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On the cover: Kari Allen, CSFM, right, won two 2010 STMA Field of the Year Awards for her work at Benedictine University in Lisle, IL. Allen works for Sodexo. At left is Rodkym Jackson, a crew member of Allen's last year and again this year

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From the Sidelines



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Shallow questions to ponder

A WAITING SPRING to actually feel like spring instead of yet another in an endless string of 40-degree-with-a-chance-of-rain days after the Longest Winter in Memory leaves a distracted editor time to mull over some superficial questions:

Why is it annoying Canadian geese fly south for the winter, leaving feces everywhere, while the classy red cardinal stays put through ice and snow?

Who is more greedy, CBS or the NCAA? Why not put all 334 Division I teams in a tournament that would conclude with a championship on the Fourth of July? Adding more teams to March Madness (can I write that without infringing on a trademark?) obviously overwhelmed the selection committee this year—I was incensed Middle Baptist Tech-Out by the Airport didn't make it.

Would anyone give her the time of day if Sarah Palin looked like Roseanne Barr?

Where in the Bill of Rights are we guaranteed the right to drive 60 mph while typing? I wouldn't mind a little freedom-trampling when it comes to texting while driving. Yet most lawmakers and enforcement agents continue to look the other way (pun intended). Seeing another driver's face illuminated by a touch screen shows clearly which direction their eyes are pointing and it ain't on the road.

Which myth is repeated more often: Babe Ruth's "called shot" home run at Wrigley Field during the 1932 World Series, or that synthetic turf is "maintenance free"?

Does this pass your smell test? Ohio State football coach Jim Tressel didn't report information he had received about some players' alleged violations of NCAA rules (harebrained as they might be) until after the season because he "didn't know who to tell." And honest, Professor, my term paper's late because it froze to the window of my dorm room. Some large state university in the Midwest with a nut for a mascot is wasting \$100K a year on a compliance officer.

Is it just me or is there a 1:1 ratio between the number of cooking shows on television and the number of weight-loss competition programs?

Regarding the NFL lockout/walkout/decertification/court action: Are you kidding me? Let's get these guys in a room and decide how to divvy up \$9 billion—oh yeah, they already tried that. Maybe we taxpayers can recoup the money we paid to build stadiums; the owners could pay it back from that extra billion they want off the top. Maybe the owners don't want to open the books because they are embarrassed that they charge Mr. and Mrs. Average \$30K just for the right to buy overpriced tickets, merchandise and beer.

Who in their right mind chooses to assist the Intercontinental Bank of Nigeria in internet transfer deals involving millions of dollars? And if no one ever does why do they keep asking?

And one serious question: Why do so many parents of young athletes act like complete morons at their kids' games and events? At my daughter's U-10 soccer game last fall, a dad twice the size of the teenaged referee replied "Make me" to the ref's request that he get off the field during the match. NCAA colleges offer about \$1 billion a year in athletic scholarships, but there's more than \$22 billion in academic scholarships available. Mom & Dad, please get your priorities straight.

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President's Message

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Education opportunities “spring” up

LIKE SPORTS TURF MANAGERS, chapters spring into action as warmer weather arrives. Many have educational workshops, field days, and charitable field re-builds. Your chapter is where you can establish your strongest network when you need advice. All agronomy is local, and these local educational events offer an excellent way to network and continue your education. Chapter gatherings are an ideal value for your crew, too. They are low cost and have tremendous worth in more than just education. By helping your crew members establish their own network, you are helping them succeed and furthering their job satisfaction.

You can also support your chapter in other ways. Offer to help plan an event, chair a committee, or write an article for the newsletter. Our profession becomes stronger through the work of our chapters.

Your Board recently met for its Spring meeting, and we spent time discussing the conference we just held in Austin and next year's conference in Long Beach. Thank you to those who filled out the post-conference survey. Your comments are invaluable to the development of our 2012 Conference and Exhibition. We had a great response to the call for presentations, and I know that your Conference Education Committee is working to develop an excellent program.

