based in Istanbul, Turkey.



If you would like to submit a photograph for John Mascaro's Photo Quiz please send it to John Mascaro, 1471 Capital Circle NW, Ste # 13, Tallahassee, FL 32303 call (850) 580-4026 or email to john@turf-tec.com. If your photograph is selected, you will receive full credit. All photos submitted will become property of *SportsTurf* magazine and the Sports Turf Managers Association.

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Mobile Weed Manual: A New Resource for Turf and Ornamentals

HERBICIDE SELECTION is an important step in effectively managing weeds throughout the landscape. Individuals caring for ornamental plants as well as warm- or cool-season turfgrasses can face unique challenges in selecting herbicides for weed control. Weeds that persist in ornamental areas are often different from those found in turfgrass stands. Additionally, desirable ornamental plants found throughout the landscape can be quite diverse and thus exhibit variable tolerance to herbicide applications. Lastly, many herbicide products labeled for use in turfgrass are not labeled for use in ornamentals and vice-versa. All of these factors make the process of herbicide selection in turf and ornamentals quite challenging.

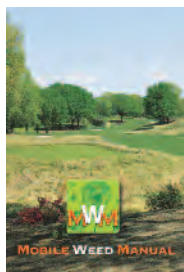


Figure 1 - Mobile Weed Manual (<http://www.mobileweedmanual.com>) is a new turf and ornamental weed control resource.

WHAT IS MOBILE WEED MANUAL?

The University of Tennessee Turf & Ornamental Weed Science Team has developed a new resource to help green industry professionals meet this challenge. Mobile Weed Manual is a new mobile website (www.mobileweedmanual.com); see Figure 1) to assist practitioners selecting herbi-

cides for use in both turfgrass and ornamental areas. The site contains weed control efficacy data and turfgrass and ornamental tolerance information for over 2,300 different species, as well as labels for nearly 100 different herbicides; all of which are optimized to be easily accessible from the palm of one's hand.

HOW DOES MOBILE WEED MANUAL WORK?

Mobile Weed Manual is a mobile website that will work on any mobile device (i.e., smartphone, tablet, etc.) regardless of manufacturer or operating system. The site will also

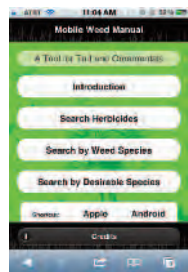


Figure 2 - Mobile Weed Manual provides three options for selecting herbicides.

function on a desktop or laptop computer; however, it was designed for use on devices with touchscreen capability. Mobile Weed Manual offers users three means of selecting herbicides for weed control (Figure 2):

Search by Herbicide. This option is designed for individuals curious about what products are labeled for preemergence (PRE) or postemergence (POST) weed control in either turfgrass or ornamentals, regardless of species. How could this be useful? Select PRE herbicides for turf and the site will populate a list of all active ingredients labeled for PRE weed control in turf. Interested in POST weed control in ornamentals? This function will populate a list of all products labeled for such use.

Search by Desirable Species. This option is designed for individuals curious to know what herbicides are labeled for PRE and POST weed control in or around the specific turf/ornamental species that they manage. For example, this option would allow a lawn care professional to view a list of all the herbicides labeled for PRE weed control in tall fescue turf or determine products labeled for POST weed control in a species of *Liriope*. The opportunities are endless.

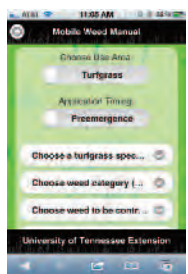


Figure 3 - Search by Weed Species function of Mobile Weed Manual

Search by Weed Species. This is the most powerful function of Mobile Weed Manual. This function allows user to select herbicides to control a specific weed growing in a particular species of turf or ornamental planting.

The steps are simple (Figure 3):

- Select a use area

(i.e., turf or ornamentals)

- Select a type of application (i.e., PRE, POST)
- Select the desirable species (i.e., the type of turf or ornamental planting in which weed control is needed)
- Select the weed type
- Select the specific weed to be controlled.

