EVENTS

CALENDAR

FEBRUARY

19 Annual Grounds Maintenance Short Course, Sheraton Columbia Northwest, Columbia, SC. Contact Steve Long, Forest Lake Country Club, P.O. Box 6806, Columbia, SC 29260. (803) 782-7248.

25-27 Western Pennsylvania Turf Conference, Pittsburgh Expo Mart and Marriott Hotel, Monroeville, PA. Co-sponsored by Pennsylvania State University and the Pennsylvania Turfgrass Council. Contact Christine King, PTC, P.O. Box 417, Bellefonte, PA 16823-0417.

MARCH

4-5 Second Annual West Coast Multi-Use Turf & Immigration Maintenance Seminar, San Francisco Holiday Inn, San Francisco. Featuring park, stadium, golf course and school maintenance. Contact Rick Ruiz, Buildings & Grounds Maintenance Consultants, P.O. Box 1985, Novato, CA 94948. (415) 898-1281.

4 Sports Turf Managers Association Seminar, in conjunction with the Landscape Exposition, Valley Forge Convention Center, Valley Forge, PA. Fifteen speakers on sports turf construction and care. Contact Dawn Pratt, (800) 243-2815 or Kent Kurtz (714) 598-4167.

6 Advances in Turfgrass Culture, University of Florida Extension Service Auditorium, Orlando, FL Contact Uday Yadav, (305) 420-3265.

19 Overseeding Short Course, Deer Run Country Club, Casselberry FL. Contact Uday Yadav, (305) 420-3265.

20 Sports Turf Clinic and Equipment Rodeo, Ranger Stadium, Arlington, TX. There will be three hours of instruction and demonstration of equipment. Contact Bill Knoop, Texas A&m, 17360 Coit Rd., Dallas, TX 75252. (214) 231-5362.

26-27 Landscape dedsign Short Course, Fisher Auditorium, Ohio Agricultural Research and Development Center, Wooster, OH. Contact Fred K. Buscher, OARDC, Wooster, OH 44691. (216) 263-3831.

THE FRONT OFFICE

OPINION PAGE

GOLF SUPERINTENDENTS BOOST RECOGNITION

Extension agents and a few sports turf managers have, up to this year, been the only voices crying out for better sports fields. They have been fighting for the good cause virtually alone. They wanted and needed help. Today, that help is on the way.

One of the most important new voices is that of the golf course superintendent. Don't confuse his worksite with his real focus, turf management. He loves a challenge too — that challenge goes beyond the boundaries of his plush golf course or country club.

Once you get to know a few of today's stadium and field managers, you'll discover that many used to be superintendents. Or, like Bob Hudzik at Pennsylvania State University, whom we featured in our last issue, the sports turf manager is responsible for both golf courses and sports fields.

Take Don Marshall, director of golf operations for the City of Anaheim, California. He is responsible for two quality public golf courses as well as Anaheim Stadium's field and grounds. After a decade of building and maintaining golf courses in New England, this graduate of the Stockbridge School at the University of Massachusetts accepted the huge challenge at Anaheim. Not only do the Rams and the Angels play at Anaheim Stadium, but the facility hosts mud bogs, concerts, and even religious conventions. His field takes a beating to say the least.

There is absolutely no doubt that his education and his experience as a golf course superintendent make Marshall the exceptional sports turf manager he is. He was one of the first field managers to order sod grown on sand to avoid compatibility problems with his sand-based field. He draws constantly on his experience to solve challenges at the stadium.

Now we are hearing about superintendents, such as George Renault at Chevy Chase Country Club, Chevy Chase, MD, and Frank Dobie at Sharon Country Club, Sharon, OH, who are reaching out to their regional golf course superintendent associations to provide help to public schools and parks with turf problems. As Renault says, he doesn't want to criticize a school's field or the work of that school's maintenance crew. He wants the school administration to request assistance knowing that it's free and that the current staff will not be left out.

