consultant, and contractor. Delays associated with downloading survey data, drawing preparation, and "in office" evaluation can be significantly reduced. Final "hard copy" verification of planarity can be provided in complete, accurate, and final drawing format within 24 hours of the field data collection greatly reducing the time for corrections to be made prior to installation of the final surfacing.

• The field data can be presented in a color coded 3D topographic model and easily compared to the design profile for the athletic facility surface allowing for ready comparison of the as-built condition versus the design condition. Areas of deficiency requiring correction can be readily identified and the volume/area of material required for correction quickly determined.

• With the real time ability to correct planarity issues and with eliminating "data gaps" common in visual or traditional survey verification, corrections requiring cutting and patching the finished synthetic turf or running track surface can be virtually eliminated.

• The time for data collection, visual field verification, and data analysis can be dramatically reduced resulting in cost savings for the quality verification process all while providing more accurate and relevant results. Further, considering the reduction in post surface installation repairs, overall project costs and construction delays can be eliminated and a higher quality finished surface provided.

• The laser scanning technology is also fully compatible with total

station surveying permitting integration of the laser scan data with traditional survey data.

The application of laser scanning technology for synthetic turf field, running track, and sport court construction has been undertaken with our survey subsidiary, Land Grant Surveyors (LGS). ELA Sport continues to work with our surveying partner, field and facility contractors, and our clients on the application of 3D laser scanning for as-built planarity verification for a variety athletic facility surfaces.

This new technology was used by ELA Sport on several of our athletic field and track projects during the Summer 2010 construction period with positive results and feedback from our clients and athletic facility builders. Notable projects included survey of the resilient base layer at Villanova University, aggregate base surveys at Crispin Stadium for the Berwick Area School District, Seth Grove Field at Shippensburg University, and the new stadium field at Warwick High School (all in Pennsylvania).

ELA Sport continues to incorporate this advanced survey technology as part of our construction review process and is working to make the highest standard of base quality evaluation available and cost effective from the professional facility level to youth recreational sports facilities.

Ernest J. Graham, RLA, is Principal-in-Charge, ELA Sport, Lancaster, PA.





More outdoor synthetic turf adhesive information

Editor's note: Last December we ran an article by Norris Legue, aka the Guru of Glue[®], which was well received so we offered him a chance to update us. He is the president of Synthetic Surfaces, Inc., Scotch Plains, NJ

IRST LET'S REVIEW some important points from last year's article: It is both the profits from the initial installation and the profits retained by avoiding "call backs" that count. Using an inferior, lower-cost adhesive to "save money" but which instead lowers the finished job's profits because of its difficult handling properties outdoors increases installation time and/or it fails later due to weathering, is not good business. It's penny wise and dollar foolish.

Do not be fooled into believing that an adhesive with the highest strength is the best for installing synthetic turf. Instead of high strength, it is adhesion to the surfaces being bonded, both initially and after weathering that counts. High adhesive strength does not mean good adhesion. As an example, that same high strength adhesive will easily peel off of oil and/or waxcoated steel, "Teflon" and many other surfaces due to poor adhesion.

The most important adhesive property for installing synthetic turf is "high green strength" or high grab. This property is the ability to hold two surfaces together when first contacted and before (still green) the



Facility&Operations

By Norris Legue

>> ADHESIVE being applied for a total gluedown by spraying.

adhesive develops its ultimate bonding properties when fully cured. It is the opposite of an oily/slippery adhesive, regardless of strength after cure.

High green strength adhesives and help fight troublesome turf movement during installation, e.g., turf curl, bubbling, wind lift, creep, slip, wrinkling and buoyancy from rain, whereas an oily/slippery adhesive before it cures does not prevent those unwanted surface movements from the same forces mentioned above.

There is no such thing as a "one size fits all" synthetic turf adhesive. From an adhesive chemical standpoint, there are urethanes, epoxies, silicon/silane, rubber, etc. From a handling standpoint, there are Newtonian liquids, thixotropic liquids, spraying adhesives, hot melt adhesives, one and two-part adhesives, etc. So before selecting, do your homework on what's best for your application.

[Free reprints of the December 2009 article are available from the author upon request.]

