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University of Texas at Austin

SportsTurf

MANAGERS ASSOCIATION

Experts on the Field, Partners in the Game.

STMA is the non-profit association for the men and women who manage athletic fields and facilities. The association has a very strict privacy policy and does not sell or give out its members' contact information.

PATRICIA WILSON FIELD, Stetson University, DeLand, FL

CHALLENGES

Having a very limited travel budget is offset by our ability to host many invitational tournaments each year. We may range from 1 to 3 weekend tournaments during our month of fall ball and 6 to 7 weekend tournaments during our championship season in the spring. The past 3 years we have also hosted our local High School District Tournament, as well as our own Atlantic Sun Conference Tournament. With our own conference schedule, weekend tournaments, and regular season games, we have averaged 90-100 games per year on our field. Additionally, daily practice is conducted on our field by our own team.

This creates a very special challenge since the majority of playing time is during February to May, when our bermudagrass is dormant. This is a huge reason why we overseed with winter ryegrass. This helps with the wear on the field which also aids in the cosmetic looks and appearance.

Hosting teams from all over the country makes a pleasant experience as well. We work on the main wear areas (outfield positions) throughout the season with additional seed and fertilizer.

We removed bermuda turf in high shade areas of landscape and replaced it with crushed red rock (warning track material) in our picnic area. Redesigned the irrigation in common area to operate more uniformly and to compliment the landscape changes over the years. A wetting agent was introduced to facility and water management program.

Additionally we paint our infield therefore the infield must be wet prior to painting. We did have times when we had to wet the lines and batter's boxes with a backpack sprayer, prior to painting, when the reclaimed city water was turned off. We have now designed and built a water device onto our sprayer to enable us to wet and paint at the same time on a dry infield.

- ⊙ **Level of Submission:** College
- ⊙ **Category of Submission:** Softball
- ⊙ **Head Sports Turf Manager:** Steve Barnard
- ⊙ **Title:** Field Maintenance Technician
- ⊙ **Education:** Associate Degree, General Studies
- ⊙ **Work History:** Former foreman for the City of DeLand's Sperling Sports Complex for 25 years. Complex includes 35-acre park (one full size baseball field; three adult softball fields; three soccer/football fields, and four practice areas, a total of 22 acres of bermuda turf).
- ⊙ **Full-time staff:** Steven Barnard, field maintenance technician; Frank Griffin, head softball coach; Vanessa Bataille, associate head softball coach; and Joanna "JJ" Payette, assistant softball coach
- ⊙ **Original construction:** 2002
- ⊙ **Turfgrass variety:** Tifton 419 bermudagrass
- ⊙ **Recent renovation:** In 2010, the infield was tilled and laser graded; 23 tons of clay plus 1½ tons Turface added to infield; additional bullpen added on first base side; new scoreboard with full video display; replaced netting as needed throughout the complex; additional drainage added by practice area, hitting area, and first base dugout to help with washouts; palm trees added to landscape.
- We laser grade our infield annually or bi-annually to maintain the standard we set for ourselves; additions to the complex as well as improved existing facilities to reduce long-term cost and maintenance; maintain drainage slopes.
- We have crushed red rock (warning track material) within the facility (excluding infield); St. Augustine grass in the exterior perimeter of the facility; additional enhancements occur daily with new innovations and reconstructions.
- ⊙ **Overseeding:** We overseed in late November or early December after an application of preemergent. We use typically 500 to 700 pounds of Eagle Supreme perennial ryegrass on our entire complex.
- ⊙ **Drainage:** Sideline drains; slight valleys built into terrain emptying into culverts to retention area; field itself has a 1% grade to outfield.



JOHN MASCARO'S PHOTO QUIZ

Answers from page 17

THE YELLOW TURF on part of this soccer stadium is the result of a 3-day Phish concert over the Labor Day weekend. The day before the show, the rental flooring was delivered so the turf crew could cover the field that night. Once it arrived, the sports turf manager was informed that 40% of the covering was non-translucent even though 100% clear was ordered. Notice the gray (non-translucent) flooring on the bottom and the clear (translucent) flooring on the top.