The reasons for a school superintendent to ask for help are contained in Eliot Roberts' story in this issue. It's more than preventing injuries; it's providing the same amount of attention to stadium and practice fields as is currently given to hard surfaces at schools. It's team pride in their home field . . . it's proper field construction . . . it's a justified investment in an important school fixture.

Then read Henry Indyk's story on the common mistakes in sports field management. Chances are you'll find 99 percent of the reasons for field failure are targeted in this article. Use the stories in this issue as your ammunition to gain recognition for the need for better public field care.

When we started ***sportsTURF***, people asked why we combined golf course superintendents with athletic field managers. Our logic was simple. Golf is a sport and ***sportsTURF*** encompasses all sports. We are convinced this logic is sound. There is definite crossover. As Mike Hurdzan says in the main feature, athletic field managers and golf course superintendents have much to share. They face common challenges daily.

We salute those superintendents who contribute their time and expertise to help the athletic field management industry. They are making a large difference in the way people perceive sports field care.

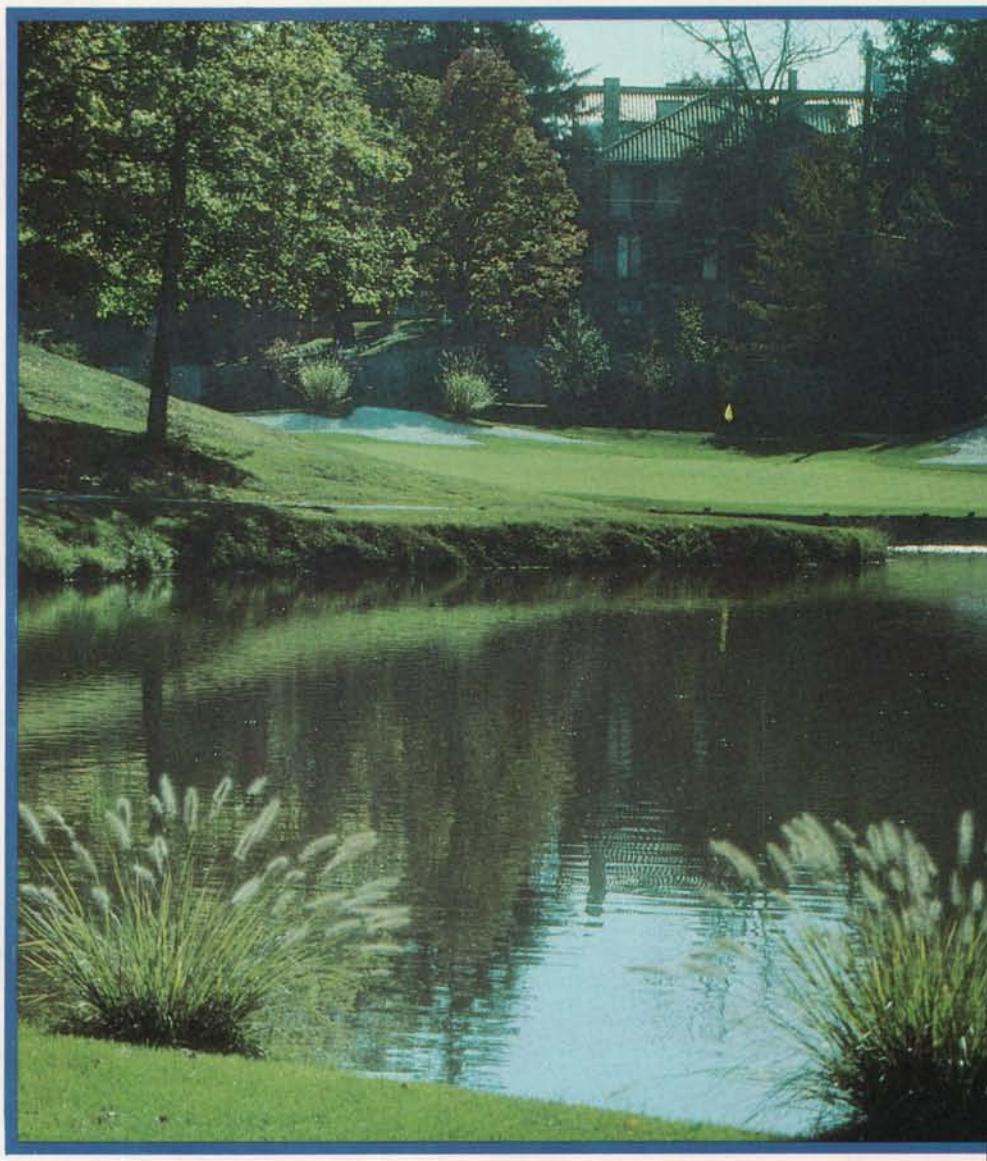
As Hurdzan also states, the athletic field manager has experience that can be valuable to the golf course superintendent. Hopefully, we are building a fraternity of all sports turf professionals, something that can help tremendously in the future.

