

ket—more design-build and other solutions that don't involve just irrigation—the irrigation consultant's role might have to expand significantly into more than effectively developing and managing water resources.

ASIC: Any new design or business trends in athletic fields that appear to be emerging?

JLB: A couple of things. We've seen a shift from high-performance turf and irrigation systems to more modest projects, mostly due to restrictive budgets in this slower economy. With the popularity of artificial turf, our primary business has fallen off a bit.

Artificial turf became pretty popular in the professional ranks, and now is becoming more popular at the high school and park & rec level. More recently, however, we're seeing an inkling of a movement back to real grass. I think it's related to the current generation of artificial turf products. There's really not much history or background on the performance of these newer products, and decision-makers really have to evaluate claims by manufacturers with no ability to validate them.

We're seeing quite a few second surface replacements in fields, about every 8-10 years. Because the artificial turf safety issue is still up for debate, and certain artificial fields promote higher injury incidents, there's a prevailing feeling that artificial turf is okay, but grass is re-emerging as the preferred surface.

There's also been a movement to large pay-for-play facilities, like big joint county-city projects of 15-20 soccer fields where fees are charged for use. We're starting to see the higher end of those facilities coming back to turf, as well.

So those are trends we're experiencing. What's to come? I absolutely believe there will be intensive new regulations in water sourcing very soon. I further expect this trend to be a great opportunity for the irrigation and sports turf industries to be a huge part of an integrated green infrastructure paradigm.

When we look toward the development of unknown irrigation technology, we see stadiums and facilities using their fields as water harvesting and water polishing enterprises, so stadium and grounds rainwater, storm water and wastewater will be collected below the sports fields, then polished in a system and reused in the facility. We've been looking at this for awhile.

The challenge sports turf managers have is that they're in control of very little. Few get to decide the field or facilities they have to work with. They have to become empowered to be in position to make a difference. They certainly have the knowledge and aspirations.

These things are coming, and sports turf managers should position themselves for more control over their professional destiny.

ASIC: What about water sources? How has that evolved over the last decade? Should we be moving away from using potable water for irrigation?

JLB: Clearly, water is being subsidized; its cost still is nowhere near the cost of supplying it. There's only one way to generate enough water for the population. Higher water rates are coming, and we'll see dramatic increases in cost.

There remains a myopic assumption in the industry that turf man-



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agers always will have the water they'll need. But increasingly we're seeing big park & rec facilities that are spending a lot of money on water starting to explore developing and using alternative sources.

The high-end collegiate and professional venues don't really think much about the cost of water; they use potable water almost exclusively. It's cheap. But they're starting to have storm water regulation issues, so we're designing drainage in the fields as storage and detention basins to meet storm water requirements. There's not a big leap of faith to move from storm water detention to harvesting water for reuse.

In the future, a prominent part of any irrigation system is going to be subsurface cisterns to secure water for irrigation, and filtration systems to render that water usable. We'll be off the municipal water and sewer systems; off the grid entirely. I think the Green Industry is starting to understand that, as green codes continue to trend toward net-zero water. Unless the industry gets ahead of this, we'll be walking the plank and the plank will be cutoff. We need to get off the public systems and intercept water before it gets offsite.



▲ UNIVERSITY OF KENTUCKY FOOTBALL PRACTICE FACILITY.

Photo credit Jeffrey L. Bruce & Company.

ASIC: What irrigation system devices most determine performance and durability in sports venues?

JLB: Sports facilities definitely offer a different perspective. We have to ensure the safety of the athletes using the facility. That absolutely affects our irrigation equipment choices.

One of the sports turf industry's biggest challenges is that irrigation systems are falling apart because to keep costs down at the design-installation phases, piping is being undersized resulting in over-pressurized systems. We get it—irrigation is judged by upfront costs; not longer-term costs. But by small-sizing the piping, a system's life expectancy can be cut by as much as half, and certainly opportunities for efficient water use go down.

These systems lose a lot of water and turf when they fail, plus too much pressure simply deteriorates efficiency. So we're balancing two things: throwing water a long way to keep irrigation equipment off the field, which requires higher pressures; but keeping operating pressures as low as possible to minimize physical wear on equipment. We specify larger pipe and head sizes so velocities are reduced, and wear and tear

are minimized. That's one key to extending the irrigation system's life. It absolutely requires some salesmanship.

