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Turfgrass Producers International
2 East Main Street
East Dundee, IL 60118
Tel: 847/649-5555
Tel: 800/405-8873
Fax: 847/649-5678
Email:
info@TurfGrassSod.org
Website:
www.TurfGrassSod.org
Comments & Submissions:
jnovak@TurfGrassSod.org

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The Turfgrass Team videos are now posted on



Nat and Art, two characters from the cast of "The Turfgrass Team", banter back and forth during the pilot episodes of a new series of educational videos produced by **The Lawn Institute**.

After viewing the videos let us know what you think. If you have any ideas for future videos please share your thoughts with us.

Send comments to:
jnovak@TurfGrassSod.org.

The challenge was pretty straight-forward, create a series of videos that deliver worthwhile information about the benefits of natural turfgrass to the general public in a creative and attention-getting manner.

To meet this challenge **The Lawn Institute** has developed a cast of characters known as **The Turfgrass Team** that will be featured in a series of video vignettes addressing everything from the environmental, economic and health benefits of natural turfgrass, to misconceptions and/or misinformation about natural turfgrass and lawns.

The **Turfgrass Team** will also take on other issues, for example, the pilot episodes address the benefits of natural turfgrass over artificial turf as it relates to field restrictions and surface temperatures.

Future videos will vary in length from 15 seconds to 60 - 90 seconds depending on the subject matter.

You can view the pilot episodes by entering **The Turfgrass Team** on the You Tube site <http://www.youtube.com/>, or use the following links to go directly to the videos:

The Turfgrass Team - Talks About "A Few Restrictions"
<http://www.youtube.com/watch?v=xnOcbqUXxWI>

The Turfgrass Team - Tackles the Heat Issue
<http://www.youtube.com/watch?v=v5QWwbJa6TI>

Golf & Water

HOW *the* GAME Is WORKING *for the* ENVIRONMENT



Photo: Jim Novak

Golf is working for the environment in a variety of ways: through water recycling, bio-filtering, water harvesting, naturalization, drought-ready design, and wetland preservation. Continued advancements in technology along with ongoing

turfgrass research studies keeps golf in the forefront of environmental stewardship. The following is a brief environmental fact sheet prepared by the American Society of Golf Course Architects (ASGCA).

TECHNOLOGY

Innovations for efficient irrigation are being implemented on golf courses. Soil, plant, and weather sensors mean less water is used thanks to these advancements.

NATURALIZATION

Golf courses are becoming more natural and out-of-play areas are being converted to non-irrigated natural habitat.

WATER RECYCLING

Golf courses are using recycled water for irrigation. As of 2005, more than 12% of U.S. courses have adopted the practice.

BIO-FILTERING

The turfgrass and open spaces of golf courses are efficient at filtering pollutants in water that runs off our highways, rooftops, and developed areas.

A PRODUCTIVE USE OF WATER

In 2007, the U.S. golf economy was estimated at \$76 billion. Golf returns a direct benefit to local economies, making it an important industry that is larger than the motion picture business.

WETLANDS

Naturalized areas on golf courses often include wetlands and other non-turf areas, accounting for a significant acreage of open space land.

TURFGRASS SCIENCE

Research funded by golf has yielded new grasses that require less water and are more drought-tolerant. Parks, sports fields and lawns benefit from this research.

DROUGHT READY

Golf course architects are planning ahead for flexibility in water use. Capturing stormwater and planting drought tolerant turfgrasses are preparing golf for the future.

WATER HARVESTING

Many golf courses collect stormwater for irrigation use. New technology can enhance the recharging of ground water reserves. Ultimately, less water from other sources is needed and ground water resources are replenished. Less than 15% of U.S. golf courses use municipal water for irrigation.

FOR MORE INFORMATION VISIT www.asgca.org

It's time to come alive outside! Re-Ignite Your Business

The following article written by Gregg Wartgow, editor in chief of *Yard & Garden* and *Green Industry PRO* magazine was directed to landscapers. But Gregg's comments are relevant to turfgrass producers and everyone else associated with the Green Industry.