ADHESIVE UPDATE

Unless you are a gambler who realizes that you could also lose, don't select an adhesive based on impressive lab test results conducted indoors. The reason is that after weathering, it could deteriorate to become an adhesive "time bomb." Additionally, indoor tests on cured adhesives do not reveal the adhesive's outdoor handling properties when

There is no such thing as a **"one size fits all"** synthetic turf adhesive. From an adhesive chemical standpoint, there are urethanes, epoxies, silicon/silane, rubber, etc.

>> ADHESIVE being applied to a white seaming tap from a glue box.

installing at different temperatures, humidity, wind, changing temperatures due to cloud cover and other variable weather conditions.

Regardless of the high quality of the outdoor adhesive selected, don't try and save money on the amount of it used by avoiding a total gluedown in favor of a partial one, such as by "strip gluing," spot, and/or perimeter gluing. The unbonded parts from partial gluing can expand upward from the sun's heat and cause bubbles or wrinkles. These parts also can bunch up underfoot from twisting, turning, sudden stops, etc. And these installations can look awful because a combination of rain water and light "telegraphs" through the turf, to show which parts are bonded and which are not bonded.

Another hazardous way to try to save money on glue is to apply a narrow width of it onto a seaming tape. The narrower the width, the less glue that's used, coupled with a lower seam strength. While the installation initially looks good, seam problems may develop later when athletic traffic is steady. The reason should be obvious because "shear strength" decreases as the width of the adhesive on the tape decreases. Hence a seam with 6 inches of glue on each side will be stronger than one with 4 inches on each side, down to 2 inches, etc. That's one reason why total gluedowns are superior—There's a wide width of adhesive on each side of the seam.

Still another method to try to save money on glue is to substitute a non-curing thermoplastic hot melt adhesive for an adhesive that cures. Not only does the thermoplastic hot melt re-soften from surface heating on sunny days, but also during the initial installation, bonding is slower and more labor intensive. Remember, time is money. Additionally, because a thermoplastic hot melt adhesive is usually applied as a thick film that becomes a very hard in cold weather, I wonder if seams, numbers, and other inserts bonded with them have a higher Gmax and/or hardness underfoot than the other parts of the same field.

There is a debate among professionals about seams joined with mechanical fasteners like sewing, nails and staples versus adhesive bonded seams. I'm uneasy about metals like nails and staples because of lightning possibilities so I won't write more about them.

Glued versus sewn synthetic turf seams is another story. In reality, if done correctly, both methods are adequate for good seam performance but the best by far is a combination of both gluing and sewing seams. I believe that it's more than double than if gluing or sewing alone. However, unless the job is a total gluedown, which is much better than loose-laying turf, doing both difficult. In my opinion, a superior installation is one that is a total gluedown with both glued and sewn seams.

Unfortunately, by trying to save money on glue, some specifiers, contractors and installers have caused glued seams to get a "bad rap." They use a cheap, inferior adhesive and/or not enough of a good adhesive that results in a seam failure. The subject then gets oversimplified and generalized by some into mistakenly concluding that "sewn seams are better than glued seams" without regard to the quality and amount of adhesive used on the failed seams. It's tough to focus on the game when

your turf looks

like this.

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>> ADHESIVE being applied to seaming tape with a kneel-down trowel.

When it is either gluing or sewing but not both, I prefer gluing over sewing when a good outdoor adhesive and experienced turf installers are used. Why? Gluing spreads seam stress evenly over a large bonding area instead of concentrating the stress at stitching points like sewing, plus sewing leaves unbonded spaces between each stitch. Technical adhesive books and trade magazines confirm the advantage of adhesives bonding over mechanical fasteners.

In breezy conditions, steady winds and/or gusts can be dangerous when sewing; when wind gets under or behind uplifted turf, which then can act like a sail. Wind has temporarily (minutes or days) halted installations because it can break sewing needles and/or injure installers. Even without wind delays, sewing is still slower than gluing. Remember, time is money. Finally, glued seams look better than sewn seams.

It is not just the adhesive component that is the victim of those who oversimplify or generalize negatively about synthetic turf. A poor or failed installation often gets misinterpreted into "synthetics are inferior." We ignore the hundreds of quality inDo not believe that a fast "**snap cure**" adhesive has a high grab and green strength. It's usually the opposite. Such adhesives usually proceed from oily/slippery with no grab to dry with little acceptable working time for bonding in between.

stallations throughout the world done by experienced installers.