By the time it was delivered, it was too close to show time to make any changes so they had to install what was delivered. Originally they thought the biggest issue would be no photosynthesis and yellowing of the plant. Come to find out it got so hot under the non-translucent flooring, the bluegrass turf actually experienced severe leaf tip burn on the field where the non-translucent flooring burned and the grass with the extreme heat of the Colorado sun. The turf actually got so hot that it might have even gone into a mid-summer dormancy. Two days after field was uncovered there was a Rapids home game. Two days after that started a weekend where they hosted two college soccer games, two lacrosse practices, a lacrosse game (USA/Canada) and a season ticket holder party on the field. After all the wear, they solid tine aerated, fertilized and tried to let the field recover. ■

Photo submitted by Bret Baird, Head Turf Manager at Dick's Sporting Goods Park in Denver, CO home of the Major League Soccer's Colorado Rapids.

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

Barnard: I have the unique advantage of the Head Coach, Frank Griffin, being my direct supervisor. This allows us to talk daily regarding the scheduling of the facility operations and planning around the team's practice and game schedules.

E-mails are used when mass information needs to be distributed to administrators, players and visiting groups. A member of our coaching staff and school site administrator meets with the visiting team representative to communicate the game day agenda and any policies and special needs request they may require.

A tip on communicating well is do not let small problems become big problems, address them early.

SportsTurf: What are your specific job responsibilities?

Barnard: Being the sole field maintenance technician for Patricia Wilson Field, I wear a multitude of hats. I am very lucky to have players and coaches that have pre and post-game duties to aid in the upkeep of the facility. Our players can put out and remove a full infield tarp with the proficiency that would make any major league grounds crew proud. They also help with the application of Turface on the infield when there is a weather issue.

Turf Maintenance: mowing, fertilization, pesticide application, aerification, top dressing, overseeding, water management, verticutting, ordering all products to be applied.

Irrigation: Repair and installation

Clay & Warning track: grooming infield and warning track areas, practice and game day set up, edging, rebuild and maintaining mound and plate with bag clay, refurbishing bullpens, raking, blowing or hosing lip areas, raking common warning track areas and keeping weed free, adding material as needed, aerivating infield.

General needs of facility: blowing and cleaning areas of batting areas, grand stands and sidewalks, repairs



and replacements of netting, windscreen and fences, help maintain garden areas along with ornamental beds, lubricating equipment, change oil and filters while doing any and all repairs that can be done in house, adjust reel mowers.

Participate in any and all projects or events during the year.

SportsTurf: What do you find most enjoyable about your job?

Barnard: I find all aspects of turf management to be the most enjoyable part of the job.

SportsTurf: What task is your least favorite and why?

Barnard: The least favorite area I consider is to be the general facility maintenance tasks. Not that they are any less important in the day to day responsibilities but they do not generate my enthusiasm like growing good turf does.

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

Barnard: My first job was a Part Time position at the age of 17 years old with the City of DeLand, Parks and Recreation Department back in 1981 participating in a variety of field maintenance duties. After attending Junior College for 2 years and still undecided about a career direction, I met with Tom Sperling who was the Director of Parks and Recreation regarding a job opportunity in park maintenance. Four years later he entrusted me with the responsibility of supervising the Sperling Sports complex which was a 35 acre facility and over time became 22 acres of Bermuda. During that time I was fortunate to have Larry Nordman who was our Parks Manager to have as a mentor along the way. Before Patricia Wilson Field, Stetson Fastpitch Softball used Sperling Sports Complex to practice and play their home games. I met Coach Frank Griffin at this time which ultimately led to my current position.

SportsTurf: What changes if any are you implementing for the winning field in 2012?

Barnard: Turf care wise, due to soil analysis we increased our potassium rates and added in an advanced minor pack twice a year to aid in the deficiencies that arise in Florida soils. In the later part of 2011, we were able to implement a monthly wetting agent appli-



cation program which we were able to continue throughout the 2012 season which has proved very helpful.

Facility wise, we replaced or entire back stop netting, had the press box tower and grandstand painted. We were able to obtain our own triplex reel mower for the sole use of our facility.

SportsTurf: How do you see the sports turf manager's job changing in the future?