These steps serve as filters to narrow down the 100 different herbicides and 2300 different plant species to best fit the situation of interest. All of these filters must be completed for the site to function properly and provide correct herbicide recommendations. Users will be alerted in the event they omit required information.

The site will then populate a list of herbicides labeled to control the weed selected. Herbicides are color coded according to the level of control that can be expected by an application made according to label directions (Figure 4).

These rankings are based on the results of research trials conducted at the University of Tennessee. It is important to note that it is impossible to research the efficacy of every herbicide for control of every weed that could possibly invade a landscape. Thus, herbicides coded gray are labeled for control of the weed selected but have not been evaluated in research trials at the University of Tennessee.

Within each color code, herbicides appear in alphabetical order by trade name.

Users can select a particular product from the list to access additional information about how to best use this herbicide for weed management (Figure 5). Mobile Weed Manual will populate a page that provides users information on the full

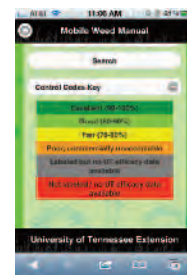


Figure 4 - Color-coding of herbicides corresponds to expected levels of control

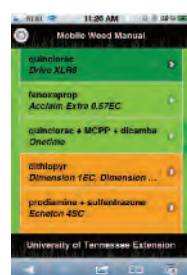


Figure 5 - List of herbicides populated from a Mobile Weed Manual search.

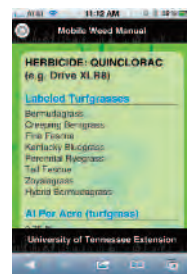


Figure 6 - Additional information on a particular herbicide



Figure 7 - Links to herbicide label and MSDS information

HOW TO ACCESS MOBILE WEED MANUAL

Simply visit www.mobileweedmanual.com using the internet browser on any mobile device. It is recommended that individuals bookmark the site and create a shortcut to it on their home screen (Figure 8).

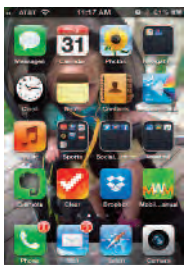


Figure 8 - Mobile Weed Manual shortcut on the bottom right-hand side of the home screen on an iPhone.

There are directions on the Mobile Weed Manual home page to guide users through this simple process. Creating a shortcut on the home screen will facilitate faster access to Mobile Weed Manual content in the future.

array of turf and ornamental species listed on the product label, suggested application rates, and remarks and precautions to adhere to before applying the product (Figure 6). Lastly, this page will contain links to each product's label and material safety data sheet (Figure 7). It is always the herbicide applicator's responsibility, by law, to read and follow all current label directions for the specific herbicide being used.

At the current time Mobile Weed Manual is a free resource. Should users find value in the content provided, they can donate funding (in an amount of their choosing) to support continued development of this new weed control resource. Donations can be made by selecting the "Support" button on the Mobile Weed Manual main page (Figure 9).

The University of Tennessee Turf & Ornamental Weed Science Team hopes that Mobile Weed Manual becomes a valuable tool for all green industry professionals managing weeds. The site will be updated continually to expand the database of turf, ornamental, and weed species information, as well as to include information on new herbicides entering the marketplace.

Since debuting online in May 2013, the site has been used by individuals managing turf and ornamentals in all 50 United States and 44 countries worldwide. Our hope is that Mobile Weed Manual use expands even further in the future.

Please send any questions, concerns, or comments on Mobile Weed

Manual to info@mobileweedmanual.com. Also be sure to stay in touch with the University of Tennessee Turf & Ornamental Weed Science Team at <http://tennesseeturfgrassweeds.org> ■

Tools & Equipment

FUTURE TURF MANAGERS EVENT PREPARES STUDENTS FOR SUCCESSFUL FUTURE

Last month Jacobsen hosted more than 20 college seniors from top turfgrass programs around the world as part of its annual Future Turf Managers event.

The annual event gives students a unique opportunity to experience professional turfgrass management at the highest level. During the 3-day event, students visit with top sports field managers and golf course superintendents, hear leading-edge presentations from top universities and get an insider's look at Jacobsen's turf maintenance equipment.