As featured in Green Industry Pro.com March 2011

Re-igniting Demand for Landscaping Services

Is it possible for a company to help spur an increase in demand for its products or services? Of course it is, although it's much easier for some than for others. Oil companies and tobacco companies cater to a mammoth marketplace that, generally speaking, is addicted to their products. Companies like Apple find new and better uses for a product, encouraging consumers to continue buying and upgrading so they don't fall behind.

What about "landscaping services"? Can contractors help spur an increased in demand? If so, how?

Green Industry PRO magazine partner JP Horizons held one of its popular Face to Face events March 5 at the University of Maryland. This roundtable discussion took a bit of a different twist, though. Dubbed "Face to Face with the Future," the meeting not only included landscape contractors and representatives of the event's "smart company" sponsors (suppliers to the Green Industry), but was also attended by students of U of M's landscape management-related programs. The goal was to begin looking at the Green Industry, and the role it plays in society, in a new way.

Encourage Americans to "Come Alive Outside"

Here are some facts. Americans are busier than ever. Kids and young adults spend more and more time inside playing video games, monkeying around on computers and/or smart phones, and overall "not being as active as kids and adults once were." While that is a trend that favors some companies and industries, it generally is not a good trend for the Green Industry. Or is it? As one contractor in attendance stated: "I want my customer to pull into his garage at night, shut the door and not want to come back out. Then he wants to keep hiring me to take care of his lawn." That's a very fair statement.

It's about helping consumers improve their quality of life, which can happen outside. Well-landscaped and maintained lawns and backyard spaces, as well as commercial and public areas, help consumers improve their quality of life. There are economic benefits as well as social benefits.



Photo: Jim Novak

What can contractors do? How can Green Industry Pros re-ignite that passion consumers had for the outdoors back when this industry emerged? Below are some ideas that emerged at Face to Face with the Future:

- Sell the "why" as opposed to just the "what". For example, why would a consumer want you to maintain their lawn? Maybe because you can do it better than they can, more quickly, with lesser impact on the environment. Then they have more time to play catch with their kids in their backyard, or take them to the park, or if they don't have kids they have more time to go out on the boat. Why would a consumer want you to install an outdoor living space in their backyard? Because they can invite friends over and "go on a mini vacation" three nights a week. Of course, all of this is more than likely going to increase the value of their property as well.
- Engage the community. Present the concept of creating and implementing a "come alive outside" project to community leaders. Maybe it's a monument or other well-landscaped area that everyone can rally around and participate in the creating.
- Work with other area Green Industry businesses. Get involvement from area landscape suppliers, equipment dealers, even other contractors such as sod companies or irrigation specialists.
- Become an educator. Spread the message of "come alive outside" through your website, social media efforts and company newsletters. Work with local media and leaders to help get the message out, especially to young people.

When the landscaping industry emerged in the 1940s, it was because consumers came to appreciate beautiful outdoor spaces. As the Green Industry now looks to further evolve, it must re-connect with consumers and re-ignite that love for the outdoors. It's time to "come alive outside" once again.

~ Gregg Wartgow, editor in chief

TPI would like to express our thanks to Lisa Danes, Managing Editor, Cygnus Green Industry Network for granting permission for us to reprint Gregg Wartgow's article.

The profile of a head groundskeeper— Dedication, Commitment and Enthusiasm

ROGER BAIRD PUTS HEART AND SOUL INTO WRIGLEY'S TURF

By Carrie Muskat / MLB.com | 03/28/11 | 10:00 AM ET



Wrigley Field, nicknamed "The Friendly Confines", is the second oldest ballpark (1914) in major league baseball and is the home of the Chicago Cubs.

It's all about the grass for Roger Baird. For the last 15 years, Baird has been in charge of the turf at Wrigley Field. And if you think the players are excited about Opening Day, they can't match Baird's enthusiasm. "It's like Christmas," he said.

The head groundskeeper for the Cubs, Baird, 50, starts checking the National Weather Service forecast for Opening Day more than one month before the actual date. This year, the Cubs will kick off the 2011 campaign at home April 1 against the Pirates. It'll be the 13th time they've opened the season at home since 1979, which was Baird's first year working at Wrigley. He was in college then and needed a part-time job. "I thought I'd do this for a couple years," he said.

He took over all groundskeeping duties full time mid-season in 1995, and will begin the 2011 season after his most challenging winter. In a normal offseason, Baird works on the field up until Thanksgiving, then lets nature take over. There are 60 members of the grounds crew during the baseball season, but only three stay year-round.