Barnard: We are always in a series of constant changes and adjustments. Pesticide regulations and conservations of water management will always be a constant challenge. With rising expectations and smaller budgets, it is important that good sound cultural practices are used. With the use of more modern technology and equipment we can perform some of these tasks in a timelier manner. With specific target dates to obtain each year and the windows of opportunities becoming smaller, by becoming proficient in organization and better planning skills it will enable the tasks to be met and completed on time and on budget. ■

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Ludwig Field, University of Maryland

CHALLENGES

One special challenge has been a diminishing budget with increasing expectations. In 2009, we opened a \$500,000 golf practice facility and were made to maintain the course (\$41,000 per year) with no budget increase. The next year saw a ten percent budget cut which stretched our budget even thinner. So creativity, a lessened dependence on contracted help, and a lot of hard work allowed us to continue to provide the high quality playing surface that our teams deserve. Without the student-athlete, we would not have jobs

- ⊙ **Level of Submission:** College
- ⊙ **Category of Submission:** Soccer
- ⊙ **Head Sports Turf Manager:** PJ Ellis
- ⊙ **Title:** Director of Grounds, University of Maryland
- ⊙ **Full-time staff:** Mac Wallace, James Franck, Neville Kelly, Casey Rezendes
- ⊙ **Other crew to recognize:** Kurt Klinger, Alex Steinman, Ignacio Rodriguez, Trey Whelton, Curtis Lazar, Patrick Sajak, Seth Whitehill
- ⊙ **Original construction:** 2006
- ⊙ **Turfgrass variety:** Patriot bermudagrass
- ⊙ **Rootzone composition:** 100% sand
- ⊙ **Overseeding:** We overseed with perennial rye starting in late September and continue weekly applications for 4 weeks totaling 15 lbs. of rye seed/M. The ryegrass germinates in the fall and becomes the dominate turf in the early spring before being chemically transitioned out of the field in late May.
- ⊙ **Drainage:** Subsurface drains wrapped in gravel with bridging sand on top. Smaller field drains move water to larger perimeter drain to be carried off field.

L to R: Alex Steinman, Neville Kelly, Kurt Klinger, P.J. Ellis, men's soccer coach Sasho Cirovski, Casey Rezendes, Jamie Franck, and Mac Wallace.



in college athletics, so the turf manager has to be a problem solver by nature when it comes to fiscal challenges to ensure maintained quality.

The second and most daunting challenge is the weather. In Maryland, we grow bermuda grass during the summer and early fall, then overseed and encourage rye grass for the remainder of the fall, winter and spring. The opportunity to grow bermudagrass without any competition lasts only about 100 days. Once the rye grass is chemically transitioned in the late spring, an evaluation of the bermuda grass must be made quickly to decide if areas can be regrown, sprigged or sodded before summer camps start three weeks later. Growing this field in during a Maryland summer is a challenge enough; now add a non stop schedule of summer camps. Once camps begin in mid June, the field will not see any type of significant break (even a week off) until mid December. So, growing bermuda grass in with all this foot traffic is challenging and requires a full throttle, aggressive approach. This means mowing every day, fertilizing weekly, staffing weekends to keep an eye on field conditions so no problem goes unresolved for more than a day. It is important to have a high quality, dense bermuda grass stand for not only playability reasons, but for overseeding to ensure sustained quality for the rest of the year. If the field is not thick with bermuda grass during overseeding, the seed will not be protected from traffic and the rye grass will be spotty and the playing surface compromised leading to deteriorating future field conditions that will require more sod in the spring because the bermuda will not grow back in these areas. This leads to a higher cost to maintain the field and a lessened quality of the surface because bermuda sod does not perform nearly as well with high traffic levels as a field that you can grow the existing bermuda back.

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

Ellis: Our work unit is part of the Facilities, Operations & Events department within University of Maryland Athletics. Each facility and sport has a liaison that communicates directly with the coaching staff for every day issues. Generally, my communication with coaches goes through the liaison. However, coaches know I am always available to discuss field related con-

cerns through text messages, phone calls or in person. We also use a computer program called EMS (Event Management Systems) where all activities for each facility appear on a calendar making it easy to see when and where all practices, special events, and competitions will be occurring.

SportsTurf: What are your specific job responsibilities?