We have negotiated the best hotel rates for the greater Los Angeles area, \$189 per night at the host hotel, the Long Beach Hyatt, and \$179 at the Westin. Being on the West Coast in a major metropolitan area, STMA's costs are higher than in a Midwest city. However, your board did not increase conference attendee registration prices. For a full conference registration, the cost is \$375, and for our 1-day education/trade show combo, it is \$105. In fact, these are the same rates that we had in San José in 2009. For those of you who are within driving distance of Long Beach, our 1-day package offers an affordable and value-packed opportunity for you to bring your staff. Again, this is an effective way to provide staff training and strengthen their loyalty.

There is also an STMA regional educational event, June 15-16, at the University of Tennessee. The 2-day event features a tour of the new turf research center, hands on and classroom education, an exhibition and tickets to a baseball game—value priced at \$95. This is an event at which you will truly experience national level education.

For those of you who are within driving distance of our national or regional conferences, and all members of a chapter, I'd like for you to consider bringing your employer to a conference or to a chapter event. What better way to have him or her begin to understand the complexity of our profession, the importance of continuing education that provides value back to the facility, and the high level of professionalism that we as sports turf managers exhibit. This is a solid way to increase the respect for the job that we do.

Best wishes for a great spring season!



How sports turf helps reduce the carbon footprint

IT MIGHT TURN OUT THAT GOLF FAIRWAYS, football fields and other sports turf areas are the “good guys” when it comes to the earth’s carbon footprint.

Although sports turf has been much maligned in the general press recently, researchers at Colorado State University, Fort Collins have proved that established turf does great things for carbon sequestration. The next step in their research is to develop metrics that predict the impact of carbon sequestration in turfgrass.

Early results are eye-opening. For starters, undisturbed turf will lock up one

metric ton of carbon per hectare per year. In English, that is about 0.44 tons of carbon per acre annually.

“The strength of this research is that it covers multiple years and is based on very good data,” says Yaling Qian, professor of horticulture and landscape architecture at Colorado State. She notes that some other studies, a few of which do not have nice things to say about recreational turf, are based on far fewer data sets.

Recent global concerns over increased atmospheric CO₂, which can potentially alter the earth’s climate systems, have resulted in rising interest in studying soil organic mat-

ter (SOM) dynamics and carbon sequestration capacity in various ecosystems.

WHAT IT IS

Carbon sequestration is simply the long-term storage of carbon dioxide. CO₂ storage is necessary as a part of controlling climate change. CO₂ can be stored either geologically or in terrestrial ecosystems, according to the National Energy Technology Laboratory. NETL is part of the U.S. Department of Energy’s national laboratory system and is operated by the DOE. NETL supports DOE’s mission to advance the national, economic, and energy security of the United States.

“This is the kind of information turf managers need to broadcast,” says Tony Koski, professor and extension turf specialist at Colorado State.

Determination of carbon pools in urban turfgrass soils will shed light on the role of turfgrass systems in contributing to terrestrial carbon, Koski says.

Koski says the results of this research support a better understanding of the roles carbon sequestration and carbon emissions play in the management of sports turf and what impact operational activities have on the environment.

At present, Qian is looking for research funding to support graduate students who will establish models for determining carbon sequestration. “We need to be able to project the impact of land use,” she says.

The models would weigh climate, soil type, management style and prior land use—among other variables—in a database file. The results would not only help turf managers see the impact of what they do but also would help lawmakers determine the value of keeping open green areas open and green.

A one-acre soccer field removes carbon equivalent to driving a car OVER 3,000 MILES.

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Qian notes there was no hard data for turf when the Colorado State group started its research in 2000. It was tough even to find carbon data on farmland. “On turf, there was no data at all,” she says.

Golf courses figure most heavily in the Colorado State research. That is because turf management records were available for years, even decades on the sites the CSU researchers studied. Critical benchmarks identified during the project provide information that will allow the golf course management community to improve resource use efficiencies and bolster environmental performance.

“Carbon sequestration as only one side of the equation. The other side is carbon emissions.” – Qian

One reason the CSU study focuses so heavily on golf courses as a function of sports turf is the number of acres golf courses keep green. According to the World Golf Foundation's "The Golf 20/20 Industry Report," there are about 15,000 golf courses in the United States. The GCSAA (Golf Course Superintendents Association of America, www.gcsaa.org) puts the size of a typical 18-hole golf facility at 150-200 acres total, including water bodies, hard structures, and out-of-play areas. A typical urban golf course might be only 110-120 acres, and courses in resort areas may be 170-190 acres. While not all of this is managed turf, all of the green areas can absorb carbon.