Another component for consideration, particularly in sports fields, is controller systems. They're almost too sophisticated. Oftentimes the features the average controller provides are way overdone.

We like to keep it simple. Today's groundskeepers need more diagnostic tools than features. For example, moisture content is incredibly valuable information. There's an opportunity for turf managers to employ more moisture sensing technology in their management toolbox. Fixed or portable, they provide a quantitative measure of soil moisture content for more effective water management.

ASIC: What are your best design components, from irrigation control systems to sprinkler heads to piping and quick-couplers to pressure regulation to soil prep?

JLB: We find a full range of equipment in manufacturers' catalogues to solve most any specific problem. If you have high pressure, then pressure regulation is important at every stage, from mains to laterals. Using pressure gauges helps you identify spikes and better understand your system.

Isolation valves reign king. Although considered a luxury by some, the ability to isolate sections of a loop system in the event of a breach saves time, turf and equipment. Strategically placed isolation valves can be a manager's best friend in a crisis. It's important.

And then there are the smaller details, like accessing quick couplers for spot watering or syringing; or using quality swing joints instead of funny pipe. Not every solution is a big, impressive piece of equipment. High-performance systems should include all arrows in your quill to maintain a performance-tuned operation. Certainly stainless steel risers are important on sand-based facilities.

Use the irrigation manufacturers' catalogue for distinct benefits that address system or site idiosyncrasies. There truly is a piece of equipment for every potential problem.

When you look at big sports complexes, the upfront cost of irrigation equipment is really pretty small compared to the cost of maintaining the fields themselves. It seems short-sighted to save \$100 on a cheaper controller, but pay someone \$25 an hour to adjust the run-times. You might save that hundred bucks up front, but shell out \$30,000 over a 20-year period. We need to be more sophisticated in our cost evaluations.

ASIC: Do you work off a template you've developed over the years or is every ball field project so unique that you start from scratch?

JLB: For years we would design irrigation for a stadium thinking it looked like the previous stadium. So we'd pull out our old project plans and specifications, and tweak them. We realized at some point that each facility just became its own project. There's ample uniqueness to sports fields and facilities that we have to start from scratch with each one. And it's not just the quiriness of the sites; turf managers also are unique in their management needs and preferences.

Most fields are used a number of different ways, so the parameters change with each project. There are different needs for lacrosse, than football, than soccer, than rugby, than concerts, than car shows. Different uses are going to affect the overall design. ■

Luke Frank is a free lance writer who submitted this article on behalf of the American Society of Irrigation Consultants, www.asic.org.

JOHN MASCARO'S PHOTO QUIZ

Answers from page 17

The black area and turn turf on this soccer field is a result of a rocket landing on this infill artificial turf field. With the long standing conflict between Israel and Palestine, unfortunately, it is almost common for rockets to be fired from the Gaza Strip into Israel. On this occasion, at 7:30 am, some 18 rockets were fired at Beersheba, of which the Iron Dome (Israel's newly implemented mobile all-weather air defense system) intercepted at least 12. A building suffered a direct hit, one rocket hit a traffic island and caused damage to a bus, and a third rocket hit a car and caused damage to cars and buildings in the area. The remaining rockets landed in open areas and on this athletic field. Thankfully, no injuries were reported in this attack. The artificial turf pitch was totally renovated after the incident.

Photo submitted by Doron Zur, Li Noy Company, Yavine, Israel. ■



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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▼ Infinity Park crew & friends. L to R: Christi Clay with Jackson Bertrand; Carter Harryman, Noel Harryman, and Cole Harryman; and Joe Ferrera with Cael Ferrera.