Ellis: As the Director of Grounds for University of Maryland Athletics, I oversee the playing surfaces and common grounds of all of our outdoor athletic facilities. We have a good mixture of artificial turf and natural grass surfaces. Our artificial turf facilities are Capital One Field at Byrd Stadium, Field Hockey and Lacrosse Complex, the infield of our baseball stadium and a practice football field. All of our natural grass fields are bermudagrass which include our soccer field, softball, practice soccer/lacrosse field, the outfield of our baseball stadium and two practice football fields. Also, a part of my job is oversight of the men's and women's golf short game facility. The facility includes two bentgrass greens, a Bermuda green and two Bermuda fairways. I manage the budget for all of the facilities and all resources needed. I oversee a crew of 6 employees made up of the following individuals: two assistants, Kurt Klinger (Assistant Director of Grounds) and Casey Rezendes (Superintendent, Holman Short Game Facility); three turf-technicians, Mac Wallace, Neville Kelly, and Jamie Franck; and one student technician, Alex Steinman, who is also our social media guru.

SportsTurf: What do find most enjoyable about your job?

Ellis: The most enjoyable part of my job is the group of people I work with. We work together as a team and we have a great time doing it. We never go through a day without having a good laugh all while completing our work with the highest quality. I am a firm believer in making sure my staff works hard and has a good time in the process, regardless of the weather or obstacles in our way.

SportsTurf: What task is your least favorite and why?

Ellis: No question, tarping a field is by far my least favorite thing to do. It is a necessary task for our job for the playability of the

We spend a lot of time working with the coaching staffs on moving practices around to different areas of the field. That can be difficult with just one 100,000 sq/ft field. You always have to find ways to be innovative.

fields but the late fall and early spring tarp pulls can be brutal.

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

Ellis: I started out in turf management working for a landscape company in my hometown for couple summers in high school. I entered college expecting that is what I would go in to and learned about sports turf. My internship was my first sport turf-related job and that was with the Camden Riversharks an Independent League baseball team. From there I moved to Maryland and became the Director of Grounds in 2011.

SportsTurf: What are the major challenges in managing turf for so many different uses?

Ellis: The biggest challenge is getting the time needed to do our basic daily operations on the field. Our soccer/lacrosse grass field in the spring may have a men's and women's soccer practice and men's and women's lacrosse practice all in one day. We spend a lot of time working with the coaching staffs on moving practices around to different areas of the field. That can be difficult with just one 100,000 sq/ft field. You always have to find ways to be innovative.

SportsTurf: How do you see the sports turf manager's job changing in the future?

Ellis: I see my job changing in the future with the addition of the artificial turf to our football stadium and more outside events occurring. Concerts, soccer games and lacrosse games are just some of the outside groups that may rent the facility. The volume of events is something our staff hasn't seen before and requires additional preparation to make those events successful. ■

My time at Maryland: lessons in learning

By Jeremy Menna

"THE TRUE WONDER of hindsight lies not in its ability to clarify situations and events, but in its propensity to coat them with a glaze of dignity and glamour, even glory." This was the opening line in Richard Rubin's book, "Confederacy of Silence." What Richard Rubin did not know when he wrote this book was that those 31 words accurately and completely summarize my time as the Director of Grounds for the University of Maryland Athletic Department, a job that I am honored and privileged to have had.

I could say that I went to the University of Maryland to share my knowledge of providing an efficient work atmosphere that produces unmatched results, but that could not be further from the truth. I was the one who was taught many lessons. I have since moved on to take part in an incredible opportunity to rebuild a once sought after and impressive sports complex near Cocoa Beach, FL, a complex that has since faded into disrepair and was purchased out of foreclosure. My next challenge; however, my previous challenge was the single greatest learning experience of my life.

I arrived at Maryland in June 2006 as the Assistant Director of Grounds at 24 years old. I was tasked by the administration to make the department a dependable and a consistently performing work unit. What I now know is those goals were significantly below the capabilities and talent that already existed in that shop.

I was promoted to the Interim Director of Grounds in March 2007 then moved into the role as Director shortly after that. I began to evaluate the crew and run daily operations the only way I knew how. I was rigid and unwavering, two qualities that would not let the creative ambition of this crew shine.