Attendees must be recommended by directors or professors at turfgrass programs. Students were selected from more than 20 colleges and universities, including Penn State University, Texas A&M University, Mississippi State University, Iowa State University and North Dakota State University. The group also included an international student from Myerscough College in Lancashire, England.

Jacobsen University hosted several educational sessions, which included a presentation from Abby McNeal, CSFM, Director of Turf Management at Wake Forest University. McNeal gave the group an overview of the Sports Turf Managers Association and shared some advice about ongoing training and player expectations.

"I've always been told not to be afraid to take the ground balls," said McNeal. "Take basic courses to keep your skills sharp like fertilizer calculation or machine calibration. It's amazing how much you forget over the years."

"Joe DiMaggio once said that every game there could be a kid who's seeing him for the first or last time and he owed it to them to give his best," McNeal told the group. "It's the same with our profession: every game you prepare for is the most important of the season, whether its Pop Warner football or an NFL playoff game."

The group also heard from Dr. Jim Brosnan of the University of Tennessee, who gave a presentation on herbicide resistance. Research has shown that herbicide resistance is being perpetuated by turf managers who use the same modes of action, year after year.

"Some of the guys I talk to out there are using the same herbicides in the same way for years," Brosnan told the group. "And they wonder why their grass is resistant to herbicide. The key is rotating your modes of action to avoid resistance."

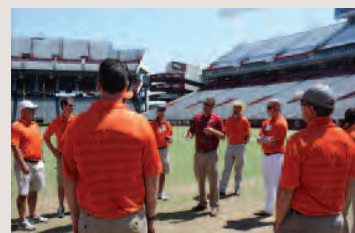
One of the highlights of the week included a visit to the University of South Carolina (USC), home of the back-to-back College World Series champions in NCAA Division I men's baseball. USC Sports Turf Manager Clark Cox gave students an exclusive look behind-the-scenes at the school's state-of-the-art sports complex. Cox also shared his experiences and challenges of managing turfgrass in the transition zone.

Reflecting on the event, students said their experiences will better prepare them for their job search and future careers.

"This event made me more confident about finding a job and better prepared for the work that lies ahead," said Robert Glenn, graduating senior at Mississippi State University. "Plus, the fact that I have contacts at two upper echelon sports facilities extends my networking reach even further."

It was also encouraging is how positive the recent graduates are about job opportunities.

"I'm not really worried about getting a job," said Derek Christensen, graduating senior at North Dakota State University. "The last 3 years, all the turfgrass graduates from our school found jobs right away. I think this week has put me in a great mindset to begin my job search." ■



▲ **Top: ABBY MCNEAL**, CSFM, Director of Turf Management at Wake Forest University, gives the group an overview of the STMA and shares some advice about ongoing training and player expectations.

Bottom: CLARK COX, CSFM, University of South Carolina Sports Turf Manager, shares his experiences and challenges of managing turfgrass in the transition zone.



Graco launches new FieldLazer S90 field marking machine

Graco Inc.'s FieldLazer S90 is the industry's first battery-powered, high-pressure airless sports field marking machine. It is an affordable, easy-to-use striping solution with proven Graco FieldLazer spray technology that reduces paint costs by up to 75%. The field marker delivers professional, bright, long-lasting lines for up to 10 soccer fields or one football field on a full charge, powered by a 12V battery. The spray technology coats both sides of the grass blade (and not the ground) in a single pass with undiluted paint. Just pour in paint and press the button to start. The removable, Tilt-N-Pour 6-gallon paint hopper minimizes refills and is easy to fill, remove and clean. The FieldLazer S90 marking system is compact and portable with an adjustable handlebar for comfortable spraying at all heights and for easy transport and storage.

Graco FieldLazer



Pioneer Athletics

Pioneer Athletics developed the world's first No-VOC athletic field marking paints for natural grass. Recognized by the United States EPA's "Design for the Environment" program for using environmentally preferable chemistry, Brite Stripe Ultra-Friendly, Game Day Ultra-Friendly, and StarLine Ultra-Friendly provide turf managers, coaches, and parents three options to mark playing surfaces with white and blue paint without compromising environmental concerns. Pioneer's Ultra-Friendly paints are also available in No-VOC red, orange, yellow, and black and are pending EPA DfE recognition.

