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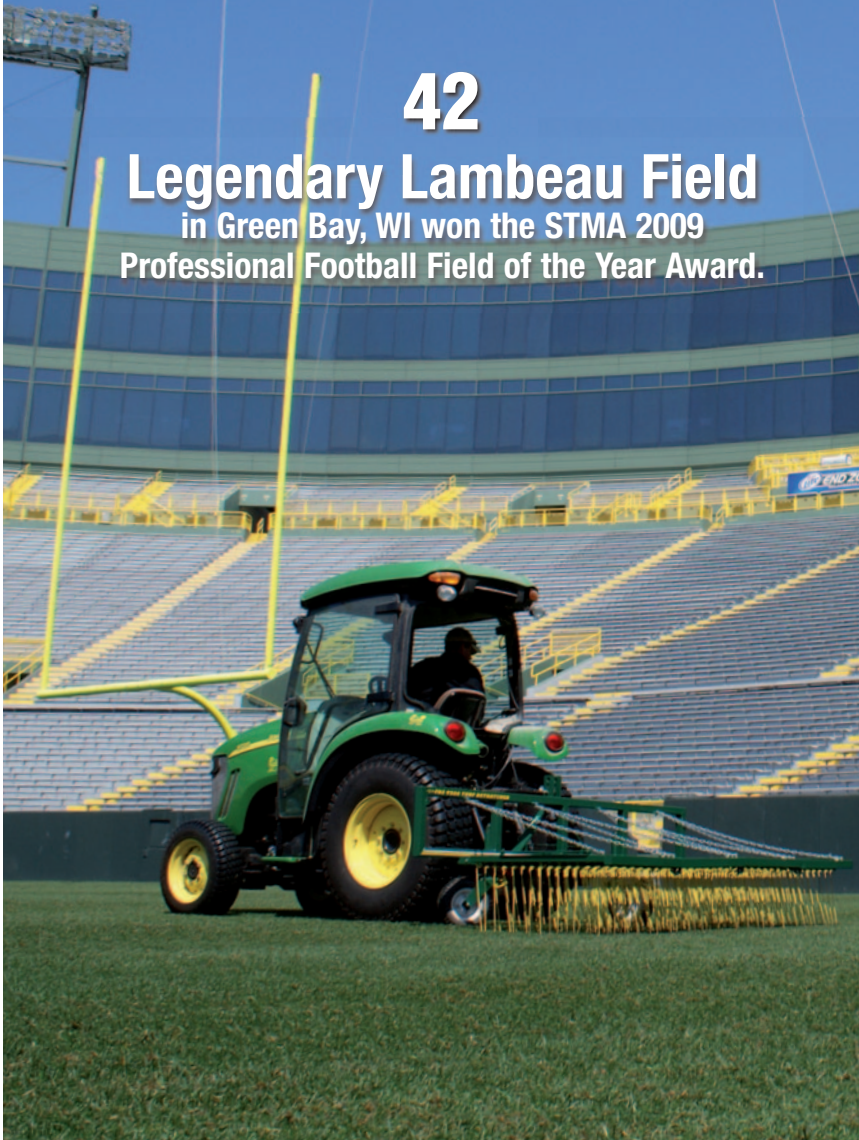
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SportsTurf

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Legendary Lambeau Field
in Green Bay, WI won the STMA 2009
Professional Football Field of the Year Award.



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Blood on the field

On the cover



Legendary Lambeau Field in Green Bay, WI won the STMA 2009 Professional Football Field of the Year Award. Here field manager Allen Johnson, CSFM, applies some finishing touches to the logo.

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From the Sidelines



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Job outlook for recent turf grads

The latest numbers show 15 million Americans are unemployed, which can't be too encouraging to recent college graduates seeking a full-time job in their field of study. But turfgrass students seem to be ahead of those numbers, according to some folks close to the action:

"Graduates pursuing a career in sports turf seem to be faring better than the nationwide average of two out of 10 graduates having jobs," STMA CEO Kim Heck writes in an email. She cites STMA's Career Center as evidence. "There has not been any decline in the number of job openings posted and internships offered from previous years on our website."