Bruce F. Shonk

The Maintenance Link

By Dr. Michael J. Hurdzan, ASGCA

One of the most important questions we can ask today is what can the golf course superintendent and the athletic field manager do to help each other?



Besides maintaining scenic beauty, a superintendent also contends with turf wear problems. This is the seventh hole at Hillcrest Country Club, Batesville, IN.

The most intensely maintained turfgrass in the world is on golf greens, golf tees and athletic fields, in that order. Although each installation serves an entirely different purpose and has its own peculiar type of problems, there is a common thread that binds them together. That thread is the goal of producing the best playing conditions possible through management of plant growth and controlling the use of the turf area.

On one end of the thread is the golf course superintendent who has a long tradition of expertise in sports turf management. For more than a century superintendents, once called greenskeepers, have worked with nature to produce a sports area of high scenic value. Only the botanical garden or arboretum rivals the golf course for natural beauty under man's care.

The athletic field manager, on the other end of the thread, is just starting to receive the recognition he deserves in providing a durable, safe surface for other major sports played on turf. The history of the athletic field manager is one of little recognition, with the exception of managers of fields at the college and professional sports levels. Most other fields are managed by a member of the coaching staff, janitorial staff or park crew. Some landscape maintenance companies perform athletic field maintenance under contract.

One of the most important questions we

tween Athletic Fields and Golf Turf

nuch to share with athletic field managers.

can ask today is what can the golf course superintendent and the athletic field manager do to help each other? Certainly there is much for each to share with the other that might make an important difference to the future of sports turf management overall.

The best place to start is to examine the goals and purposes the golf course superintendent or athletic field manager has for his particular turfgrass installation and then compare and contrast the management techniques used to achieve them.

The golf green is intended to provide the smoothest, fastest, most consistent turfgrass surface possible on which golfers can test their putting skills. Since putting is acknowledged as a test of precision, with shots rarely longer than 100 feet, the putting surface is small in comparison to athletic fields. This confined space, although not intended to withstand severe tearing by cleats, must withstand compaction from golfers, pitting from golf balls lofted onto the green from traps or fairway, and the cultural stresses of growing a plant well below its optimum cutting height.

The typical specifications for bentgrass or bermudagrass putting greens actually increase the turf's susceptibility to environmental pressures of heat, humidity and pests. To help the green withstand these stresses superintendents change pin placements regularly and maintain greens on virtually an hourly basis. To assist the superintendents, golf course architects and the United States Golf Association have designed greens with specialized rootzones and drainage systems and, in courses handling a large number of rounds, larger greens or double greens to distribute traffic wear.

Superintendents mow these creeping cultivars of bentgrass and bermudagrass at 1/4 to 5/64-inch cutting heights. Greens are aerified three to six times per year, verticut weekly during active growth periods and topdressed twice each week. These practices are combined with intensive irrigation, fertilization and controls for diseases and pests.

The athletic field is at the opposite end of the spectrum from golf greens. Its purpose is to provide reliable footing and physical support to users who generally impart violent damage to the turf as part of that use. The athletic field surface receives not only compaction and cleat abrasion, but also highly concentrated activity in certain areas.