Pioneer Athletics



Temp-Stripe athletic field marking paint

Removable synthetic turf marking paint that applies like normal field paints. Our exclusive formula was designed and developed for temporary use on synthetic turf fields in which numbers, lines, logos and boundaries require a quick change over following an event. Temp-Stripe is available in all team colors. Removal is accomplished with light to moderate water pressure and scrubbing or with help from our Port-A-Scrub paint removal machine. No costly chemical solutions needed. Because the colors are organic in nature and biodegradable, it is environmentally friendly, low VOC and completely safe on turf, uniforms and players.

It's the original Temporary Athletic Field Paint!

Whitlam Paint



Custom field logos

Give your field a professional look with a custom field logo. World Class field stencils are computer-designed and cut to provide the highest quality field graphics at an economical cost. Because we manufacture both the stencils and field paints, we can supply the entire field graphics package with just one phone call. World Class Field Stencils are perfect for painting letters, team logos and corporate sponsor logos on any turf areas. Last minute? No problem. Most stencils can be delivered within 2 weeks.

World Class Paints



Streamliner Dryline marker

The Streamliner is simply the best dryline marker in the business. With its variable flow control, Field Testing has proven the Streamliner is the best for the quality of the chalk line while using less chalk than its competition. A heavy-duty steel frame, pneumatic tires, rugged molded plastic hopper, flexible brush agitator, accurate string-line guides, and a one-button retractable handle for easy storage set the Streamliner apart. Available in 2-, 3-, and 4-wheel models. Perform two jobs with one machine when striping your fields by adding the optional Beacon Double Play Aerosol Attachment to allow you to stripe fields with chalk or paint quickly and with no mess! The Double Play Aerosol attachment grips to the base of the handle and allows for up and down adjustment to ensure proper line width.

Beacon Athletics



TempLine natural grass turf marking paint

TempLine Natural Grass Paint delivers excellent performance with less environmental damage and waste. TempLine is easy to mix and apply, with superior brightness, opacity, play durability and weather resistance. Each box makes from 5 to 14 gallons of paint. You decide how much paint to make with each box, depending on your line brightness requirements. Besides ease of preparation, application and great marking performance, TempLine formulation and packaging means no Volatile Organic Compounds (VOCs) released into the air, less solid waste to dispose of, less required storage space and lower shipping cost. One pallet of 96 boxes provides from 480 to 1,344 gallons of paint, the equivalent of three pallets of 5-gallon pails.

Eco Chemical



NewRider 1700 HPA

The NewRider 1700 HPA by Newstripe is the economical ride-on high pressure airless striping machine for marking athletic fields. The NewRider 1700 HPA is designed to quickly spray straighter, brighter looking lines and the 25 gallon paint tank will stripe numerous fields without having to be refilled. Additionally, the fully adjustable spray pump on the NewRider 1700 HPA saves money by spraying 'just the turf' and 'not the dirt' with any paint. The on-board purge tank eliminates clogging of spray tips and makes clean-up a snap. The NewRider 1700 HPA also features a hydrostatic drive and a 10.5 hp Briggs and Stratton OHC engine with electric start, and removable gun with 25' hose for stencils.

Newstripe, Inc.

Tru Mark 15 Plus multipurpose sandbag

It is our multipurpose sandbag product line, specifically the 15 Plus Sandbag for canopy ballast and other uses to hold vertical leg structures in place with minimal footprint yet maximum ballast. Features include: 15 Pound Plus durable double sandbag construction for longevity and maintenance free use; no staking with Velcro strap to keep sandbag in vertical position with maximum ballast and minimal footprint; designed for ballast filling by customer with desired material in a separate bag insert—so spillage for indoor use; and 6-inch nylon carrying handle for quick and easy setup and relocation, Velcro closure for securing ballast material.