Infinity Park, Glendale, Colorado

- **Level of Submission:** Schools/Parks
- **Category of Submission:** Sporting Grounds
- **Head Sports Turf Manager:** Noel Harryman
- **Title:** Manager, Turf Operations
- **Education:** Bachelor's Degree in Business Management
- **Experience:** 2002-2003 Landscape Supervisor (Fresh Aire Enterprises) 2002-2007 Material Supplier Manager/Designer (Landscape Solutions) 2007-2009 Project Manager (Graff's Turf Farms) (Fields worked on Coors, Invesco, Dicks, Folsom, Wrigley, Infinity Park, Haymarket) 2009-Current Manager Turf Operations
- **Other crew to recognize:** Josh Bertrand, Gene Hazlett, Vickie Allen, Kevin Brown, Matt McCord, Jody Yonke, Joe Ferrera, Christi Clay
- **Original construction:** 2007
- **Renovation:** Irrigation replacement on the playing surface. The laterals had to be lowered because they were not installed

according to the specs. The lines were punctured to deep tine aeration. The sod was stripped out along the laterals running east to west on the field and then new sod was installed. We were forced to use thick cut sod in order to be able to play on the surface shortly after the renovation.

- **Reason for renovation:** The renovation was done because of the punctured irrigation lines and because the original installation did not follow the irrigation specifications. The lines were anywhere from 4-8" depths. By lowering the laterals we are able to deep tine aerate up to 12" depth and still be safe. The city has also thought about putting in the Desso system in the grass and would not have been able to entertain this system without lowering the lines. The renovation went very well in 2011 and is barely noticeable at this point. In hindsight I would probably push to have the entire field pulled out and laser leveled and a complete resod. Pulling out a 4' wide area is difficult to get a perfect grade. We

still notice a few imperfections.

- **Turfgrass variety:** Midnight, Awesome, Impact, Nu-Destiny-Kentucky bluegrass (70%) Caddieshack, Accent, Top-Gun-perennial ryegrass (30%)
- **Overseed:** Overseeding is done with Kentucky bluegrass. The pitch is overseeded four times a year (last week of March, first week of May, mid-June, and the last week of August). The first three overseedings were done with 10#/1000 square feet and the last overseeding in August was done with 15#/1000 square feet. The seed mix is Midnight, Awesome, Impact, and NuDestiny Kentucky bluegrass. For divot repair we use a 1:3:1 ratio of pregerminated seed, USGA Sand, and fertilizer.
- **Rootzone composition:** 92% sand, 4% silt, 2% clay, 2% organic matter
- **Drainage:** GraviTURF designed by Dan Almond of Millennium Sports. Using 4" ADS drain pipe, located on 15' centers, set in pea gravel, 10" below surface.

CHALLENGES

The season opened this year on March 3, 2012. We had a fair amount of snow in February and one corner of our field remained frozen through January and February. We were hoping that the corner would thaw out enough to have a safe playing surface, however with 2 weeks until the season opener we were forced to come up with a different plan. We had to rent a heating system that they use to thaw the ground before they pour concrete. The system was very labor intensive and also expensive to rent. The thawing process took about a week to complete but we were able to get in the scheduled game and made sure the field was safe for play. On July 21 Newfield exploration rented the field and wanted to host a "retro Carnival." The company requested that a Ferris wheel be built on the field the morning of the event. This was very challenging for our team because it meant that a semi had to pull onto the field and setup. In the entrance to the field there is a bridge that was designed to come on and off just for this type of occasion. The bridge had not ever been removed since its installation which left us with a lot of unknowns. However, the bridge came on and on well and the plywood road with inca mat held up well and no damage was done to the field.

Rugby is a unique sport in that the game must go on. Games are played regardless of any limiting factors. There could be a foot of snow on the ground and they will still play.

Another challenge that we had was Colorado State asked to host a spring scrimmage at Infinity Park to try and rally the Denver alumni. The field was already scheduled for rugby tournaments the following day so we had to figure out how to effectively and efficiently flip the field from football to rugby. We spoke directly with the CSU coaching staff and convinced them that since it was only a practice to leave the goal posts where they were. This made the field 10 yards shorter than a normal field but no one knew because we did not paint numbers on the yardage markers. The evening after the practice we painted the football lines green (big thanks to Bret Baird Dicks Sporting Good Park on green paint selection) and then restriped the field for the next day.

Rugby is a unique sport in that the game must go on. Games are played regardless of any limiting factors. There could be a foot of snow on the ground and they will still play. The culture of rugby is that the players are tough and if there is an injury that is just part of the game. For example, during a rugby game if a player is hurt the play does not end until the ball is kicked out of play.

SportsTurf: What are your specific job responsibilities?