The field manager can't move the goal posts daily or make the field larger to spread out the wear. There have to be other solutions to heavy use. A few of today's stadiums, such as the Orange Bowl, Los Angeles Coliseum, Mile High Stadium, and Anaheim Stadium, host more than 100 events per year on a single natural turf surface. Some park superintendents may even laugh at this figure considering the use on their fields.

The activities on athletic fields require less surface perfection than those on golf greens. The surface must be smooth enough to prevent player injuries and to assure against bad bounces. With the advent of artificial turf, more attention has been paid to both the speed of a ball on the turf and the speed a player can attain while playing. Cutting height and type of turfgrass can affect both.

The most commonly used turfgrasses on athletic fields are varieties of Kentucky bluegrass, ryegrass, tall fescue, and bermudagrass. Zoysiagrass is being tried on some fields in the transition zone. Overseeding fields with perennial ryegrass for quick repair of divots or to protect dormant warm season turfgrasses is a rapidly expanding technology for heavily used fields.

Maintenance of important athletic fields in season involves mowing every other day at one-inch cutting height, aerification and/or overseeding 10 to 15 times per year, occasional topdressing, and moderate use of irrigation, fertilizers and pesticides. However, it is correct to say most fields in this country receive weekly mowing, a single application of fertilizer each season, aerification twice a year at best, limited weed and insect control, one heavy overseeding, and infrequent irrigation during dry months.

The main football practice field at Texas A&M University in College Station was constructed following USGA Green specifications. Even though the Texas Aggies play their home games on artificial turf, they practice on a field utilizing golf construction standards.

The golf tee is intermediate between athletic fields and golf greens. A tee must provide a very smooth, level, low-mowed turf for precise shot making. But, it also receives violent abuse from its users while providing firm footing and support. Tees receive concentrated and isolated activity, with lots of ripping and tearing of the surface.

You'll find nearly every type of turfgrass on tees, often mixed together, including bentgrass, Kentucky bluegrass, ryegrass, tall fescue, bermudagrass, and zoysiagrass. Separate maintenance programs may be required when year-round play necessitates management of both cool and warm-season turfgrasses.

Maintenance of tees varies widely with the course. Tees are mowed two to seven times per week, irrigated if necessary, aerified three to five times per year, overseeded or spot-seeded 10 to 15 times per year, topdressed as needed, and fertilized regularly to aid recovery of the turf.

Superintendents and athletic field managers can compare their turf based upon the type of facility or the expectations of their superiors. But, they might be able to share more with each other by looking at less apparent similarities of their jobs.

First is the physiology of turfgrasses. You may have successfully maintained sports turf for years without knowing the first thing about physiology. But, the

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underlying secret to management of turfgrasses is their common physiology despite obvious differences in appearance and performance.

The manager of the golf green has learned the significant importance of managing the micro-nutrients within the root zone. Putting green turf, like other types of sports turf, is always on the verge of dying. Management of the very little things can separate success from failure.

Managing micronutrients begins with routine monitoring of the pH of the soil and the soil solution. Although the pH of the soil may not be in the desired range (6.5-6.8), the plant reacts mainly to the soil solution. It is not uncommon for a soil with a high pH to have an ideal soil solution pH, with proper management. The turf manager can adjust the pH of the soil water by applying acid-forming (sulfur) or base forming (lime) materials.

Routine monitoring also provides important information on the cation exchange capacity (C.E.C.) of the soil, the amount of water that percolates thru the soil profile, the temperature of the soil, and the effects of the irrigation water on the soil. Some of these factors may seem unnecessary and overcomplicated. However, they are vital indications of turfgrass health under stressful conditions. You may prefer to consult a soil specialist periodically and adjust your program to his recommendations.

You can carry out your own partial monitoring program by purchasing a good quality pH meter and test kit. Complete data can be obtained by sending a soil sample to the state extension soils laboratory once or twice each year. This test will also provide a run-down on micronutrients in the soil that may require an adjustment in your fertilization program.

One important measurement of soil quality is the calcium to magnesium ratio. It should be in the range of 7:1 to 10:1. It is common for soil scientists to recommend additional magnesium by applying up to five pounds of magnesium sulfate (epsom salts) per one thousand square feet and watering it in thoroughly.