Tru Mark Athletic Field Marker

Kromer can customize your machine

Use up to 50% less paint and get the job done 30% faster with Kromer. We manufacture a complete line athletic field maintenance equipment allowing you to paint, mark, and groom on natural as well as synthetic fields with ease. Choose the model that's right for you or let us customize one to meet your needs. Kromer's Field Commander tractor along with its hydraulically actuated field grooming and painting attachments will make creating a safe, playable and aesthetically pleasing field a manageable task. Get up to \$4,000 off your purchase with Kromer's Saving Bonanza going on now - call or click for more details. You provide the field, we provide the solutions!

Kromer Products

Game Time Stripe-It aerosol paint

Louisville Slugger Game Time Stripe-It aerosol cans have uniform coverage with quick drying results, crisp lines, and are perfect for marking all athletic fields. The paint is water-based, and eco-friendly. It is safe for all turf fields, and can even be used on damp turf. It has a long shelf life. The spray nozzle is uniquely designed to sit out of the way of your finger, resulting in no more paint on your fingertips. The can fits in most competitors' aerosol machines. The paint is available in white or 11 different colors, and colors are also available in 5 gallon buckets. Made in the USA! Game Time Sports Systems also carries the application equipment.

Game Time Sports Systems

New PUMP-N-GO spray liner

A great new alternative to aerosol painting of athletic field lines, the PUMP-N-GO is a lot quicker to use and delivers a more vivid line. This lightweight paint liner has a 2-gallon tank capacity, so there's no need to stop and shake cans repeatedly; just PUMP IT UP and you're ready to paint a few hundred feet. The PUMP-N-GO uses our #4030 EZ paint which is ready-to-use and is offered by the case with four 1-gallon bottles. This economical system is great for schools or parks with a few fields...or can be used for "touching-up" fields at larger multi-field complexes.

Markers, Inc.

Line Racer

With almost two decades of experience manufacturing electric line marking equipment, Fleet's latest addition to its range is the Line Racer. A compact battery-powered unit that has all the convenience of the aerosol can type machine but delivers big sprayer performance. Line Racer is a striping system that uses Ultimate Line, a sealed, 1-gallon jug of paint that plugs cleanly into the machine and allows you to paint a complete soccer field with the flick of a switch. With a two jug capacity and enough battery power for several fields, you can produce quality lines in half the time without the need to shake cans or deal with the disposal issues of partially used cans.

Fleet US

Jacobsen launches new AR522 contour rotary mower

Jacobsen has launched the new AR522 contour rotary, a mower with superior climbing and ground-following capabilities. The new mower is an update of the previous Jacobsen AR-522 and is designed to maintain intermediate golf roughs; green and tee surrounds; and sports and recreation fields. The new AR522 five-gang rotary mower is equipped with SureTrac four-wheel drive traction and weight transfer control, allowing it to glide over ground contours and climb hills with ease. The SureTrac system automatically transfers power where needed to provide superior performance on hills. The AR522 also features an advanced weight transfer system that allows for balancing of the machine's weight between the traction unit and decks for optimal traction and ground following in varying terrains.

Jacobsen

2013 Gator heavy-duty XUV models

John Deere introduces its 2013 Heavy-Duty Crossover Utility Vehicle (XUV) lineup. Featuring the all-new, fastest, most powerful four-seat Gator available, plus updates to current models. Outdoor enthusiasts sharing the trail or work site can now transport friends, family and gear in the all-new, heavy-duty XUV 825i S4. The latest addition to the Gator family provides the durability and versatility owners expect around their property or off-road destination. To allow for extra passengers or needed cargo space, the XUV 825i S4 provides an innovative, convertible rear seat cargo space. Two additional passengers can be transported in the rear seat area that includes a large under-seat storage compartment. And when more cargo room is needed, the rear seat folds down in just seconds providing a flat platform with tie-down points that can hold an additional 400 pounds of payload.

