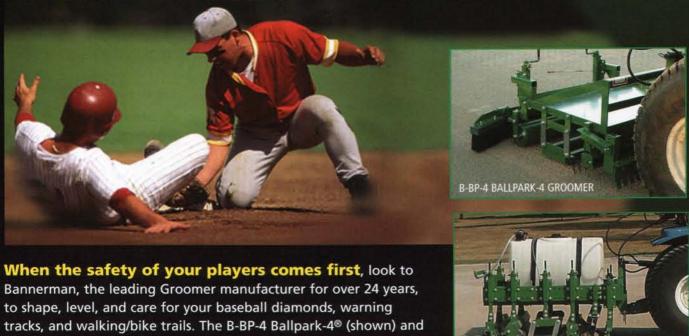


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IRRIGATION SOLUTIONS WORLDWIDE"

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**ON THE COVER:** Bowlin Stadium, Lincoln, NE, is part of the larger Haymarket Park complex.

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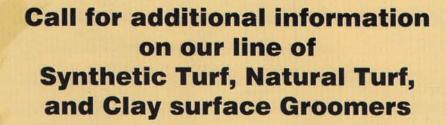


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## from the sidelines

## Project EverGreen gets dirty

The nonprofit organization Project EverGreen (PE), an alliance of green industry service providers who promote the environmental, economic, and lifestyle benefits of green spaces, recently partnered with the Capital Area Soccer League (CASL) in Raleigh, NC, to provide renovation support for its 25-field soccer center. PE members donated more than 150 man-hours and \$12,000 worth of labor and materials to enhance the playing fields of one of the largest amateur youth and adult soccer leagues in the country.

On August 19, sponsoring companies and CASL CEO Charlie Slagle led a "PE workday" where landscapers, parents, and players rolled up their sleeves, fired up the string trimmers, and worked together to help prepare the fields and surrounding areas for the upcoming season. Contributions included landscaping support from Greenscape Inc., maintenance equipment from John Deere, sod, plant and irrigation materials from John Deere Landscapes, irrigation system consulting from Smith Turf & Irrigation, fertilizer and weed control from TruGreen, and aeration from Weed Man.



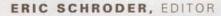
Michael Currin, president of Greenscape Inc., helped lead the "PE workday" where landscapers, soccer parents and players worked together to help prepare fields.

The PE team was on hand to kick off the first games of the fall season on August 27, when they spent the day talking with families about the benefits of well-maintained green spaces. Hundreds of soccer parents and players stopped by the Project EverGreen tent to receive an icecold PE water bottle, sunflower seeds to plant, and a handout featuring tips for maintaining their own turf at home. Additionally, one lucky dad won the "Gift of Green," free lawn care service for a year from Weed Man.

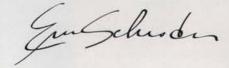
> "This is a pilot partnership we hope to expand to several more cities across the country next year," says Den Gardner, executive director of Project EverGreen. "Through community outreach programs like this, Project EverGreen can speak directly to consumers about the benefits of well-maintained green spaces and the significance of those who preserve and enhance them."

Other Project EverGreen consumer education initiatives have included partnering with the Twin Cities Chapter of Habitat for Humanity to provide landscaping and lawn care for two homes, and sponsoring America in Bloom, by assisting with a contest that awards communities and institutions working to "Plant Pride in Their Communities."

> For more information on Project EverGreen, contact Den Gardner at 877-758-4835 or visit www.projectever-



Comments always welcome. Call Eric at 717-805-4197, email eschroder@aip.com, or write P.O. Box 280, Dauphin, PA 17018.



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## president's message

## Why publish an annual report?

I recall the discussion well over two years ago at a past board meeting about the desire to develop an annual report for our membership. The discussion resurfaced at the fall 2004 board meeting about the need to produce a useful annual report, the appropriate timing for its distribution, and an effective report style. At the spring board meeting, the highly desired development of an STMA annual report was again discussed and staff was directed to develop a report with audited financial numbers and STMA's financial philosophy.