After the Cubs' Sept. 26 game, their last at Wrigley in 2010, Baird's focus shifted. "It was 100 percent different," he said. "After the last baseball game, we went right into football mode." Wrigley couldn't rest during the offseason because of the Nov. 20 college football game between Northwestern and Illinois. The crew had to tear out the pitcher's mound and the mounds in the bullpens and remove all of the infield clay. Left-field foul territory needed to be raised by eight inches to make it level, which required 40 tons of sand.

New grass was needed, and although some Cubs opponents might doubt this, it had to be thicker to handle the bigger, heavier football players. Each piece of sod weighed 3,000 pounds, and the crew used a machine to lay it but needed manpower to make sure the seams were tight. And they had to make it look good. "I never realized with Northwestern how much purple there is," Baird said. They painted the end zone purple and the sideline purple. It took more than one coat.

When the football game ended, Baird and crew had to reverse the process. The Cubs' front office gave him permission to re-sod the entire field, and that started two days after the game was over. He bought grass from Colorado* because the nurseries in the Chicago area didn't have enough. The last piece of grass was put down on Dec. 10. "I've never laid sod at that time of year in my life," Baird said.

That wasn't all the grounds crew had to deal with. On Feb. 1, nature dumped 20 inches of snow on the Chicago area. Baird wasn't able to go home because somebody needed to clean the parking lot and sidewalks around Wrigley. Most of that melted by early March, except for the right side of the field, which doesn't get as much sun. The crew had to remove some of the snow and ice.

Roger Baird puts heart and soul into Wrigley's turf — cont'd from page 4



Roger Baird, head groundskeeper of Wrigley Field in Chicago takes his job seriously year round.

- Photo by Kevin Saghy, Chicago Cubs

Two weeks before the season opener, Baird still had to build the visitors' bullpen, and he was praying for decent weather. A brief warm-up in March helped melt all the snow. They were able to cross off one item from the long to-do list: They did not re-paint the scoreboard. That's done every other year. Baird cringed when he saw the Cubs' 2011 schedule. "I think all groundskeepers do that," he said. "April 1 is mighty early in the Midwest. Roger [Bossard, White Sox groundskeeper] on the South Side and I always talk -- 'Oh, it's your turn this year.' It definitely puts more pressure on you." There also is no off day after the home opener, which gives Baird little security in case there is some unwanted precipitation on Opening Day. "That should almost be a written rule for any outdoor stadium, that there's a grace day," he said. In 2003, Baird and crew had installed a new field and they were hit with a major snowstorm right before Opening Day. "I'm crying, 'Don't ruin anything. Don't ruin anything,'" Baird said.

Back to that infield grass. There have always been rumors that it's longer at Wrigley than anywhere else. "It might be a rumor," Baird said. "I believe we have one of the thickest grasses in baseball. It's not so much the height, it's the thickness. I've learned over my years that pitchers would love to have the grass knee-high. Hitters would like no grass." Who does he favor? "I listen to the manager and what he tells me is how we go," Baird said.

During the season, Baird will reluctantly take three or four days off when the Cubs are out of town. Even on those days, he'll sneak down to Wrigley around 6 a.m. for a couple hours. "If I see the grass, I'm OK," he said.

Baird loses 25 to 30 pounds during the course of the season because he worries about the field. He does have some superstitions heading into Opening Day, but wouldn't reveal them. "I get extremely nervous," he said. "I try not to tell people that. I've always got butterflies and hope everything goes well. 'Did I forget this? Did I forget that?' I'm like a little kid. I'm always happy when Opening Day goes by and nothing goes wrong."

His biggest worry? The weather. "Only the guy upstairs knows," he said. His next choice is Chicago forecaster Tom Skilling. There are computers hooked up to the National Weather Service radar under the stands at Wrigley as well. Two weeks before the season opener, Chicago flirted with unseasonably warm temperatures in the 60s. Baird and his crew were putting some finishing touches on Wrigley and someone commented that they'd take that weather for Opening Day. "I'll take the blue sky," Baird said.

TPI wishes to express our appreciation to Carrie Muskat a reporter for MLB.com. for granting us permission to reprint her article. Carrie also writes a blog, Muskat Ramblings; you can also follow her on Twitter@Carrie Muskat. This story was not subject to the approval of Major League Baseball or its clubs.