Heck also attributes the scope of the industry as a positive factor for employment. "Our members work for parks and recreation departments, professional and semi-professional sports, K-12 facilities, colleges and universities, and for commercial companies—more variety should offer more opportunities." She also believes that new graduates are attractive to employers, but persistence is key.

"Employers are very busy and new graduates need to make certain their qualifications get noticed. Motivated, enthusiastic and technically savvy graduates will make great employees," she wrote.

Dr. Andy McNitt of Penn State said, "The entry-level job market for turfgrass science students remains strong. We graduated more than 50 students in turfgrass science this year and to my knowledge everyone who wanted a position and was willing to relocate secured a position without great difficulty. Most had a job arranged well before they graduated.

"Many of these were in the golf industry but a percentage was in sports turf as well. It seems as though the entry-level position in sports turf has expanded a bit or it could be that the industry is doing a better job of networking and communicating about open positions. I credit STMA with improving that communication.

"Certainly, the industry has seen a slowdown in upward mobility recently but everyone is hopeful that this slowdown is temporary and will improve with an improving economy. The good news is that our recent graduates did not find it too difficult to find gainful employment in the turfgrass industry."

The final word comes from Pamela Sherratt, Ohio State sports turf extension specialist and STMA Board member. Her message is an important one.

"Now more than ever, graduates looking for a job need to set themselves apart from the pack. Not just with their turf knowledge but with their personality, their passion for the industry and their willingness to be flexible and deal with whatever comes up. At the end of the day, employers are looking for people that are pleasant to work with and take things in stride.

"In addition to their turf knowledge, graduates really need to work on their portfolio and show future employers that they have a passion for the sports turf industry, a willingness to try new things and have a team mentality. All of these 'extra' things help set you apart from the pack.

"Graduates need to be aware that turf management is a small and very tight-knit industry. The old adage 'treat others as you wish to be treated' and 'don't burn bridges' never go out of fashion."

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President's Message

Chris Calcaterra,
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STMA delivers value not cutbacks

I recently received a letter from an association that I belong to notifying me that it is cutting membership services and scaling back many association-offered programs because of budget challenges. Although cutbacks may not be too uncommon within some associations, it is definitely not acceptable from your association. I want to assure you that STMA is vibrant, strong financially, and aggressively seeking ways to provide more value to you.

Our annual audit was just completed, and in addition to a healthy bottom line, our auditors commented that "the accounting records were found to be in excellent order." I want to thank our Finance and Audit Committee for their diligent work in overseeing our budget and other financial processes and staff for their day-to-day management. You can review the current and previous audits in the members-only section of the website.

New to the website are three comprehensive maintenance calendars for complete field care during June, July and August. The calendars are specific to cool season, warm season and transition zone field management. The series will continue with the fall season calendars ready in August. I encourage you to access them often, and let us know what other resources you need.

For our commercial members, we are introducing a new award, the Innovative Award. The Task Group worked hard to develop a valuable program that will recognize the contributions of our commercial exhibitors to the profession. We are excited to roll this out to our commercial members and give our first awards at the Austin conference in January.

Although we are 6 months away from our conference, the education program is complete, and it is excellent. You will be receiving your brochure in early September, and I know you'll be excited by the comprehensive program your five Conference committees and subcommittees have developed. I encourage you to start planning now to attend. You'll find helpful information on our website on the 2011 Conference tab to use to persuade your employer to fund this continuing education.

Also this month, look for your hard copy Membership Directory in the mail. For those who have elected to use the web-based version, it is continually updated and accessible 24/7.