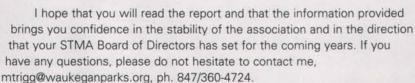
I am proud to announce that in July the STMA Board of Directors approved the publishing of the STMA 2004-2005 Annual Report, which is included in this issue of SPORTSTURF magazine. The report, with more detail, is also posted on the members-only side of the STMA Website at www.sportsturfmanager.org.

So, why is it important to publish an annual report?

- . The annual report, more so than any other type of association publication, expresses the personality, philosophy and vision of the association.
- The report provides a summary of the association's activities and accomplishments during the past year.
- · It shows a quick summary of the association's performance and specifically highlights the programs and services that are funded by the memberships' dues.
  - It gives a snapshot of the profession's progress.
  - . The report also lays the direction for the coming year.

I believe the most significant progress the association has made is its continuing focus on education. Through traditional venues such as our conference, to delivery through new avenues such as partnerships with on-line educational organizations, STMA is striving to be the definitive source for information and education for its members and the industry. Our members are helping us every day to carry out this effort by sharing information, peer to peer. Other important assets to the association in this area are our volunteer leaders who serve through committees. Their efforts guide the development of programs and services that help advance the knowledge, skills and abilities of our members.

> If you are not involved in a committee, I encourage you to consider service in 2006. We'll have a short committee showcase at the upcoming conference in January, which will provide more information on how you can participate.



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## Late fall fertilization of athletic fields

BY DR. PETER LANDSCHOOT

all is the time of year when cool-season turfgrasses recover from summer stress-related conditions such as drought, heat, and disease. For athletic fields, fall is also the time that turf takes a beating from football and other school sports. This year, many athletic field managers will be mak-

ing late fall fertilizer applications with the hopes of improving turf vigor and recovery from injury next spring. In this article, we will examine how late fall fertilizer applications influence turf performance, when to make your applications, as well as the types of fertilizers and rates which provide the best turf response.

## Why fertilize in late fall?

Late fall fertilization has been promoted as a means of prolonging turf color into early winter without increasing the chance of winter injury and disease. Winter color is more noticeable in regions where winters are warmer (mid-Atlantic states) and during mild winters. Late fall fertilization will also enhance spring green-up without the excessive growth that often accompanies early spring fertilization. This green-up often will last into mid spring, so an early spring fertilizer application is not needed. A fertilizer application in mid to late spring is usually required to sustain turf color and growth.

A small but potentially important increase in the plant's carbohydrate reserves occurs when fertilizer is applied in late fall instead of early spring. Turfgrasses accumulate carbohydrates in stems and rhizomes during fall. These carbohydrates help turf resist winter injury and aid in disease and environmental stress resistance the following spring and summer. Because carbohydrates are tapped for energy by roots and shoots during periods of rapid growth, forcing excess growth with early spring fertilizer applications

can deplete carbohydrates quickly, leaving turf vulnerable to spring and summer stresses

Late fall fertilizer applications do not force as much growth as equal amount of early spring fertilizer, thus carbohydrates are not exhausted as quickly. The result is a slight advantage to the turf in the form of better stress tolerance and disease resistance.

Another reported benefit of late fall fertilization is an increase in rooting, though precisely when and how this increase occurs is a source of some debate. Maximum root growth of cool-season turfgrasses occurs in spring and fall. Some root growth will occur in winter if temperatures are above freezing; whereas, little

if any growth occurs in summer.

Most fertilizer applications are made in spring and late summer in attempts to promote root growth. One problem in using this approach is that the shoots use much of the fertilizer, sometimes preferentially over roots. One reported advantage of late fall fertilization is that roots are still growing at a time when shoot growth has ceased, thus allowing the roots to make full use of the fertilizer. However, during this period root growth is very slow, and if the soil is frozen, they do not grow

at all. Consequently, the benefit of increased root growth in response to fall fertilization is questionable.