* Graff's Turf Farms in Fort Morgan, Colorado provided the turf for Wrigley Field.

TurfSide-UP

Chop-lifting attempt foiled! Employees SAW it coming and going!

Thief Runs Off With Chainsaw in His Pants

There are some news stories that just make you scratch your head in disbelief; such was the case of a shoplifter who tried to steal a chainsaw from Ross Seed Company/True Value in Chickasa, Oklahoma. How was this genius planning to accomplish this daring feat? He thought he would just slip a huge Echo chainsaw in his pants, that's how!

Fortunately there were a few store employees, a handful of customers and even a store manager who SAW it coming. Of course, it's pretty hard to miss a fellow walking around with a bulge in his pants and the handle of a chain saw sticking out above his belt. As the alleged shoplifter wobbled out of the store, employees began chase. Ditching the chainsaw, the would-be thief ran up a tree, jumped down and then ran

into a nearby house where the owner quickly shoed him back outside. The employees continued chasing him to an almost dry creek nearby. They say the culprit dove into the shallow creek headfirst. "We could see his head sticking out of the water," said the store manager who was among those in pursuit. "First time I ever seen a chainsaw go down anybody's britches," said the manager. Police said the chainsaw bandit appeared intoxicated when they finally pulled him from the water. As for the chainsaw, it was recovered.

http://www.youtube.com/watch?v=Tc3yeO_COFI&feature=related



Photoshop image—Jim Novak



Photo: N.C. State University

Dr. Art Bruneau, Professor Emeritus, Crop Science NC State University appointed NCSA's new Executive Director.

North Carolina Sod Producers Association Appoints New Executive Director

The North Carolina Sod Producers Association has announced that Dr. Art Bruneau, Professor Emeritus of Crop Science NC State University has been appointed NCSA's Executive Director.

In making the announcement, NCSA president, David Bradley of Turf Mountain Sod, Inc. (Hendersonville, NC), stated, "Dr. Bruneau was instrumental at the inception of our association over 20 years ago. He was also involved in the early days of Turfgrass Council of North Carolina. His experience and wisdom expands more than 35 years in North Carolina turfgrass."

Bradley went on to say that the North Carolina Sod Producers Association is excited to have their own executive director who is knowledgeable about sod farming in relation to government rules and regulations, politics, economics, can deal with other state sod associations and marketing issues.

Dr. Bruneau received his B.S. and M. S. degrees in Agronomy from the University of Rhode Island. He received his Ph.D. in Horticulture from the University of Nebraska and currently has a teaching and research appointment at North Carolina State University and oversees the turfgrass cultivar testing program that includes the National Turfgrass Evaluation Program (NTEP) trials. He also teaches a turfgrass management course offered in the Professional Golf Management program and is the author and developer of many turfgrass extension publications such as the Turfgrass Pest Management Manual.

**Where in the world is
TPI represented?
EVERYWHERE!**

An on-going series featuring photos and copy from TPI member websites.

Hanson Valley Sod
Hillsboro, North Dakota USA

<http://www.hansonvalleysod.com/>

Proud Member of Turfgrass Producers International



Hanson Valley Sod is a division of Don and Kathy Hanson's diversified farm which includes sod, corn, soybeans and sunflowers, located at Hillsboro, ND.

Established in 2001, Hanson Valley Sod has grown to be the largest sod producer in North Dakota. Supplying mineral sod, grown here in the Red River Valley, for home lawns, parks, sports fields, golf courses and other commercial projects in the tri-state area.

Hanson Valley Sod harvests sod in 10 sq. ft. rolls measuring 24" wide by 60" long supplied on pallets of 500 sq. ft. and large 270 sq. ft. rolls, measuring 30" wide 108' long. Both products can be used for home yards and commercial projects.



Farm pickup or delivery of your order is available. Helping our customers complete their projects in a timely manner is our goal. Please browse our web site to see how we can help you with product and care information.

Our Sod Is Fresh

To guarantee our customers the finest cut sod, we harvest our sod fresh for every order. Your order will be cut the day before or the day we deliver it to you. We want to have our sod delivered to you, so you can have it installed and watered within 36 hours of harvesting!