It is through the efforts of our strong committees and the involvement of our membership that STMA is a very healthy organization. Our health is also measured by the growing interest in board service. Our Nominating Committee has commented that each year they are very gratified by the increasing number of members who volunteer to run for office. In this issue you will find the 2011 Volunteer Interest Form. Please consider filling it out. Strong candidates build a strong board, and a strong board ensures that STMA provides value back to you and to the industry.

Micronutrients' role in turf management

» Iron chlorosis on Kentucky bluegrass.

THE NEED FOR ELEMENTS other than N, P, and K in a turf fertility program is highly dependent on the soil. A clay loam soil will be different from a sand-based rootzone. Grass grown on soil with either excessively high or low pH will also have different needs than grass grown on soil with pH of 7. The environment may also play a role. For instance, deficiencies may occur in very wet years.

IRON (Fe). Iron is the micronutrient most likely to be deficient on turf. This gen-

erally occurs at high soil pH levels, where Fe changes its form and become unavailable to plants. The deficiency symptoms include a yellow discoloration that is referred to as chlorosis (a lack of chlorophyll). Iron plays an important role in the formation of chlorophyll (the material that gives the plant its green color) and deficiencies are readily visible on the tissue. The application of Fe will generally solve the problem in 24-48 hours following application. A "summer induced" form of Fe chlorosis is becoming more common on turf areas in recent years.

This problem occurs as a yellowing of turf that comes on in midsummer and goes away in the fall as temperatures cool. This type of iron chlorosis generally does not respond to normal rates of Fe and may require higher rates of Fe than those usually needed to overcome normal chlorosis. For more information on summer induced chlorosis, see Devetter, D. N. Christians, and D. Minner. 2008. Dealing with summer induced chlorosis of turf. *Golf Course Mgt.* 76 (5): 123-126.

MAGNESIUM (Mg). Next to Fe, Mg is the second most likely element to be deficient on turf. Like Fe, the symptom is chlorosis. Deficiencies in Mg are most likely to occur on grass grown on sandy soil with a low pH, below 7. Remember that Fe chlorosis generally takes place on high pH soils. Magnesium deficiency often occurs during

The symptoms of nutrient deficiencies often overlap and may be difficult to diagnose the problem.

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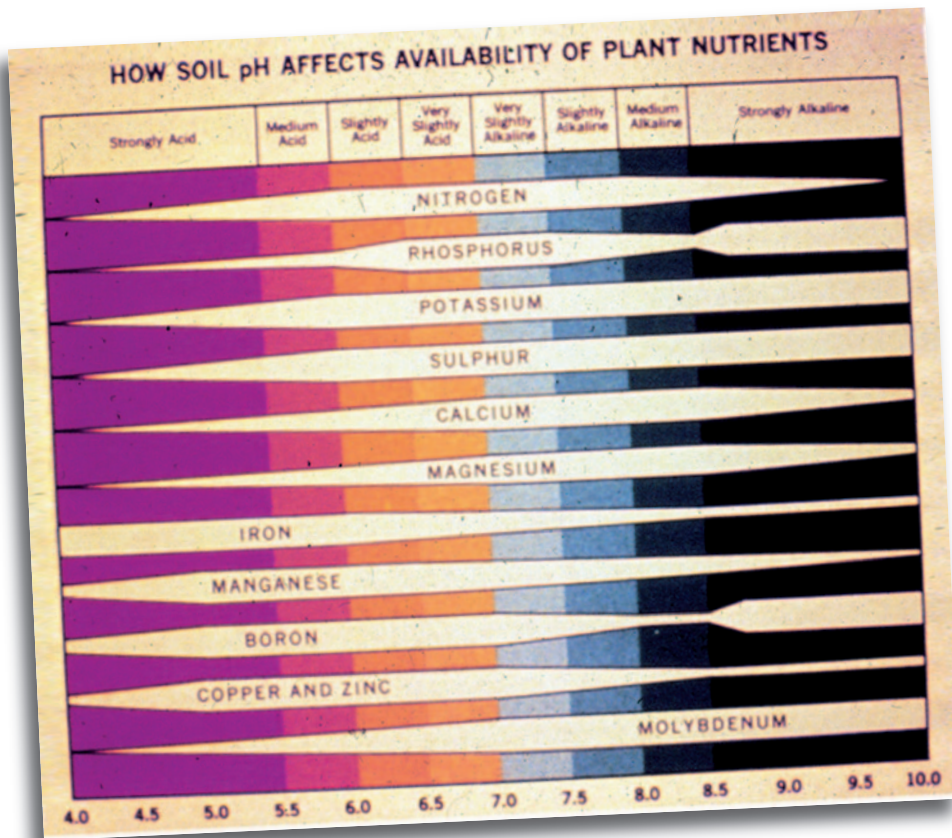
grass establishment on sand-based sports fields. The problem often expresses itself first as a lack of response to N. Yellow grass often occurs during establishment and generally responds quickly to N with a green-up and increase in growth. In this case, however, the grass doesn't seem to respond to N. The application of more and more N does not provide a response. The first thought when this occurs is that there is a Fe deficiency, but in this case the grass does not respond to Fe either. When this occurs, consider Mg next, particularly on low pH sands. The problem can be solved by applying Epsom salts (magnesium sulfate) or dolomitic lime, a product that contain both Mg and Ca. The turf will respond very quickly to Mg containing fertilizers and the establishment process will proceed normally.