One study in Virginia showed that moderate rates of soluble nitrogen (1 lb. nitrogen/1000 sq. ft) in late fall increased rooting of turfgrass without a noticeable increase in shoot growth. In contrast, a study in Ohio showed no increase in root growth during late fall or winter following late fall fertilizer applications. However, when compared to early spring applications of nitrogen, late fall fertilization allowed more rooting in spring. Presumably, this benefit was due to early spring green-up from late fall applications, which alleviated the need for early spring fertilization. When fertilizer was not applied in late fall, but instead, in early spring, excessive shoot growth occurred, depleting carbohydrate reserves that would have otherwise gone into root production later in spring.

The take-home message from the Ohio study is that while the net effect of late fall fertilization on rooting is slight, application in late fall may be more beneficial with respect to rooting than an early spring application.

Late fall fertilization is occasionally blamed for increased winter injury, snow mold, and annual bluegrass encroachment. A few studies have been designed to examine the influence of late fall fertilization on winter injury. But to my knowledge, none have conclusively demonstrated detrimental effects. Heavy fertilization in mid-fall, when grass shoots are actively growing, can enhance snow mold diseases (presumably

due to reduced pre-winter hardening and increased succulence of plant tissue). Increased plant succulence should not occur with late fall fertilization. In fact, some research has shown that late fall fertilization may actually reduce winter diseases.

While some studies have shown increased annual bluegrass populations in fall, there is no good evidence to show that this increase is related to late fall fertilization.

### When to apply

Most experts agree that late fall fertilization should take place when foliar





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growth stops (or slows to the point that turf no longer needs to be mowed), grass is still green, and before the soil freezes. Application timing may vary from year to year depending on weather conditions.

### Fertilizer sources and rates

Most late fall fertilization programs include moderate amounts of nitrogen, phosphorus, and potassium. Rates of 1 to 1.5 lb. of mostly soluble nitrogen/1000 sq. ft are suggested over higher rates (assuming a late summer application was made) to avoid excessive growth in spring and nitrogen leaching or runoff. One study at the University of Illinois showed that when nitrogen was applied at moderate rates in late fall (1 lb. of nitrogen/1000 sq. ft) both urea and sulfur-coated urea provided a better early spring color response than Milorganite. However, when Milorganite or sulfur-coated urea was applied in late fall at a higher rate of nitrogen (2 lb. of nitrogen/1000 sq. ft), spring green-up was similar to that obtained from applying urea at a lower rate (1 lb. of nitrogen/1000 sq. ft in late fall).

Slow or controlled-release nitrogen sources may be a better choice than soluble sources on sandy soils because of reduced potential for leaching. Nitrogen fertilizer should never be applied to frozen soil due to the increased chance of nutrient runoff

Although application timing is not as critical with phosphorus and potassium as it is with nitrogen, these elements can benefit turf when applied in late fall. Phosphorus is important for root growth and maturation of turfgrasses and application rates should be determined according to soil test recommendations. If your soil test report indicates a need for phosphorus, late fall is a good time to fertilize. However, there is no need to apply additional phosphorus if it is present at sufficient levels. Turfgrasses require potassium in relatively large amounts, so annual applications are usually required. This element enhances cold-hardiness, disease-resistance, and wear-tolerance of turfgrasses. For these reasons, late summer and late fall are ideal times to fertilize with potassium.

# ONE REPORTED ADVANTAGE IS THAT ROOTS ARE STILL GROWING IN LATE FALL WHEN SHOOT GROWTH HAS CEASED, THUS ALLOWING THE ROOTS TO MAKE FULL USE OF THE FERTILIZER

Late fall fertilization should take place when shoot growth ceases, the grass is still green, and before the soil freezes. Benefits of fertilizing in late fall include better winter color, enhanced spring green-up, and possibly increased rooting.

Typically, moderate amounts of soluble nitrogen provide good turf color without excessive shoot growth in early spring. However, slow-release nitrogen sources can also provide a good color response in early spring when used at higher rates. To avoid potential leaching and runoff problems, use slow-release nitrogen sources on sandy soils. Do not apply fertilizer to frozen soils.

Dr. Pete Landschoot is a professor of turfgrass management in the Department of Crop and Soil Sciences at Penn State. He can be reached at pjl1@psu.edu.