John Deere



Jack Trice Stadium, Iowa State University

- ◎ **Level of Submission:** College
- ◎ **Category of Submission:** Football
- ◎ **Head Sports Turf Manager:** Tim VanLoo
- ◎ **Title:** Athletic Field Manager
- ◎ **Education:** Master's Degree in Turfgrass
- ◎ **Experience:** Spartan Stadium, 2004-2007 (graduate assistant); Northwestern University, 2007-2010 (athletic field manager); 2010-present at Iowa State as athletic field manager
- ◎ **Other crew to recognize:** Josh Lenz,

Kevin Hansen, Adam Gregerson, Ethan Dykstra, Joel Rieker, Zach Simons, Josh Meyn, and Colton Metzger.

- ◎ **Original construction:** 1996
- ◎ **Turfgrass variety:** Many different varieties of Kentucky bluegrass
- ◎ **Overseed:** We seed in the spring and throughout the football season in the fall. The field gets a total of 1000 lbs of Kentucky bluegrass seed throughout the year.
- ◎ **Drainage:** Traditional herringbone

CHALLENGES

Our biggest asset is also our biggest struggle; let me explain. I am the only full-time employee dedicated toward the athletic fields and athletics grounds. We fill the void in manpower with students. These are all turfgrass students working through the University's Horticulture Department. We rely heavily on them "buying in" and "taking ownership." I would be lying if I told you that they all did, but most do. This is my third season at ISU and every year we have had different personnel. Different personnel each year makes "getting in a routine" impossible, but it does allow for many "teaching moments." Throughout the summer I had five guys working for the athletic department on the fields and common areas. In the fall we bump up to eight students because they are limited to 20hrs/week due to state law. The crew this year has been in-

▼ **FROM LEFT TO RIGHT:** Blake Nelson, Tim VanLoo, Kevin Hansen, Adam Gregerson, Josh Lenz, and Colton Metzger.



strumental in the success that our fields have been having, especially Jack Trice Field.

This year's weather has proved to be the most difficult of my career. We have had one of the worst droughts on record coupled with very high temperatures. Our irrigation has been working overtime since June and has not been able to stop. The disease pressure was low, but dealing with daytime temperatures near 100 degrees for multiple weeks was something I had not experienced. Our cool season turf was stressed from June through August with above average temperatures.

The crew and I did as much as we could to keep the grass cool and moist. Closely monitoring moisture levels with a Spectrum TDR Field-scout was instrumental in helping us keep a good moisture level without overwatering. We would check moisture levels each afternoon to help us set up the irrigation for the next morning. We also would compare what the ET data that our weather station would calculate. Between those two tools we were able to keep adequate moisture levels without overwatering.

With the above average temperatures root growth was of high concern. We continued to aerify and top-dress throughout the summer. We hollow tined four different times from April through July affecting about 23% of the surface area in total for the year. Since August we have needle tined five times. We were just trying to ensure that the plant could respire as much as it could in the temperatures that it was trying to survive in. I think that staying aggressive with the aerifier proved to be crucial in sustaining root growth throughout the hot summer.

SportsTurf: What channels of communication do you use to reach coaches, administrators and users of your facility? Any tips on communicating well?

VanLoo: I use many channels of communication: text, email, phone, and face to face. The type of communication depends on the situation and coach. I have found that face to face or phone call is the best when situations are uncertain and many scenarios can play out. Emails are the best for me when schedules and specific needs are being asked for in advance. Text can work for this, but I always fear forgetting about it, when it's in my inbox I won't forget.

The few times where emotions can get high, I feel it's very important to speak face to face. You and the coach or staff person are less likely to say something that can be taken the wrong way if it's in person. Reading emotion from people is very important, and face to face discussions are the only way to be accurate.

ST: What are your specific job responsibilities?

What do you find most enjoyable? What task is your least favorite and why?

VanLoo: My specific job responsibilities are and not limited to: Jack Trice Stadium, Johnny Majors Practice Field, Two-a-Days Practice Fields, Bergstrom Indoor Facility, Cyclone Sports Complex (Softball, Soccer, and Track), Cross Country Course, and all the landscaping and grass that surrounds our athletic facilities. About 55 acres total, only 15 acres irrigated.