We harvest Monday through Friday and deliver Monday through Saturday starting in early May and running into October. To order a pickup, one day notice is fine. To have your order delivered, place your order one week in advance. This will help us schedule cutting and delivery of your order when you want it.

Your order will not be harvested without a 24 hour confirmation call. This is done to ensure you will be ready to receive delivery.

HANSON VALLEY SOD'S BEST ADVERTISING IS YOUR SATISFACTION! TOGETHER, WE CAN ACHIEVE THIS.



U.S. Golf Industry's First Carbon Footprint Calculator

Source: *Environmental & Turf Services, Inc.*

Environmental & Turf Services (ETS) of Wheaton, Maryland and The Golf Resource Group (GRG) of Phoenix, Arizona have announced the release of a carbon footprint calculator for golf, a tool to calculate a golf course's carbon impact and help them save money.

Released under the name CARBONSAVE®, this golf-specific calculator is the first one of its kind to be available for use by any golf course. The calculator allows the user to input the course's basic resource data relating to the various everyday uses such as total energy use, fertilizer and pesticide consumption, and total fuel used, including gasoline and diesel. Total mileage driven by company vehicles is also an option.

Based on national averages, the calculator reports the total net carbon emissions, given in tons, for the entire golf facility. The tool also calculates the total percentages of emissions attributed to each use, identifying areas of highest priority for reduction and potential cost savings. A reduction of a course's carbon footprint will lead to a reduction of resource use that will also lead to cost savings, a necessity for any golf course. The program's research suggested that over 60% of a facility's footprint is attributed to energy use.

The calculator also addresses the topic of carbon sequestration, providing for inputs of the acreages of maintained turfgrass, trees, native grasses, and shrubs. These areas are used to calculate a total amount of carbon sequestered via natural causes, and may one day be available for sale on a carbon market. One possible use of this information is the phase-in implementation of recently adopted state legislation such as Assembly Bill 32 in California, for which new cap-and-trade regulations were passed December 16, 2010. Another possibility is incentives by large public utilities to reduce overall energy use and reduce greenhouse gas emissions.



Photo: Jim Novak

"We have no idea where the future carbon markets will lead," says Dr. Stuart Cohen., president of ETS, "But, if there is an opportunity for golf to take advantage of selling their carbon credits, we want to be right there to help a golf course take advantage of it."

The future of golf development remains uncertain; however, the fact remains that golf courses will have to continue to find new and innovative ways to be more efficient while saving money.

"We see what courses are going through to survive, and want to be part of the solution," continues Cohen. "If a course can save money and do what's right for the environment, isn't that the definition of a win-win situation? We think so."

To learn more and to download a free copy of the CARBONSAVE® Carbon Footprint Calculator for Golf, go to <http://thegolfresourcegroup.com/carbon-footprinting.html> and click to download the calculator.

RECOVERING FROM AN EARTHQUAKE

TPI Member Roger Morgan provides a personal perspective of lessons learned following the tragic quake that hit Christchurch, New Zealand.



Roger Morgan, managing director of Readylawn Industries, LTD.

The horrific devastation caused by the earthquake and tsunami that struck the east coast of Honshu, Japan continues to hold the world's attention as the aftermath of that tragedy continues to unfold. But it was only a little more than a month ago when an earthquake struck Christchurch, New Zealand (Tuesday, February 22). How it impacted TPI Member Roger Morgan of Readylawn Industries, Ltd., his family, employees and the people of New Zealand is both personal and moving.

"From adversity comes opportunity." - Roger Morgan

We in Christchurch are in recovery after the series of massive earthquakes caused billions of dollars in damage to the city and took under 200 lives. The entire eastern side of our small city of 400,000 people is almost destroyed and around 10,000 houses will need to be re-built, complete infrastructure reconstruction, (roads, sewer, water) as well as 30% of the central business district buildings being demolished.

The epicentre of the lunchtime quake of February 22 was just a few kilometers from the central business district and was a localised event that only damaged a portion of the city, mostly that part built on loose sandy soils that were subject to liquefaction. This is where groundwater and sands when wobbled together lose all structure and effectively liquify, causing buildings to sink into the ground and liquid sand to erupt from below. The rest of New Zealand is unaffected as is most of the southern part of the city.