After consistent failures, on my part, to connect with the staff I decided to try a new approach, to connect on a personal level with my employees. The main area that was missing was trust in me, and trust is the one quality that does not come with the title of boss, trust must be earned. This was as simple as saying good morning consistently, asking how everyone was

doing, not being in a hurry to get to work if we were in discussion. Updating the shop hockey standings and playing our morning game of dominos was tops on my priority list. This meant that many times I would be working late to wrap up administrative duties that I could have finished during the work day but I chose, correctly, to be part of my staff.

It did not take long for the culture of the work environment to shift to a happy, welcoming, trusting, results oriented work unit that I would not trade for any all star. Every member of this group was the all star I wanted to work with. We truly worked to embody the slogan, "work to live, don't live to work." This atmosphere was rewarding at the highest level when the rest of the crew worked through breaks and lunch to make sure a staff member could leave early to catch their sons tee ball game or pick their niece and nephew up from school.

When hiring new staff I made sure that their personal qualifications and character was weighed more heavily than their profession achievements. If you were motivated and would fit in with the staff then there was a spot for that person. It was my responsibility to make sure that all staff is one step closer to where they want to be at the end of the day then where they were when the day started. The result of this mentality was more incredible than even I could have imagined. The average age of our staff was about 25 years old. The young staff respected and learned from the older staff. The older staff drew energy and excitement from the younger staff. Everyone was empowered to make decisions, to problem solve, to work with coaches. The work unit was trusted by all and widely known through the athletic department and "the guys that get it done." This aggressive mentality allowed this generation of young sports turf professionals to learn through problem solving and making mistakes. This truly was a rapid development work atmosphere.

When I left Maryland, my assistant Patrick Ellis took my place leading the work unit. Patrick joined the staff in 2007 after he graduated from Penn State and worked his way into the Assistant Director

position and now the Director of Grounds. Seth Whitehill, interned in 2008, rejoined the staff the following year after graduation and is now the head groundskeeper for the Little League World Series. Casey Rezendes was a student employee while attending the University of Maryland and is now the superintendent of the Maryland Golf Team's short game practice facility. Kurt Klinger interned in 2009 and rejoined the staff after graduation and oversaw budget tracking and budget development for the \$760,000 operating budget. Kurt is the leading candidate to take Patrick's position of Assistant Director. Alex Steinman, STMA and KAFMO Scholarship winner, interned in 2010 and rejoined the staff in 2011. Alex's future is extremely bright and has been asked by Dr. Mathias, professor in the Maryland Turf Department, to help prepare the Maryland Turf Teams for the STMA team challenge.

I truly believe it is the responsibility of the person in charge of staff to ensure their continued growth and development. What happened following the execution of this promise was nothing short of extraordinary. The grounds work unit was the most dependable in the department; the staff retention rate was almost 100% with interns returning because of our commitment to them. Everyone on the staff felt a high sense of ownership because of their ability to make the calls on agronomic practices, all the while having more fun than any group of people I have ever known.

I was truly honored to be part of this team and I can honestly say that no matter how busy we were or what jobs lay ahead, I always woke up looking forward to going into the office. I would love nothing more than see this staff be recognized for their great achievements in such a tough area of the transition zone to successfully grow high performance sports turf. A task this staff has performed well as anyone in the country.

I believe the leader takes the criticism and lets the praise pass to the staff, works harder than everyone and spearheads the most undesirable jobs, and has a commitment to everyone that works for him to ensure their continued growth. If this can be done, be prepared to see results that will induce a smile that can be seen a mile away. Unselfish is the best word to describe this mentality. However, to try to sum up my time at Maryland in one word or even 31 words cannot do justice to my experience, an experience that not only made me a successful young sport turf professional, but most importantly prepared me for success for the rest of my life. A life that I will always stop and smile at the thought of my time at Maryland. ■

Long-distance remote from Hunter Industries

Hunter's latest product, the Roam XL, is a long distance remote designed to let professionals communicate with multiple controllers from up to two miles away. It features a simple user interface with 128 different programmable addresses, and is sturdier and more water resistant than past models. Its signal is strong enough to go through buildings and still communicate with a controller over a half-mile away. With nothing in its path, it can function up to two miles from the controller. The compact, high-powered remote is a single unit that can be carried from job to job and used to remotely access any Hunter controller that has a SmartPort connector.