Harryman: My responsibilities at Infinity Park are to maintain a safe professional playing surface. We have one synthetic playing field and also sand-based natural grass field. Outside of taking care of these surfaces our department falls into public works so every day can be different from doing asphalt to water main breaks or taking care of one of our parks around the city.

ST: What do find most enjoyable?

Harryman: The finished product is what I find most enjoyable



about my job. I enjoy looking at a field that is freshly mowed and painted and ready for game time. I also enjoy the challenge of my job hosting different events and trying to figure out how to make everything work.

ST: What task is your least favorite and why?

Harryman: My least favorite part of my job is the winter when the field is covered up. Mainly because this time is spent away from the pitch and really what I enjoy doing most.

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F.O.Y. | Infinity Stadium

ST: How did you get started in turf management?

Harryman: Before getting into strictly turf management I did landscaping install, design, and sales. A door opened up at Graff's Turf Farm for sports field renovation and I took the opportunity to focus solely on sports fields. After working there for a few years I realized that I wanted to be on a sports field every day.

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

Harryman: Graff's Turf Farm was really my first sports turf job. I worked there as a project manager and did sports field renovation. After this I joined the City of Glendale and became the assistant turf manager for Infinity Park.

ST: What are the major challenges in managing turf for so many different uses? What have you learned in the past 5 years to help you meet those challenges?

Harryman: The biggest challenge to managing a field that gets used in many different ways is that every event is different and comes with its own set of problems. It is important to try and figure out what areas need more attention and what protection to have in place. The biggest thing for any of the different uses that come in is to make sure to be proactive instead of trying to fix something that could have been prevented.

ST: What have you learned in the past 5 years to help you meet those challenges?

Harryman: I have learned that despite my aversion to meetings it is important to have a seat at the table and the planning stages of these events. It is way better to know what is coming down the pipe than to learn about on the day of an event.

ST: What changes if any are you considering or implementing for the winning field in 2013?

Harryman: One change that is going to take place this year is a reduced practice on the pitch this year at least in the spring. More practices will be held on the synthetic field giving us more time on the main field to get everything up and growing.

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

Harryman: As everyone else's job changes are always taking place. I think that the sports turf manager's position will always continually be asked to do more with less. ■

The STMA Field of the Year Awards began in 1988 and are given annually in baseball, football, softball, soccer and sporting grounds in three levels: professional, collegiate and schools/parks. A panel of 11 judges independently scores the applications and the winners are announced at the STMA Annual Conference and Exhibition. Winners receive signature clothing, complimentary conference registration, three night's accommodations and a trophy for display. The Field of the Year Program is made possible through the generous donations of Carolina Green Corporation, Ewing Irrigation Products, Hunter Industries, and World Class Athletic Surfaces, Inc.

BARNEY LOPAS USES CREATIVITY AND ELBOW GREASE TO PRESENT A WORLD-CLASS PLAYING SURFACE

Editor's note: This article was supplied by Adam Slick, Jacobsen's public relations & communications manager.

AS THE HOME BALLPARK OF MAJOR LEAGUE BASEBALL'S LOS ANGELES ANGELS OF ANAHEIM, Angel Stadium, built in 1966, is one of the most storied and beloved sports venues in America. Famous milestones attained at the park include Mickey Mantle's last game-winning home run, Nolan Ryan's nine straight strikeouts against the Boston Red Sox and Reggie Jackson's 500th career home run. The ballpark has also served as the backdrop for several motion pictures including "The Naked Gun," "Angels in the Outfield" and "The Fan."

Today, Angel Stadium continues its historic lineage as the home field for baseball superstar Albert Pujols, who is starting his second season with the Angels as first baseman. Upon his arrival in Anaheim, Pujols asked Head Groundskeeper Barney Lopas to remove some turf in front of first base.

"He prefers to have more dirt in front of him so throws from third base get a hard bounce off dirt instead of grass," said Lopas. "It wasn't really a big deal and I enjoyed doing it for him because he's such a nice guy."

Lopas is quite the baseball veteran himself, currently in his 16th season at Angel Stadium. He

followed in his brother's footsteps through turf-grass management, starting in Wisconsin, then working for the Houston Astros training facility in Florida, the Florida Marlins, and Richmond Braves before starting with the Angels in 1996.