It was a very shallow earthquake, 5km deep, but very violent at 6.3 on the Richter scale. Most of the deaths occurred when two buildings collapsed. The rest were from toppling bricks, masonry and other debris.

New Zealand lies on the same "ring of fire" as California and Japan. Christchurch citizens are feeling a little guilty now since the terrible Japan earthquake. In retrospect we were very fortunate not to have had a tsunami... a huge potential risk to coastal areas, but also being a nuclear free country we don't have a radiation risk due to the destruction of nuclear power stations.

The tragedy we experienced in New Zealand has resulted in lessons learned about disaster preparation, family emergency plans, business continuity insurance needs, business diversification planning, etc.

Perhaps most importantly, after a terrible disaster nothing seems to matter until family and friends are accounted for. Wives, husbands, children and other family members need to be gathered close and others in our lives need to be contacted. Mobile phone networks jam with traffic; power is lost and roads are congested with cars; people wander around "shell shocked". Many people just survived terrible circumstances, saw serious injuries befall others, witnessed death and are overcome with grief. A family plan is needed prior to such a disaster, such as where to go and where to meet. We didn't really have a family plan, but with our family of 4 all in different places we were fortunate to all emerge unhurt albeit a little shaken.

We at Readylawn were fortunate to escape serious damage at the farm and offices because we are located some distance from the city, but some of our staff had different outcomes. Business pretty much stopped for the week following the earthquake as everyone took stock. Staff attended to damaged homes, helped their family, and offered support to their neighbours and the community.

Although our turf sales suffered we were fortunate to offset losses by our contracting division that has been working overtime on reconstruction.

Cont'd on page 3

RECOVERING FROM AN EARTHQUAKE (Cont'd on page 2)

The Christchurch Earthquake
12.51pm February 22, 2011

Crunching the numbers to assess the potential financial implications of a continued 90% reduction in turn over and coming up with strategies to deal with staff absences and a worse case scenario was a challenge. Potentially missing out on the busy autumn trade prior to winter, as well as being in the recession were added issues that had to be considered. My bank manager called me first with a financial plan and the government stepped in with a payroll support package for a few weeks.

Fortunately we have needed neither form of assistance. I took the attitude "From adversity comes opportunity". It didn't take long to see that many of our regular clients in the golf course and sportsfield trades had some major damage to their facilities. We took some of our farm staff and a bunch of gear into town and haven't looked back. We have crews working long hours re-leveling sportsfields and sowing seed or installing sod. Many businesses have really suffered and many will be forced to close. We are bracing for the rebuilding of up to 10,000 homes over the next few years.

LESSONS LEARNED —

There are a few issues to take into consideration in anticipation before you're faced with the devastation of a natural disaster, be it an earthquake, tsunami, flood, tornado (cyclone), hurricane (typhoon), etc. You can safely assume any one or more of the following will impact your life and your business, and if you plan before hand you can better deal with the unfortunate circumstances that might materialize.

- Power and phones will be out for a period. Sometimes days.
- Water-sewer and stormwater systems will be damaged.
- Accessing food and fuels could be impossible for many days.
- You won't be able to easily contact family after an event, so make a family plan of what to do in a disaster.
- Have a worst case scenario plan for your business.
- Check business continuity insurance policies to make sure they are suitable in the event the unexpected happens.
- Have a plan B. What can be done to help restore the city, town, village or community in which you live.
- Stay positive.
- Keep your family's welfare first.

Written by: Roger Morgan
Managing Director
Readylawn Industries, Ltd.
Christchurch, New Zealand

TPI would like to express our gratitude to Roger Morgan for sharing this story with us. We would also like to take this opportunity to express our thoughts and prayers to the people of Japan and to TPI members **Tadashi Ochiai** of **Nasu Nursery, Inc.** in Nasu Tochigi-ken, Japan and to **Masashi Sasakura** of **Toyo Green Company, Ltd.** in Tokyo, Japan.

FLINT, MICHIGAN

Can cleaning up neighborhood parks and mowing grass revitalize the spirit of a city?



Michigan State University turfgrass specialist Dr. Thom Nikolai, left, and community resident David Caswell are seen in Flint, Michigan. Caswell is currently coordinating the mowing and fertilization of vacant and/or abandoned properties to test the idea that maintained lawns and parks are important to neighborhood revitalization.