Iron is gaining recognition as an important influence on turf color. Some products being applied to turf are Ferramec (PBI Gordon), Lesco Iron Plus (Lesco Inc.) and Panasea (Emerald Isle). Potassium fertilization has also been under-estimated. The trend is toward fertilizers with a 1:1 ratio of nitrogen to potassium.

The value of organic content in the soil is recognized but too often oversimplified. Organic based fertilizers have been used effectively for much longer than the newer inorganic ones. Milorganite (Milwaukee Sewerage Commission) has been used since the 1920s.

But, not all organic products are the same. Composted sewage sludge products can form a crust over the soil surface if improperly applied. It is important to incorporate these products into the rootzone through aerification prior to application and dragging after. Consult a soils expert before applying organic-based fertilizers to sand-based fields.

In areas with variable quality irrigation water, it is wise to have the water tested monthly until seasonal variations are fully understood. Golf course superintendents may be able to relate the care of tees to athletic fields. In most instances, golf course tees are undersized, poorly placed, badly drained, and recieve a concentrated amount of wear in certain areas, usually the center. In addition, golfers knock out huge divots, one almost on top of another, so vegetative healing of these scars is difficult. Vigorous growth is necessary to permit the best turf conditions possible, and this most often must be done on native soils, and not fancy rootzones as on greens.

The first step to making golf tee turf grow is to provide the best rooting possible through core aerification, removal of plugs if the soil is poor, and topdressing with a 1/4 to 1/2-inch layer of sand which is dragged into the aerification holes. The sand should be tested for particle size and pH before application.

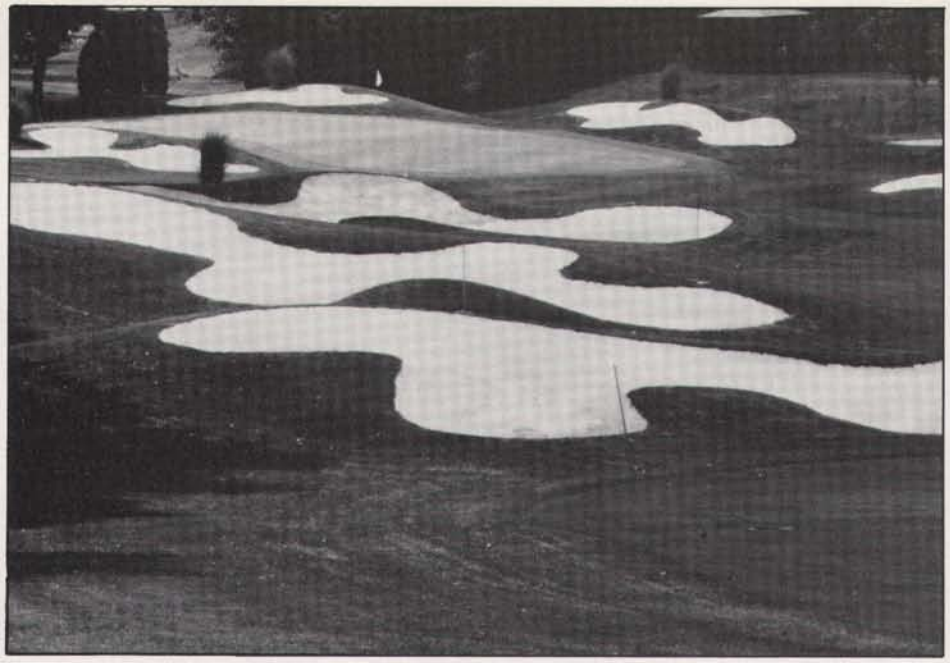
Starter fertilizer with a high phosphorus to nitrogen and potassium ratio should be applied to stimulate the germination and growth of the seed to follow. Overseed with a slicer-seeder if possible, but broadcast spreaders are acceptable.