Hunter Industries



New woven synthetic turf football surface

Act Global Sports received a FIFA two star certification at a stadium in Poland for the company's advanced woven turf system. One of the key features of WX50 is the resiliency of the pile. The fibers do not have the pile direction of a typical tufted product and stand up straight before any infill is applied. The distinctive woven technique results in excellent tuft lock, high water permeability and very consistent ball roll. In addition, the product has no PU or SB latex coating, and therefore offers better opportunities for recycling and sustainability.

ACT Global Sports



TH150 portable soil moisture probe

Dynamax, Inc. is launching the new TH150 Portable Soil Moisture Probe. Portable, accurate, and easy to use, the TH150 is intended for use in golf course or sports turf management, irrigation scheduling, or for landscape and greenhouse applications. It is a great tool for determining water content in soils of all types, even in dry conditions, and has built-in calibrations for mineral or organic soils. The TH150 is "ready-to-go" right out of the box and includes everything needed to take portable soil moisture readings. With the press of a button, instantly display soil water content as a decimal or percentage value.

Dynamax, Inc



Want the latest? Visit FMC Turf Wire blog

The world's most beautiful granule, fast fire ant control, 2012's weird weather and a Florida woman's cure-all for dandelion ... all of these and more will be topics on Turf Wire (<http://www.fmturfwire.com/>), a new blog from FMC Professional Solutions. Log on to the Turf Wire to learn tricks of the trade from fellow sports turf managers, best practices for tough turf problems, product stewardship advice, regulatory updates and more. Reader comments and suggestions also are welcome. "Our goal is to provide you with tips and tools so you can manage turf more efficiently, while also providing an informal forum for discussing industry issues," said Adam Manwarren, turf product manager for FMC Professional Solutions.

FMC Professional Solutions

Direct Solutions brings two exclusive new products to market

Direct Solutions introduced CISTERN soil surfactant and humectant complex and 4-Speed herbicide as the newest members of the organization's green industry product offerings. CISTERN contains a blend of multi-functional soil surfactants that have been carefully "tuned" so their components work together to address hydrophobic conditions in the soil profile. The unique formulation incorporates a mixture of hydrophilic humectants and hygroscopic compounds that when used in combination with the product's surfactant blend will enhance plant tolerance to water deficit and heat stress. Conversely, 4-Speed herbicide doesn't just protect it eliminates. The post-emergent herbicide was created to eradicate weeds faster, more effectively than other traditional post-emergent herbicides, often in as little as 24 to 48 hours. 4-Speed is labeled for cool and warm season turf and effectively controls more than 100 broadleaf weeds, including dandelion, plantain, oxalis, chickweed and other hard to control species.

Direct Solutions

Kohler Engines continues expanding Command PRO EFI offering

The Command PRO EFI line of engines from Kohler Engines is again expanding with the launch of new 34 and 38 horsepower models. The new additions are expected to be popular among end users seeking higher horsepower in conjunction with the significant fuel cost and maintenance savings, reliable starting, and incredible performance delivered through Kohler's entire EFI lineup. The Command PRO EFI family of products now encompasses 16 different engines ranging from 19 to 38 horsepower to meet the diverse needs of today's green industry professionals. The Kohler closed-loop EFI engines include an oxygen sensor that analyzes the air/fuel mixture in the muffler. If the oxygen level strays from the ideal air/fuel mixture, the sensor triggers adjustments to the amount of fuel injected into the system.

Kohler Engines



TurfEx introduces line of skid-mounted spot sprayers

TurfEx introduces its line of skid-mounted spot sprayers. Designed to mount into the bed of any utility vehicle or pickup, the new spot sprayers are ideal for weed spraying, turf maintenance, tree and flower watering, and pest control applications. Two TurfEx spot sprayers are currently available with a 50-gallon tank (model US500) and a 100-gallon tank (model US1000). Both units feature fully corrosion-resistant polyethylene tank construction, 50-foot hoses on 100-foot capacity manual-rewind hose reels, and long spray wands with trigger actuation. Featuring 12-volt diaphragm pumps, the sprayers conveniently connect to the carrying vehicle's electrical system for operation. The pumps move liquid at a rate of 5 gallons per minute at 40 psi.