Photo Michigan State University, Jeff Bryan

Turfgrass professionals, sociologists and community leaders in Flint, Michigan think it's worth the effort.

Flint, Michigan has the unfortunate distinction of topping the list of U.S. cities that lost the largest percentage of residents over the past year, according to new estimates from the U.S. Census Bureau. No other large city in the nation lost a larger chunk of its population over the same time frame. Data also shows Flint is still losing population over the long run at the second-fastest rate in the country, second only to hurricane-ravaged New Orleans.

The closing of auto plants as the industrial decline swept across the Rust Belt saw more than 89,000 General Motors related jobs dwindle down to about 6,000. The impact on the city has seen Flint's population fall to about 115,000 from a peak of about 197,000, leaving behind many crumbling neighborhoods, abandoned homes and neglected parks. As Flint tries to survive and thrive as a smaller city, the thousands of abandoned homes and vacant lots scattered throughout its neighborhoods are more than a reminder of its past as a manufacturing boomtown.

A team of Michigan Agricultural Experiment Station (MAES) researchers — comprised of turf experts, a sociologist and an economist — are working on a three-year project with the Genesee County Land Bank and three Flint communities to investigate the interaction between the biological environment and social change, and how this connection may affect the ability to recreate prosperous, vibrant communities.

MAES turf expert and project leader Dr. Thom Nikolai, a turfgrass academic specialist with the MSU Institute of Agricultural Technology, says the team hopes to combine the value embedded in lawns with growing and maintaining healthy turf to build community capacity and help contribute to Flint's economic recovery.

"As you look at these blighted areas where they can't even afford to mow the grass, the thought process is that if we begin to maintain these areas and make the grass look good, what impact might that have on businesses moving in or on people who might decide to buy homes in the area," Nikolai says. David L. Caswell, 68, a retired school principal who has lived in the neighborhood for more than four decades and is a member of one neighborhood association is currently coordinating a portion of the project and stated, "We want to see if it's going to be contagious."

Researchers want to see the economic effects of improving lawns and parks. Lawn mowers are being donated by John Deere. Funding includes \$50,000 a year for three years, plus supplies, from Marysville, Ohio-based lawn and garden products maker The Scotts Co. Researchers will also look at environmental effects such as how thicker, well-maintained grass, keeps soil and polluting runoff in place.



What remains of the parking lot of Flint's former 235 acre complex known as Buick City, a GM auto plant that was in operation from 1904 until 2010. At one time the plant employed nearly 30,000 employees.



Just one of the many parks and playgrounds where neglect and over-grown grass discourages social activity.

Avoiding Unintended Consequences— Urban Water Quality and Fertilizer Ordinances



Lawn fertilizer misuse is one of many factors degrading water quality in Florida and in other parts of the world, but summertime fertilizer bans may not be a quick-fix solution according to an updated report released by University of Florida scientists.

Numerous published, peer-reviewed studies confirm that turfgrass is healthiest and absorbs the most fertilizer nutrients during the active growing months of summer. Research also shows that nutrient leaching and run-off are greatest during other times of the year.

These findings are highlighted in the updated report, “Urban Water Quality and Fertilizer Ordinances: Avoiding Unintended Consequences,” available online at <http://edis.ifas.ufl.edu/ss496>. The report is a literature review of more than 100 scientific papers published nationally in the past 40 years. Together, these papers provide a clearer picture of the relationships among fertilization, leaching, runoff and water quality.

Pollution in Florida’s lakes, rivers and coastal areas is a critical concern and many cities and counties have begun to consider regulatory measures to help protect water quality. As the report shows, nutrients can enter groundwater and surface water from a variety of sources including fertilizer, pet waste, septic tank waste, leaf litter, combustion products and atmospheric deposition.

The updated report, issued by UF’s Institute of Food and Agricultural Sciences, was developed to provide additional information to regulatory agencies as well as industry, community and government leaders and environmental organizations as they engage in these important discussions, said Terril Nell, chairman of UF’s environmental horticulture department and a co-author of the updated report.

“Water quality is vital to the future of our state, and it is critically important that we understand the complexity of the nutrient problem we are dealing with,” Nell said. “This information could help us develop solutions that provide us with lasting and measurable results.”