CALCIUM (Ca). Calcium deficiency

is rare on turf. Its deficiency symptom in extreme cases is a reddish discoloration of the leaves. This would only occur under very acidic conditions and a simple application of lime (calcium carbonate) is generally used long before actual Ca deficiencies occur. A number of Ca containing products have been developed in recent years to boost the Ca levels of turf. Research conducted at Iowa State has shown that these materials are not needed on turf grown in soils with high pHs. For turf grown on low pH soils, where Ca problems may occur, lime is low cost solution to the problem and these more expensive materials are usually not necessary.

SULFUR (S). Grasses deficient in S become chlorotic, similar to the conditions that develop when the grass is deficient in Fe and Mg. This condition is very rare in most of the United States

» **THE EFFECT** of soil pH on nutrient availability; the wider the line, the greater the availability.



ELEMENTARY GROWTH

SEVENTEEN ELEMENTS are currently accepted to be essential for the growth of plants. This number changes over time. Several years ago, the accepted list included 15. In the 80's and early 90's, scientists accepted 16. By the mid 90's, Ni was added to the list to make 17. A few others are considered to be beneficial to some plants, such as cobalt (Co), silicon (Si), sodium (Na), selenium (Se), and vanadium (Va) and it is possible that some of these may be added to the essential list as more information on their function is gathered.

Most of the plant is made up of carbon (C), hydrogen (H), and oxygen (O). These three elements are obtained by the plant from water and carbon dioxide and are not added as fertilizer. The other 14 are generally obtained from the soil by the root system and are referred to as the mineral nutrient elements. Some may also enter the plant through the leaf or stem when applied in liquid solutions.

These 17 essential elements are usually divided into macronutrients and the micronutrients. The definition depends on the amounts needed by plants to function. Macronutrients are used in the greatest quantities and are generally found in plant tissue in amounts of 1000 parts per million (ppm) or more. Micronutrients are found in plants at levels of 100 ppm or less.

By this definition, carbon (C), hydrogen (H), oxygen (O), nitrogen (N), phosphorus (P), potassium (K), sulfur (S), calcium (Ca), and magnesium (Mg) are macronutrients and iron (Fe), copper (Cu), zinc (Zn), manganese (Mn), boron (B), molybdenum (Mo), chlorine (Cl), and nickel (Ni) are micronutrients. These definitions have nothing to do with importance of an element and micronutrients are just as important to the function of the plants as are macronutrients. The definition refers only to the amount of each element found in plants. ■