YEAR ROUND BUSINESS

It is becoming increasingly important that synthetic turf adhesives must be usable year round to install turf, even in adverse weather. The reason is that the synthetic turf business for both installation and repair keeps expanding to a point where it is no longer a short seasonal business. That's good profit news for contractors and installers because again, time is money. It translates into more hours each day and/or more days each year for profitable outdoor installations and repairs.

There should not be a lower or higher temperature weather limit on when the adhesive can be used to install or repair synthetic turf, nor should the threat of rain, which may or may not occur, delay an installation. If it is not raining or snowing and the installers can do good work in adverse weather, the adhesive should not prevent them from installing. Adhesives that can only be used in "fair weather" are no longer acceptable.

Do not believe that a fast "snap cure" adhesive has a high grab and green strength. It's usually the opposite. Such adhesives usually proceed from oily/slippery with no grab to dry with little acceptable working time for bonding in between. Conversely, a good high green strength adhesive for installing synthetic turf will not "snap cure" even when hot. Instead, after application its high grab develops quickly and stays that way for bonding for say

>> ADHESIVE being applied to seaming tape with a stand-up trowel.



about an hour depending on conditions. This gives installers plenty of working time because the installed turf is being held in place even though the high green strength adhesive has not yet cured.

Do not believe that a hot melt adhesive has "high grab" because in hot weather they tend to stay liquid for an excessively long time, which slows down the installation. Oppositely, in cold weather they often re-solidify before the bond can be made, thus causing a hard lump under the surface.

Variable outdoor weather conditions, as opposed to stable indoor conditions, can affect installation time, labor expense, installation appearance, and profits. Because time is money, proper outdoor adhesive selection is critical. It can be the difference between profit or loss due to the speed of installation, cost of labor, number of call backs, plus finished job appearance and performance.

Architects, specifiers, and installers should keep in mind that selecting a suitable outdoor adhesive for its easy handling



>> ADHESIVE being applied for a total gluedown with a stand-up squeegee.

and long-term exterior durability, plus installing synthetic turf outdoors using that adhesive is a different world than the indoor installation of synthetic turf and/or flooring. Experienced and successful indoor installers can have disastrous results outdoors by using the same indoor installation techniques and/or adhesives.

Assuming high quality materials and professional installers, the adhesive is the most important component for a profitable outdoor installation. The information provided in this article should be helpful to both not only initially earn good profits but also to later keep them by avoiding call backs.



Norris Legue is president of Synthetic Surfaces, Inc., Scotch Plains, NJ. Free reprints of the December 2009 article are available from Norris Legue upon request, info@nordot.com.



THE VALUE OF CERTIFICATION



N ATHLETICS, it's all about the quality of the game. The quality of the sports field is measured by its safety and playability and to some extent its overall aesthetics. To make this happen, someone has to manage and care for the field. Whether this person directs a professional venue or the local recreational field, it is their skill and knowledge that sets them apart, especially when resources are limited. There is a need for qualified sports field managers, knowledgeable of fiscal management, environmental stewardship and agronomy. Having recognized the importance of fostering and improving professionalism within the sports turf industry, the Sports Turf Managers Association developed the Certified Sports Field Manager (CSFM) program.

Certification demonstrates that successful sports field job applicants have the knowledge to deliver safe, playable and attractive sports fields. It also demonstrates to employers a significant commitment to career and competence. Quite simply, in an increasingly competitive and changing work environment, certification is an essential investment in one's professional future.

When you become a CSFM, it means that you have taken your professionalism to the next level. After meeting the credentialing standards of education and experience, the applicant takes a written test. This exam is considered by many to be one of the most difficult in the industry to pass, which is one of the main reasons that those who do pass, display their credentials with pride. The sophistication of the exam development process also contributes to the preferred status of the credentials. Overseen by industry experts, the CSFM exams are specifically based on "real world" responsibilities of sports field management professionals. The program also requires that the CSFM stays current with trends and new development pertaining to sports field management through continuing education as well as an industry service obligation.

Over time, the CSFM designation has gained a reputation among employers, professionals and industry experts as the most respected and preferred sports field management credential.

Don Savard, CSFM is athletic facility & grounds manager for the Salesianum School, Wilmington, DE.

5 STEPS to becoming a Certified Sports Field Manager

Visit the STMA website, click on the Professionalism tab and then scroll down and click in the CSFM Program heading. All of the information that you will need (including forms) is listed there and can be downloaded.

2 Determine if you meet the experience and educational requirements. Experience and education are assigned point values. Forty points is the minimum requirement that needs to be attained in order to go to the next step.