Lopas' famous field of Tifway 419 bermuda-grass has the unfortunate distinction of being the only major professional sports field—baseball, football and soccer included—that sits on native soil without any drainage.

"It makes it really hard for us, but we deal with it," said Lopas. "We have to be careful not to overwater. Because the water has nowhere to go, we can easily get root rot and black layer. So we do quite a bit of hand watering. We also aerify twice a month to get the water and nutrients down into the soil."

Lopas will aerate before every home stand, and occasionally uses deep tines, going deeper as the season progresses. His infield mix comes from Stabilizer in Phoenix and is approximately 50% silt clay and 50% sand. He'll nail drag 100 bags of calcite clay into the top ½ inch of mix before the season starts. Lopas will also steam-roll before every home stand and roll first base every day with a 2.5 ton roller.

"After 16 years, I pretty much have it down to a science. In fact, my buddies tell me I'd screw up a sand-based field. They're probably right," said Lopas with a laugh.

In addition to a very comprehensive soil management strategy, Lopas has also developed some very innovative mowing patterns over the years. After 9/11, Lopas mowed a giant "USA" pattern into the outfield, using riding mowers and brooms to push the grass away from home plate inside the letters and his walk mowers going the other way for the outline.

"We've been using Jacobsen equipment for almost a decade," said Lopas. "They're the best machines I've ever used and the service we get from Jacobsen West is top notch. If we give them a call, they're out here the same day."

Lopas also uses his Jacobsen machines for some very strategic outfield mowing patterns. "To reduce lateral movement of balls moving through the grass [known as snaking], I only cross-cut behind the short stop and second baseman, leaving the areas in front of our outfielders with grass going in just two directions rather than four [see photo]. This gives the outfielders confidence knowing that bouncing balls coming their way will not snake."

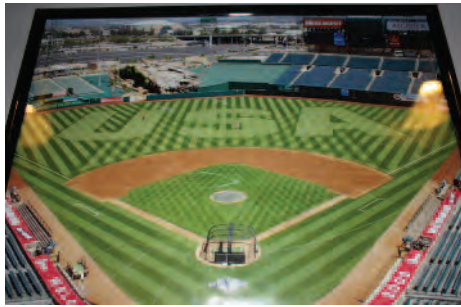
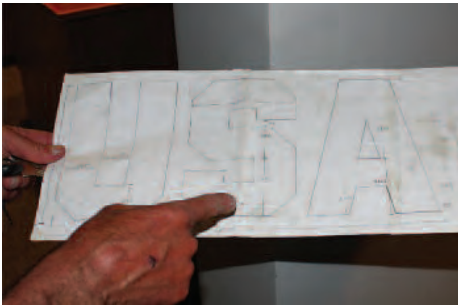
The strategy has been such a success that several other Major League teams have started using the same pattern.

Angels Owner Arte Moreno has also taken notice of Lopas' work and occasionally stops by to chat with the maintenance crew. During a post-game visit a few years ago, Moreno asked to

▼ **BARNEY LOPAS** operating a Jacobsen ECLIPSE 322 riding mower in the outfield.



◀ **BARNEY LOPAS**, Head Groundskeeper for the Anaheim Angels.



▲ **AFTER 9/11**, Lopas and his team mowed a giant USA in the outfield (top). The pattern started on a letter-sized template (bottom) he created to establish the dimensions. He mowed away from home plate inside the letters for the contrasting color, using a walk mower on the outlines.

use the non-existent restroom. One of the maintenance crew members replied that not only was there no bathroom, the crew didn't even have a sink. Moreno was incredulous.

"Arte is a great, great owner and a wonderful guy," said Lopas. "He took me aside and said 'blow this place up and make it how you want it.'"

And that's exactly what Lopas did.

Half sports bar and half clubhouse, Lopas' maintenance office is an incredibly unique space. The main room is lined with authentic clubhouse lockers, complete with nameplate and number (year started) for each crew member. When the game is on, the guys watch the action from leather recliners perched in front of a huge flat-screen television.

But the creature comforts of home are important for Lopas because time off at this level just isn't an option. "I typically get here about 9 am and leave around 11 pm. My next day off will be in October. When you're grilling dogs on the Fourth of July or sleeping late on a Sunday morning, I'll be here," he said.