The choice of overseeding materials is growing as turf breeders develop advanced varieties and cultivars.There have been dramatic advances in the past three to five years in plant breeding as evidenced by the frequent news coverage about genetic engineering. Newly released turfgrass cultivars vary widely in their growth habits, requirements and adaptability.

The sports turf manager needs to know the names of cultivars, not just types of turfgrass seed. For example, managers of golf tees have found that some of the more vegetatively aggressive cultivars of Kentucky bluegrass, such as Touchdown, Bensun (A-34), Mystic, and Sydsport, can accelerate the turf recovery process. Some tests have shown plots of these varieties have doubled in size in one year.

The United States Department of Agriculture Research Center in Beltsville, Md., has coordinated national performance tests of many turfgrass varieties for various qualities. It's important to note that some cultivars will perform better in certain regions of the country than others.

Dick Jenks stands on an Oregon high school field constructed with his Hi-Play sand rootzone, designed to handle the heavy winter rains of the Northwest.



The "links look" of the fourth hole at Hillcrest Country Club, gives modern golfers the feeling of the ancient Scottish courses.

Ask your seed supplier about these tests or contact Jack Murray, USDA-ARS-NER, Field Crops Laboratory, Beltsville, Md. 20705.

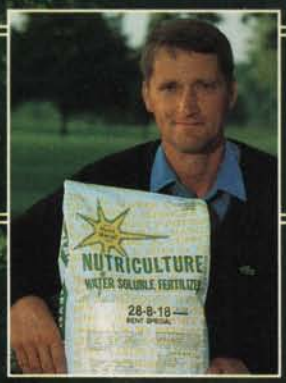
Perennial turf-type ryegrasses have shown marked improvement in pest resistance and cutting quality over the best varieties of a few short years ago. You can see that careful selection of overseeding materials can produce dramatic results.

This information-sharing relationship is not one-sided. Athletic field managers have advanced understanding of thatch, more affectionately known as "mat." Their experience has shown that 1/4 to 1/2-inch of mat can dramatically reduce turf wear and improve vegetative recoupability.

Recently, some university turf researchers, golf course superintendents, and athletic field managers have been testing both surface and subsurface fibers and materials to see if they do reduce excessive wear and compaction. The researchers discovered that thatch could take ten times more wear and abrasion than some products tested. Their conclusion was 1/2-inch of thatch may be ideal for athletic fields and golf tees, and 3/8 to 1/4-inch of mat may be ideal for golf greens.

There is a definite link between the golf course superintendent and the athletic field manager. Maintenance techniques can be shared to improve the lot of both. Sharing of this information through trade journals like sportsTURF benefits everyone. ▶

Editor's Note: Michael Hurdzan is past president of the American Society of Golf Course Architects and a partner in the golf course architecture firm Kidwell & Hurdzan Inc., in Columbus, OH. He is the author of the recently-released booklet Evolution of the Modern Green, available for $5 from ASGCA, 221 North LaSalle St., Chicago, IL 60601.



"Soluble Nutriculture™ gives me flexibility and turf that stands up better to stress."

Dennis "Skip" Willms,
Superintendent
Racine Country Club
Racine, Wisconsin

Flexibility is the key to Skip Willms' turf care program. And with Plant Marvel's Nutriculture soluble fertilizers as part of that program, Willms has been getting great results for more than a decade.

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Willms sums up, "Nutriculture lets me spoon-feed my course all season long. A lot of superintendents in this area are using the same successful program."