3 Read the CSFM Detailed Competency List. There are 20 pages that list all of the things that you must know in order to pass the test. Everything on the List is part of the essential knowledge base that every CSFM must possess. Compare your expertise with the List and prepare to increase your understanding where you are weak. A CSFM must be capable of managing different sports on all playing surfaces under extreme conditions. Gather your text books, magazines and online articles. The Study Resource List will help get you started. Start reading!

4 Prepare and submit your application form and the requisite paperwork. This includes your resume, completed Educational Requirements Worksheet, your School Transcripts, your signed Code of Professional Practice Form and the application fee. STMA Headquarters will review your application, check your references and notify you of your eligibility to sit for the exam.

5 Schedule your exam. You make take your exam locally with a proctor, or take the exam at the National STMA Conference (the advantage being the exam is administered on the first day and the last day giving a chance to retake sections if necessary). The test is a written multiple choice test comprised of four major Sections pertinent for a Sports Turf Manager. Each Section will be graded individually. A passing grade of 80% will be required for each Section. Sections for testing will include:

Agronomics

- Basic horticultural calculations
- Basic soils
- Turfgrasses and their selection
- Turfgrass nutrition
- Water management
 Turfgrass cultural
- practices

Pest Management -IPM, Cultural, Pesticides

- Weeds
- Insects
- Diseases

Administration

- Budgeting
- Communication
 Supervision/Personnel
- Management • Safety/Compliance/
- First Aid

Sports Specific Field Management - Field design, layout, dimensions, lining/markings, maintenance, playability, aesthetics

- Baseball/Softball
- Football
- Soccer, Lacrosse, Field Hockey

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Fax		Email			
Signature					
Direct Supervisor Name	9				

Membership Category:

Sports Turf Manager	\$110	
□ Sports Turf Manager Associate* (Additional member(s) from the same facility)	\$75	
Please select the primary facility type where you are employed:		
O Professional Sports O Higher Education O Schools K-12 O Parks and Recrea	ation	
Academic	\$95	
Student (verification of enrollment)		
Commercial		
Commercial Associate* (Additional member(s) from the same commercial compared	ny) \$75	
Affiliate (Person who is indirectly or on a part-time basis, involved in the maintenance/management of sports fields)		
Chapter Dues (contact headquarters for amount) Chapter name)		
Contribution To SAFE Foundation (research, education and scholarship):	\$	
Total Amount Enclosed:	\$	
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*There must already be a national sports turf manager from your facility or commercial member from your company before you may sign up in the Associate category.

Sports Turf Managers Association P.O. Box 414029 Kansas City, MO 64141

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"I know I am a better sports turf manager because of this association. As sports turf managers, we take the challenge seriously to make our fields the best possible for the next game. The resources I have access to through STMA helps me do it."

— Bob Campbell, CSFM Higher Education Membership Segment

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Toro introduces new cargo box design for Workman MD Series

The popular Toro Workman MD Series will be equipped with a new cargo box design in 2011. This new design features an automotive-style tailgate with a one-handed open/close latch on the driver's side. For added convenience, the cargo box platform can be customized with optional kits including a stake pocket adapter that accommodates accessories and racking systems, as well as load tie-downs and a tailgate lanyard. The new Toro cargo box can also be retrofitted for all existing Mid Duty Workman vehicles.

www.toro.com

Newest Kubota utility vehicle

The 2011 RTV900XT from Kubota is the newest edition of Kubota's workhorse, diesel-powered, RTV900 utility vehicle. The new RTV900XT features significant enhancements to Kubota's exclusive Variable Hydro Transmission (VHT Plus2), resulting in increased low-end torque to maximize towing and hauling performance for both residential and commercial/industrial users. Transmission upgrades also generate smoother dynamic braking, improved gear-shifting and increased powertrain durability, making the Kubota RTV900XT ideal for tough, long-haul, 24/7 work-horse applications that utility vehicles with belt-drive CVTs just can't handle.

www.kubota.com

ProGator improvements

In 2011, John Deere Golf introduces updates to its popular 2030A ProGator[™] including an increased payload capacity and Ezy-Lift[™] attachment. The added payload capacity handles up to 3,457 lbs. for standard suspension ProGators and up to 4,200 lbs. for heavy duty suspension ProGators. With the new Ezy-Lift attachment sports turf managers are able to load and unload items weighing up to 850 pounds in the bed of the ProGator easily and quickly.