On the other hand, a typical soccer or football field is about one acre in size. Even a college complex with a dozen or more fields would represent only a fraction of the managed turf area of the typical golf course. But keep in mind that all sports turf can contribute positively to carbon sequestration.

The Colorado State study is only one of many studies that point up the value of sports turf for carbon sequestration. The biology departments at such diverse spots as Cornell University; Bradley University, Peoria, Illinois; and Missouri Southern State University in Joplin have done similar work on a somewhat smaller scale. No matter the geography, these studies point in the same direction.

Because of high productivity and lack of soil disturbance, turfgrass may be making substantial contributions to sequester atmospheric carbon. To determine the rate and capacity of soil carbon sequestration, Yaling Qian and Ronald Follett at the USDA-ARS, Soil-Plant-Nutrient Research Unit in Fort Collins compiled historic soil-testing data from parts of 15 golf courses that were near Denver and Fort Collins, and one golf course near Saratoga, WY.

In addition, they compiled 690 data sets on previous land use, soil texture, grass species and type, fertilization rate, irrigation, and other management practices. The oldest golf course was 45 years old when the project was initiated, and the newest golf course was just over a year old. Nonlinear regression analysis of compiled historic data indicated strong pattern of SOM response to decades of turfgrass culture.

“The strength of our project was based on having 690 data points,” Qian notes.

The study shows that total carbon sequestration continued to increase for up to 31 years in fairways and 45 years in putting greens. However, the most rapid increase occurred during the first 25 to 30 years after turfgrass establishment. Past land use imparted a strong control of SOM baseline: in fact, fairways converted from farm lands exhibited 24% lower SOM than fairways converted from native grasslands.

That led the researchers to conclude that carbon sequestration in turf soils occurs at a significant rate that is comparable to the rate of carbon sequestration reported for land that was placed in the Conservation Reserve Program.

Translated into everyday terms, the typical fairway (between 1.5 and 2 acres) will sequester three-quarters of a ton of carbon each year. That is the rough equivalent of removing the carbon caused by driving a car 6,500 miles.

A one-acre soccer field removes carbon equivalent to driving a car over 3,000 miles.

Disturbing such soil for any reason will add more oxygen to the soil, Qian notes. “The more disturbance the more you degrade the organic matter,” she says. A renovation will put some carbon back into the atmosphere. But tearing the golf course up and building on the land will release great quantities of carbon to the atmosphere and destroy the valuable carbon sink.

This is one of the first studies of turfgrass that received strong cooperation from USDA-ARS. While USDA did not provide financial support, the research was a collaborative effort. Sports turf is less competitive when it comes to grabbing a part of the USDA research-dollar pie. This usually is credited to the fact that sports turf is seen as non-essential when compared to food and fiber research. So the big money normally goes to grasses like corn and wheat – and not Kentucky blue or turf-type fescues.

This time, USDA-ARS was interested in the carbon sequestration work. The reason has roots in the need to establish just what is happening to carbon in the environment in an era when the term “climate change” has gone well beyond research labs and into the halls of Congress and the front pages of the New York Times.

The Colorado State study is doubly important to the sports turf industry because sports turf got slammed in reports, some done in California, which painted a bleak picture of the value of sports turf when it comes to carbon sequestration.

Terrestrial carbon sequestration is defined by NETL as the net removal of CO₂ from the atmosphere by plants and microorganisms in the soil and the prevention of CO₂ net emissions from terrestrial ecosystems into the atmosphere.

“There is significant opportunity to use terrestrial sequestration both to reduce CO₂ emissions and to secure additional benefits, such as habitat and water quality improvements that often result from such projects,” NETL scientists say.

In principle, terrestrial sequestration is the enhancement of the CO₂ uptake by plants that grow on land and in freshwater and, importantly, the enhancement of carbon storage in soils where it may remain more permanently stored. Part of NETL's interest in terrestrial sequestration is that it provides an opportunity for low-cost CO₂ emissions offsets.

Early efforts had included tree plantings, no-till farming, and for-