The grind of 81 home games provides all kinds of challenges for Lopas and his team. But like so many other turfgrass managers around the country, it's a vocation that's in his blood. Each day is another opportunity to prepare a world-class playing surface for the Angels.

A small red and dusty iron sign that hangs in the maintenance office sums it all up in just five words: "Rake like a champion today." ■

▼ **WHEN ALBERT PUJOLS** arrived in Anaheim last year, his one request of Lopas was to remove some grass in front of first base so that throws from the third baseman would bounce on dirt instead of grass. Lopas was happy to oblige the superstar, who he calls a "really nice guy."



▼ **A FEW YEARS AGO**, Lopas created a mowing pattern that reduces ball snaking in the outfield. By cross-cutting the only areas behind the short stop and second baseman (where very few balls sneak through), it allows him to mow the outfielder areas in just two directions – thus reducing the chance a bouncing ball will move laterally on its way to an outfielder.



WHAT YOU NEED TO KNOW ABOUT HIGHER ETHANOL FUEL AND YOUR EQUIPMENT FLEET

By Kris Kiser

TURF AND FIELD MANAGERS must operate and maintain a host of outdoor power and small engine equipment, from mowers and blowers to utility vehicles, generators and trimmers. Along with safety and reliability, managers want equipment to enjoy a long product lifecycle. Through regular maintenance, one expects that equipment lasts long enough to more than payback on the original investment.

However, in the coming year, a new higher ethanol fuel, called Ethanol 15 (E15), will likely appear in gas stations across the country. Although mandated by law, when used in turf and grounds equipment, E15 can cause engine failure and damage product[DASH HERE]bringing your product lifecycle to an abrupt halt.

WHY HIGHER ETHANOL FUEL?

Energy independence and domestic security gave rise to fuels legislation. Signed into law in 2007, Renewable Fuel Standard (RFS) program regulations were developed in collaboration

with refiners, renewable fuel producers, and many other stakeholders. Created under the Energy Policy Act (EPA), EPA was tasked with reaching the RFS requirement of 7.5 billion gallons of renewable-fuel to be blended into gasoline by 2012 and growing to 15 billion gallons of ethanol. As a result, ethanol use has been mandated by law.

The challenge has been that the underlying assumptions used to develop the RFS were not met.

For example, many believed that an E85 auto fleet and E85 infrastructure would expand and gasoline use would continue to climb and that E85 would absorb the mandated ethanol. Yet, E85 demand and availability remains low.

Further assumptions that have fallen short are:

- Flex fuel vehicles that use E85 have not expanded rapidly enough
- E85 use is not expanding
- Gasoline consumption peaked in 2007

and continues to fall, and

- Advanced and cellulosic fuels (non corn ethanol) are not available.

So why are you hearing that there will be 15% ethanol on the market although we know that it can damage outdoor power equipment used by your grounds crews?

THE BACK AND FORTH ON ETHANOL 15

In 2009, Growth Energy, an ethanol industry trade group, petitioned the EPA to raise the limit on ethanol in gasoline from 10 to 15%. Since gas consumption was falling and E85 was not taking hold, they wanted to increase the allowable level of ethanol to create more demand in the marketplace and to meet ever increasing ethanol mandates.

Understanding the corrosive effects of higher levels of ethanol, several engine product and auto manufacturers, including the outdoor power equipment, motorcycle and boating industry, urged EPA to be deliberative in its review process, and assure, with thorough

and adequate testing, that E15 would not harm existing products or pose safety risks.

As expected, Department of Energy testing of mid-level ethanol blends on outdoor power equipment and marine engines demonstrated performance irregularities, heat increases, and engine failure on tested product.

Unfortunately, the EPA moved forward to grant a partial waiver, the first-ever decision to bifurcate the gasoline marketplace. EPA initially wanted to issue a partial waiver approving the sale of gasoline containing 15% ethanol (E15) for 2007 model year and newer passenger cars and light trucks. This waiver was then amended to approve E15 for 2001 model year and newer passenger cars and light trucks. (*Automobile manufacturers refute this claim.)