www.deere.com

New Bobcat UV line

The new Bobcat line of utility vehicles launched this year features range from two-wheel drive to the four-wheel drive, with additional options and accessories available to customize the new utility vehicles to fit your unique needs. Improvements include performance enhancements such as more responsive acceleration, better payload capacities and increased horsepower and top speeds, and electronic fuel-injected gas 4x4 models that start easier and run more reliably in higher altitudes. Increased payloads, acceleration and top speeds are the direct result of the new horsepower ratings in both the gas and diesel engines.

www.bobcat.com

New Polaris Ranger model introduced for 2011

New for 2011, Polaris is introducing the, Midsize RANGER 500 EFI, a four-person RANGER CREW 500 EFI and first Polaris diesel Side-by-Side, RANGER Diesel. The new RANGER 500 EFI, shares the same mid-size, twoseat chassis as the RANGER 400, with the addition of a 498cc EFI engine and full instrumentation, providing consumers two midsize, gas models to choose from for model year 2011. The 500 EFI engine provides 32 horsepower giving the unit a top speed of 44 mph/70.8 kph and benefits of easy, choke-free starting and automatic altitude compensation due to its electronic fuel injection. The midsize RANGER still boasts On-Demand True All-Wheel Drive with VersaTrac, Independent Rear Suspension, heavy duty front end protection, high ground clearance and the longest suspension travel in the mid-size class.

www.polarisindustries.com

Cub Cadet introduces new UV model

Cub Cadet's new Volunteer VTX features a transformable cross-over design making it ideal for institutional and municipal work, event production and VIP transport, and more. To establish a future vision of UTVs and create the Volunteer VTX concept, Cub Cadet partnered with power sports industry leader, Cycra. To manage difficult municipal tasks, tackle challenging event related jobs, move cargo and/or people, the VTX concept offers many of the rugged features found across the proven Volunteer platform with several enhancements in form and function. For those jobs that require additional power, the VTX cross over includes 12 volt power outlets, hook ups for air powered tools and multi functional high intensity lighting.

www.CubCadetUV.com.

The E-Z-GO MPT 800

Featuring an 800 lb payload capacity, a durable, corrosion-resistant chassis and a choice of a 48-volt electric drivetrain or a best-in-class 13 hp Kawasaki® gas-powered engine, the E-Z-GO® MPT 800 is ready to perform a variety of tasks. The vehicle can easily be customized with a wide range of innovative options and accessories to address the specific needs of your operation. Designed and tested for performance, the MPT 800 responds to all course maintenance challenges.

www.ezgo.com

Ask a CSFM

Allen Johnson, CSFM, Fields Manager, Green Bay Packers

Benefits of certification verified

Editor's note: This is another installments on how becoming a Certified Sports Field Manager (CSFM) can benefit turf managers professionally as well as improve their facilities

How did you prepare for the CSFM Exam?

Johnson: I did some reviewing of textbooks that I used when I went through Penn State's Advanced Turfgrass Management Certificate program; glanced over the highlights of each chapter and scanned the glossary. I also utilized the internet to learn more about other sports field dimensions/ layouts. Additionally, I did a quick review of our state's commercial pesticide applicator's manual.

How did you approach your employer to support your certification, both financially and in the time needed to prepare for the exam?

Johnson: Our organization had recently implemented a formal program of annual goal setting, so that was a natural fit to propose the certification status as an individual goal. They were completely supportive financially and I used rainy days to prepare for the exam.

Why did you decide to pursue certification?

Johnson: I wanted to show my employer how completely devoted I was at being the best sports turf manager that I could be. Taking the steps to earn that certification status was just another way at validating that to them.

How has certification helped your career?

Johnson: A few years ago, Wisconsin passed some legislation that required facilities like ours to write a nutrient management plan and the Certified Sports Field Manager

status was one way of meeting the criteria to be qualified to write such a plan. Having already achieved the status, we didn't have to worry about bringing in someone else to write one for us. After educating those facts to my employer, I believe they were appreciative of the fact that I became certified.



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STMAinaction

2010 Field of the Year Award winners

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

A panel of six judges independently scored each entry based on the playability and appearance of the playing surfaces, innovative solutions employment, effective use of budget, and the development and implementation of a comprehensive, sound agronomic program. The STMA Awards Committee includes Chair Martin Kaufman, CSFM; Steve Bush, CSFM; Jeff Fowler; Andrew Gossel; Allen Johnson, CSFM; and Tim VanLoo, CSFM. These judges come from all segments of STMA membership and represent some of the finest facilities in all of America.