The most enjoyable part of my job is the students. My entire staff is made up of Iowa State turfgrass students. Working with students on the application of classroom principles and helping to prepare them to become future turf managers is the goal. I rely on them to do every part of what it takes to prepare our fields. There is a lot of freedom to manage each other and find tasks that need to be done. Sure, there are many mistakes made, but learning from mistakes is sometimes the best education. I had the privilege of having many great mentors as I learned the industry; my hope is to return that to the students that I have been given the opportunity to work with.

The least favorite part of the job would probably be paper work and University processes. I know it's a necessity, but that doesn't mean I have to like it!

ST: How did you get started in turf management? What was your first sports turf-related job?

VanLoo: I got started in the turf industry in high school. I started working for a driving range and maintained a practice putting green. After high school I started working for a country club.

My first sports-related turf job was growing in Spartan Stadium field while an undergraduate at Michigan State University. We grew it in modules offsite and moved them in the following year. That first summer I helped water and maintain the seeded Kentucky bluegrass field. That project hooked me into sports turf management.

ST: How do you balance your work and personal time?

VanLoo: Balancing work and personal life is a constant give and take. I have been blessed with a very supportive wife who understands that certain times of the year demand much of my time at work. Without her support I could not be successful in this career. When times slow down I do my best to make sure my family knows they are my number one priority.

ST: What changes are you planning to make



or have you made to your maintenance plan for 2013, if any?

VanLoo: Any changes this year will be a reaction to the weather. I am a creature of habit so I don't like to stray very far from what has worked before, but Mother Nature usually forces me to change something. In my three seasons at Iowa State I have been through a record-breaking flood and a record-breaking drought. I am hoping for a statistically "normal year" this year.

ST: Are you yet involved in "sustainable" management practices? If so, what are you doing?

VanLoo: The sustainable practices that we have adopted focus on water conservation and precise pesticide applications. We use ET and TDR soil moisture sensors to determine irrigation schedules. I like proof in numbers to back my decision to water. For the precise pesticide applications we use a GPS equipped sprayer. The single nozzle control doesn't allow any overlap. This ensures accuracy of application and doesn't allow for over application anywhere. Agriculture has been using this technology for many years, proving its reliability.

ST: How do you see your job changing in the future?

VanLoo: This is hard to say. I don't imagine its gets any easier! College sports are a growing business with more and more demands on all who are involved. I like change, so I am excited about the future and what it holds for me. ■

STMA in San Antonio: association's offerings taking shape for 2014 Conference

AS REFERENCED IN A RECENT STMA NEWS ONLINE ARTICLE, STMA's 2014 conference will be held in one of the country's most vibrant up-and-coming cultural centers: San Antonio, TX. Home to the historic Alamo and world-renowned River Walk, this unique community offers a wealth of sights and sounds for all to enjoy. The Grand Hyatt Hotel, the conference host hotel, is connected to the Henry B. Gonzalez Convention Center (site of the education and trade show) and STMA has negotiated a special \$165 room rate for attendees. More conference details can be found at stma.org, so don't forget to register and keep checking back for more updates!

A stop in San Antonio would not be complete without a visit to the world-famous River Walk, which opened a new 1.3 mile extension since STMA was there in 2007. In 2010, *Travel + Leisure* magazine named it one of "America's Coolest River Walks" saying, "This granddaddy of river walks charms with 4 miles of cypress-lined cobble-and-flagstone paths along both sides of the narrow San Antonio River. Locals and visitors cool off on the horseshoe-shaped loop downtown, meandering past trendy shops and stopping at hot spots like Boudro's for guacamole prepared table-side." A number of varied shopping and cultural events abound; the downtown area surrounds the convention center and the Alamo is directly adjacent.

And, with STMA's Call for Presentations behind us—and having reached a record number of submissions in the process—the content for 2014's conference in San Antonio is rapidly coming into focus. As with the 2013 conference in Daytona Beach, 11 distinct educational tracks will be highlighted with a good number of sessions supporting each. These tracks include **turfgrass management, pest control, water/drainage/irrigation, design/construction/renovation, synthetic fields, facility management, baseball/softball, professional development, environmental issues/sustainability, research, technology, and international sports/facility management.**

To give you a hint of the topics to be featured in San Antonio, we're highlighting just a few of the sessions to illustrate the depth and breadth of what's in store for attendees during STMA's 25th Annual Conference & Exhibition!