TurfEx



New saddle-type flow sensor series

Creative Sensor Technology announces the addition of a new saddle type flow sensor series.

Enhanced low flow performance in 3 and 4 inch PVC pipe sizes. The 3-inch sensor, Model FSI-S30-001, has an operating measurement range of 0.25/fps-12 fps, equivalent to approximately 6 gpm to 300 gpm in 3 inch SDR 21 (Class 200) PVC pipe. The 4 inch sensor, Model FSI-S40-001, operates over the same measurement range of 0.25/fps-12 fps, equivalent to approximately 10 gpm to 480 gpm in 4 inch SDR 21 (Class 200) PVC pipe.

Creative Sensor Technology



Hollow tine aerator

Husqvarna's handy and efficient hollow tine aerators are self-propelled and feature free-wheeling outer tines for better maneuverability around corners and tight areas with less turf damage. Additional side weights allow for improved soil penetration and are removable for reduced effort when lifting or for altering weight balance on slopes and inclines. A folding operator handle on the AR19, lift handles and semi-pneumatic front tire allow for easy transport and storage. The 5hp unit has a 19-inch aerating width and can reach depths up to 3 inches.

Husqvarna

Essential Plus 1-0-1 and BioNutrients Soluble 8-1-9

Growth Products announced the USDA recently awarded both Essential Plus 1-0-1 and BioNutrients Soluble 8-1-9 the right to bear the Biobased product label. This label assures consumers that the amount of biological ingredients listed on the product label is accurate and is backed by the USDA and the Federal government. Essential Plus 1-0-1 is an organic soil amendment and natural root stimulant for all plants, crops, and soils. It received the BioBased label as a spray adjuvant. BioNutrients AG 8-1-9 is approved for the USDA Biobased label as a fertilizer due to its N-P-K of 8-1-9 which is exceptionally high for a 100% organic product. BioNutrients also works as an excellent soil conditioner and organic biostimulant for all vegetable, herb, and field crops.

Growth Products, Ltd.

Dethatchers

RotaDairon ED dethatchers in 50 and 72-inch widths are now available through STEC Equipment. It can perform a wide variety of verticutting and dethatching programs thanks to the unique 3 blade options, and a maximum working depth of 2 ¼". The first is a sharpened "knife" steel, which allows you to cleanly verticut without removing soil. The other two blades, a flat edged steel, and a carbide tip option, both allow you to have greater surface impact and removes significant thatch. The ED can also be used as a spiker by disengaging the PTO and raising the anti scalp roller.

STEC Equipment

PROTINUS seed nutrition

Starting in the 2013 growing season, Canadian sports fields can benefit from a turfgrass seed that has an advantage for early growth added right on the seed. Two Canadian companies, PICKSEED and Wolf Trax, are partnering to deliver the latest in early plant nutrition. PICKSEED will treat all pre-packaged turfgrass seed with PROTINUS® Seed Nutrition by Wolf Trax. PROTINUS is an innovative seed-applied fertilizer designed to enhance early seedling development. Studies show that PROTINUS treatment delivers faster, more even emergence; larger seedlings with longer, more developed roots; and the ability to withstand early stressful growing conditions. Improved early development results in plants that are more vigorous and better able to compete with weeds for moisture and nutrients.

PICKSEED

Since Otto Pick founded PICKSEED over 65 years ago, the company has focused on improving

Gravely TVM series of verticutter mowers

Gravely offers the TVM Series of verticutter turf mowers designed to provide superior cutting results, regardless of terrain or depth of cut. The TVM series mowers operate behind tractors in the 24 hp to 45 hp range and are available in 3-gang (77") or 5-gang (130") widths. The tractor's power operates the lift hydraulics and the PTO belt drive, eliminating the need for drive hydraulics and reducing heat build-up for the tractor. The verticutters have 21 blades per head with 1.25" spacing and 1/8" carbide tipped dynaBLADES. The wings fold hydraulically for a narrow transport width.