"As always, evaluating this year's applicant pool was very difficult," says Martin Kaufman, CSFM, STMA Awards Committee Chairman. "The quality of the applicants each year continues to improve and the winners this year were truly deserving."

"The Field of the Year Award validates the intense dedication of our members," says Kim Heck, CEO of the Sports Turf Managers Association, the sponsoring organization of the award. "Each year STMA awards no more than 14 Fields of the Year, so a very small percentage of our members are winners.

2010 Field of the Year Award Winners:

Baseball

- Schools and Parks Glen Allen Stadium; Glen Allen, VA; Vince Henderson
- College and University Benedictine University; Lisle, IL; Kari Allen, CSFM
- Professional Arvest Ballpark; Springdale, AR; Monty Sowell

Football

• Schools and Parks – North Scott Community Football Field; Eldridge, IA; John Netwal, CGCS

Soccer

• Schools and Parks – Atlee High School-Raider Stadium; Mechanicsville, VA; Marc Moran

- College and University Cobb Stadium; Coral Gables, FL; Chris Denson
- Professional Columbus Crew Stadium; Columbus, OH; Brett Tanner

Softball

 Schools and Parks – NKC District Softball Field; North Kansas City, MO; John Watt, CSFM

• College – Benedictine University; Lisle, IL; Kari Allen, CSFM

Recognition for winners includes registration to the annual STMA Conference and Exhibition, three nights lodging, and signature clothing for the award winners and their staff. The winning fields will also be featured in a 2011 article in *SportsTurf* magazine, the industry's premier publication.

Award winners will be presented with their award during the Annual Awards Banquet on Fri., Jan. 14, 2011, which is held every year at the Annual STMA Conference and Exhibition. The 22nd Annual STMA Conference and Exhibition is January 11-15, 2011 at the Austin Convention Center and Hilton Austin in Austin, TX.

2010 SAFE Scholarship Winners

The Foundation for Safer Athletic Fields for Everyone (SAFE) was created to provide research, educational programs, and scholarships geared to sports field specific endeavors. It is the dream-child of the nation's only association for the sports turf industry, the STMA. The level of scholarship funding has steadily increased since the scholarship programs inception in 1999 and in 2010 we awarded \$12,500 to nine recipients in two-year, four-year, and graduate level categories. Since the scholarship program's beginning, SAFE has awarded more than \$175,000 in scholarship and travel to the STMA Conference and Exhibition.

Graduate Scholarships

- Dr. James Watson Graduate Scholarship, \$2,500 Tom Serensits, Penn State
- SAFE Graduate Scholarship, \$1,500 Matthew Williams, Ohio State

Four Year Scholarships

- Dr. James Watson Undergraduate Scholarship, \$2,250 Chase Straw, Kentucky
- SAFE Undergraduate Scholarship, \$1,250 George Peters, Penn State
- SAFE Undergraduate Scholarships, \$1,000

Julie Adamski, Penn State, Jolynda Rolli, Penn State, Alexander Steinman, Penn State

Two Year Scholarships

Dr. Fred Grau Memorial Scholarship, \$1,000 Tyler Carter, Michigan State

SAFE Two Year Scholarship, \$1,000

Shaun Eberhart, Kirkwood Community College

A panel of seven judges independently scored each entry based on each student's academic preparation, experience in the sports turf management industry, professional goals, extracurricular activities, and input from academic advisors and employers. Each student also wrote an essay describing his or her background and career aspirations.

The TORO Foundation provides generous support for the Dr. James Watson Scholarship winners. Jacobsen supports the SAFE Scholarship Program through the SAFE/Jacobsen Golf Tournament held at the STMA Conference each year. The program is also supported through individual and corporate donations made throughout the year and proceeds from the Live and Silent Auctions and raffle held each year on the STMA Trade Show Floor. These sponsors fund a stipend for each recipient to attend the STMA annual conference (including lodging) and a scholarship ranging from \$1,000 to \$2,500.

Scholarship recipients had their financial aid mailed directly to their university, with a check made out jointly to them and their schools financial aid office. The students will be recognized during the Annual STMA Awards Banquet January 14, 2011 at the 22nd Annual STMA Conference and Exhibition held in Austin, TX.