"Evaluation and Preparation of Fields for Heavy Use"

Presenters: Dr. Grady Miller

Description: Working with schools and Park & Recreation units, I continually see overused fields. The questions are almost always, 1) what are the most important practices? 2) What can I do when

they start to wear? 3) How much use can my field take? I've developed a presentation and handout material to help them answer these issues.

Objectives:

1. After seeing examples, attendees should have a better understanding of problems they may face with high use fields.

2. Attendees should have a better understanding of how to access their field conditions.

3. Attendees will be given informational tools they can use to find answers in field management.

Title: "What Are Your Weeds Telling You?"

Presenter(s): Jim Brosnan, PhD & Gerald Henry, PhD

Description:

Weeds are often indicative of other agronomic problems within warm- and cool-season athletic fields including issues pertaining to soil compaction and nutrient management that can reduce field safety and playability. This presentation will not only teach attendees the importance of indicator weeds (i.e., weeds that indicate an agronomic issue) within a field, but also emphasize the integration of cultural and chemical practices for weed management programs on athletic fields. Attendees will learn why implementing these weed management programs is a critical step towards maximizing athletic field safety and playability. Programs presented will be based on research findings surrounding the use of cultural practices such as aeration and fertilization as well as the use of both old and new herbicide technologies available to athletic field managers. Particular emphasis will be placed on annual bluegrass control given its importance to both warm- and cool-season athletic field managers at all levels of play.

Objectives:

After attending this presentation, attendees will:

1. Be able to identify indicator weeds of warm- and cool-season athletic fields

2. Understand agronomic problems associated with the presence of indicator weeds in their turf

3. Learn how to build integrated weed management programs using both cultural and chemical practices

4. Understand the importance of controlling weeds with these programs for the purpose of maximizing athletic field safety and playability

5. Be aware of new technologies for managing weeds of warm- and cool-season turf athletic fields; particularly annual bluegrass

On Wednesday during the conference, STMA will be featuring a full day track dedicated to pest control so people can receive their pesticide recertification credits. One of the featured sessions in

the pest track:

Title: Advanced Turf Disease Management: Maximizing Pesticide Applications to Improve Product Performance

Presenter(s): Mike Fidanza, PhD

Description:

I would be willing to deliver this presentation as a follow-up to my Post-Conference 'turf disease' seminar from the 2013 STMA Conference. This could be an 'Advanced Turf Disease' post-conference seminar. In this presentation, I would focus on product application delivery (i.e., spray nozzle selection, water volume, many other factors) to improve fungicide and other plant protection/plant health product applications to sports turf.

Objectives:

After attending this session, participants will be able to:

1. Properly select nozzle type and size for improving pesticide applications to sports turf

2. Select the best water-carrier volume to maximize pesticide performance

3. Understand the importance of fungicide selection and mode of activity to improve/maximize pesticide performance.

On Thursday during the conference, there will be three courses dedicated to student advancement in the industry. There are also two "STMA" courses with one dedicated to the CSFM exam and one dedicated to FOY winners.

Friday morning will feature a number of workshops, one of which is detailed below:

Title: "Turfgrass Mathematics 101: The calculations every turf manager should know"

Presenter: Barry Stewart, PhD

Description:

Many athletic field managers are unsure of their math skills. This workshop will cover common calculations that athletic field managers need to know how to do in the course of their jobs. Determination of area, applicator calibration, and product per area calculations will be highlighted. There are several apps for smart phones for these calculations and with the widespread availability of broadband internet and WiFi connectivity these are now even useful in the field, but without a knowledge base of what numbers to expect these apps can be problematic if they are relied on too heavily.

Objectives:

1. After attending this session the participant will be able to determine how much product to apply to a given area.

2. After attending this session the participant will be able to calibrate wet and dry applicators.

3. After attending this session the participants will become familiar with Smartphone apps that help solve these problems but have a working knowledge of the mathematics behind the Apps to know if the App is giving you garbage.

Also on Friday, there will be four innovative sessions featured on the trade show floor that will focus on emerging technology in the industry. ■