Some key points cited in the report:

- **Properly maintained lawns and landscapes provide excellent soil erosion control, enhance entrapment and uptake of the nutrients nitrogen and phosphorus, and improve aquifer recharge.**
- **Healthy turf grass loses almost zero nutrients when it’s fertilized and irrigated according to science-based best management practices (BMPs).**
- **Maintaining healthy turfgrass requires the addition of nutrients during summer months, when grasses have the greatest ability to absorb nutrients due to more active root and shoot growth.**
- **Nutrient runoff and leaching will increase when lawns are over fertilized, and when fertilizer is applied to unhealthy turf.**
- **Science-based BMPs should be combined with education programs, for maximum improvement of nutrient management and its impact on water quality.**
- **Wintertime fertilizer bans are part of a comprehensive approach to water pollution problems in Wisconsin, Minnesota and Michigan. They have banned fertilizer applications during cooler months when grass is dormant, but not in the summer or other warm months considered active growing periods.**

Avoiding Unintended Consequences— Urban Water Quality and Fertilizer Ordinances — Cont'd

Plant nutritionist George Hochmuth, a professor in the UF soil and water science department, and senior author of the report, said the research helps shed light on the relationship between urban nutrient sources and excessive algae growth, which can occur in water bodies with elevated concentrations of nitrogen and phosphorus.

“Controlling nutrients at the source is a sound approach to reducing what gets moved downstream into our water systems,” Hochmuth said. “Unfortunately, there are no data pinpointing a single source as the largest factor.”

For homeowners, the updated report underscores not only the importance of reading and following fertilizer label instructions, but also the importance of following proper irrigation practices, said Chris Martinez, an assistant professor with UF’s agricultural and biological engineering department and a co-author of the new report.

Bryan Unruh, an environmental horticulture professor at UF’s West Florida Research and Education Center in Jay and report co-author, said the updated report is an ideal

one-stop information source for any Florida resident who wants to understand the issues surrounding urban nutrient sources and water quality.

“The body of scientific literature that’s out there is robust, and the reader should come away well-informed,” Unruh said.

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NOTE: Original publication date of the UF’s research study was March 2009. It was updated and revised in January, 2011

Authors: George Hochmuth, professor, Department of Soil and Water Science; Terril Nell, professor and chair, Department of Environmental Horticulture; Jerry Sartain, professor, Department of Soil and Water Science; J. Bryan Unruh, professor, Department of Environmental Horticulture; Chris Martinez, assistant professor, Department of Agricultural and Biological Engineering; Laurie Trenholm, associate professor, Department of Environmental Horticulture; and John Cisar, professor, Department of Soil and Water Science; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL.



Amazing Water Facts*

- The average toilet uses 5 to 7 gallons of water per flush.
- A shower can use 25 to 50 gallons (5 gallons per minute).
- Just washing your hands can use up to 3 gallons of water (with tap running at 3 gallons per minute).
- Leaving the water running while you brush your teeth can waste 3 gallons of water (at 3 gallons per minute).
- Outdoor spigots can pump out 5 to 10 gallons per minute.
- Automatic dishwashers use about 15 gallons per load.
- Washing one load of clothes in an automatic washer uses about 45 gallons.
- The average bath takes about 36 gallons of water.
- The average person uses about 125 gallons of water per day.
- An average residence uses 107,000 gallons of water per year.
- About 340 billion gallons of water are used every day in the United States. This total includes water used in irrigation, in industry, and in fire fighting and street cleaning.
- It takes about 1 gallon of water to process a quarter pound of hamburger.
- It takes 1,500 gallons of water to process one barrel of beer.
- It takes 39,000 gallons of water to manufacture a new car, including tires.
- It takes about 800,000 gallons of water to grow an acre of cotton.
- Ten gallons of water are needed to refine one gallon of gasoline.
- Cutting one minute off your shower time can save about 700 gallons of water per month.
- A faucet that drips 60 times in one minute would waste over 3 gallons a day, 1,225 gallons per year.
- Humans require about 2 1/2 quarts of water a day.
- A human can live more than a month without food but only as much as one week without water.

* Courtesy of the Utility Consumers' Action Network, (UCAN) — San Diego, California