Although E15 is specifically [START ITAL]not[END ITAL] approved for any non-road use, the outdoor power equipment industry recognized the danger of a partial waiver.

By approving E15 use in a subset of engines on the road, there is a high risk that consumers and businesses will unknowingly or mistakenly put E15 in products for which it has not been approved.

Remember the old saying: "What goes in the car, goes in the gerry can, and then goes in the mower?" Well, with E15, that doesn't apply any longer to mowers or to any small engine equipment for that matter.

And, the totality of EPA's education effort on E15 is a "3-by-3-inch" attention label at the gas pump. This will be wholly inadequate to keep not only turf managers, but their crews, from mis-fueling.

Remember the old saying: "What goes in the car, goes in the gerry can, and then goes in the mower?" Well, with E15, that doesn't apply any longer to mowers or to any small engine equipment for that matter.

As a result, on December 20, 2010, a newly formed Engine Products Group comprising the Alliance of Automobile Manufacturers (AIA), The Association of International Automobile Manufacturers, Inc. (AIAM), the National Marine Manufacturers Association (NMMA), and the Outdoor Power Equipment Institute (OPEI)

filed a petition challenging the EPA's decision to grant a partial waiver approving the sale of gasoline containing E15 for 2007 model year and newer passenger cars and light trucks.

In 2012, the United States Court of Appeals for the District of Columbia Circuit denied a rehearing on a suit brought forth by the American Fuel & Petrochemical Manufacturers (AFPM) and OPEI stating that neither group could prove they had been "harmed" by EPA's decision to allow E15 fuel and therefore, didn't have 'standing.'

This ruling alarmed the outdoor power equipment industry since the judges wanted to see personal or economic injury before they could take action, despite the fact that the EPA itself has admitted there will be mis-fueling

STEC Equipment announces new manufacturing alliances

STEC Equipment is excited to announce another strong year with positive growth. Since changing company names in 2009, from BLEC USA to STEC Equipment, we have forged many new partnerships and have our strongest equipment offering to date.

New for 2013, we are proud to announce several new manufacturing alliances, venturing into new territory and exploring new markets. The first of our new alliances is Trench It, a New Zealand-based manufacturer of trenchers and other drainage related equipment. Known for their unmatched build quality, Trench It machines also offer a host of options including conveyor clean up systems, electric over hydraulic controls and chains manufactured right here in the USA. This greatly increases availability and quality of replacement parts.

We have also launched a new range of roller mowers from UK manufacturer Broadwood International. Branded Wessex Pro-Line, these mowers offer a variety of features and come in a host of sizes from 4 ft to over 18ft of mowing width. Most mowers are rear discharge and fitted with free-swinging blade tips. Blade tip speeds of approximately 18,000 rpm guarantee a high quality of cut and great finish. In both 3-pt hitch and towed models, there are machines to fit any mowing need.

As always STEC is on the forefront of bringing the latest European innovations here to America. We are also offering several new items from our other manufacturers. GKB Machines, producer of the Combinator (fraise-mower) and Eco Dresser (recy-

cling dresser), have created the first-ever aerator for synthetic turf. This machine offers a ground-driven system that de-compacts both crumb rubber and sand-based infill systems. Initial testing shows that the aerator can reduce compaction approximately 10% in Gmax standards. This allows you to bring fields that are unplayable back to a usable condition and lengthening the life of your synthetic surface.

Trilo of Holland has introduced an economical range of their debris clean up equipment. With blowers producing as much CFM as any comparable blower on the market, and new turf vacuum sweeper capable of collecting almost any debris, Trilo has made their high quality products available at an affordable price.

Until now, these products have only been available directly from STEC Equipment's home base in South Carolina. New for 2013, STEC is also pleased to announce a new dealer network stretching across America and into Canada. While constantly growing, we will be represented by the following: Storr Tractor (NY, NJ); Show Turf (FL); A-OK Turf Equipment (RI); Commercial Turf and Tractor (NE, IA, MO, KS, AR); Bonneville County Implement (ID); Turf and Industrial (Northern CA); and Canada-based G.C. Duke (Ontario). These dealers will have access to our full product range including infield groomers, RotaDairon Soil Renovators, GKB Machines, topdressers, laser graders and systems, Trilo, Reist, Trench It, and much more.