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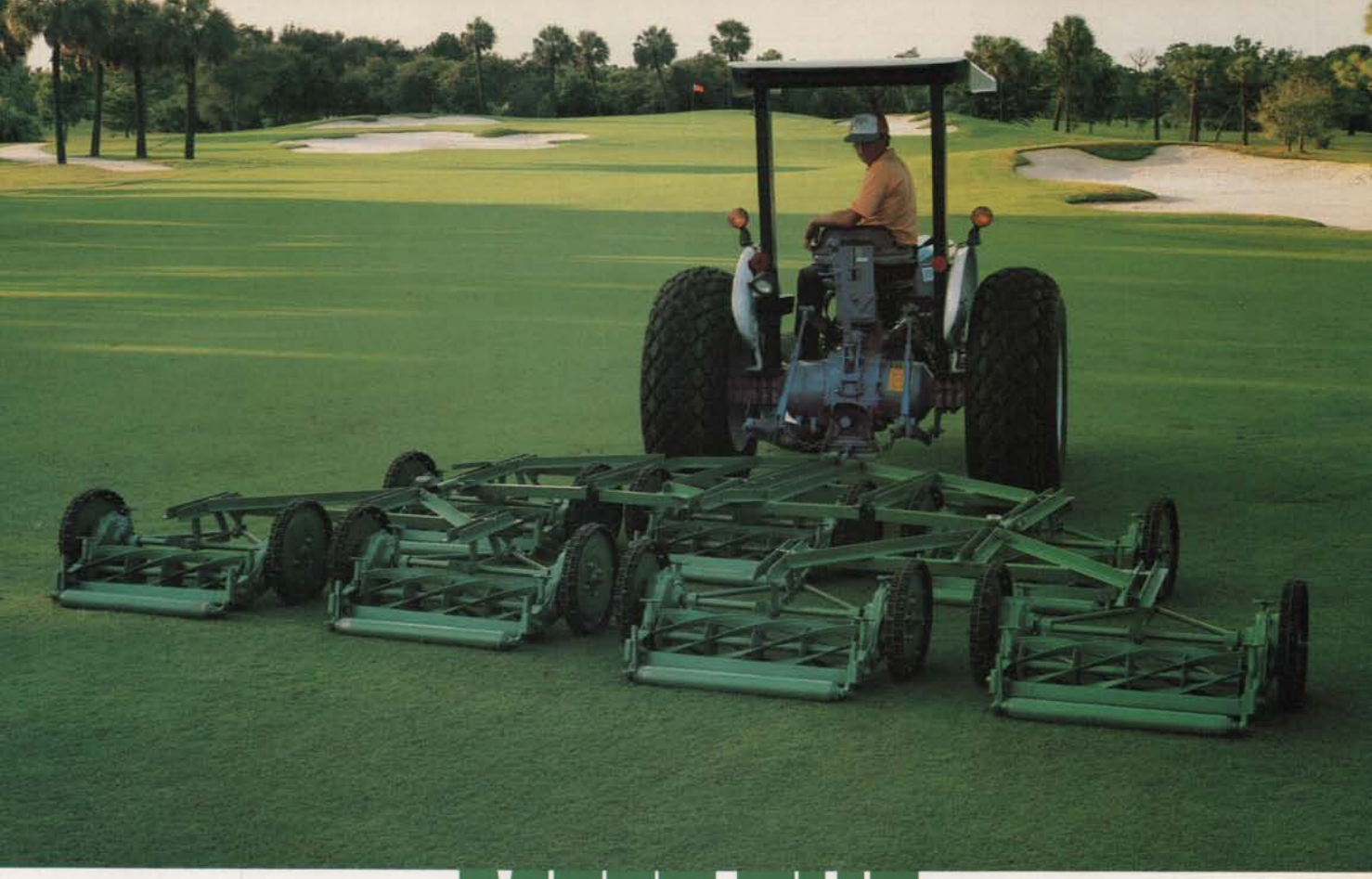

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Common Mistakes in Sports Turf Management

by Dr. Henry Indyk

All too often, the blast of an official's whistle signaling the start of an outdoor sporting event brings two opposing teams together on a barren field speckled with ragged tufts of green. Many of these tufts are the sad remnants of a once-proud turfgrass cover, intermingled with a variety of coarse, aggressive weeds — commonly knotweed, crabgrass and goosegrass.

In dry weather, the playing surface is hard from compaction, rough from previous activities, dusty from a lack of turf cover, and resistant to the penetration of an athlete's spikes or cleats.

If it rains a week before the event — or worse, during the event — the surface is slippery, muddy and soft, with virtually no traction.

Such conditions give natural turf playing surfaces a bad reputation and stimulate visions of miracle grasses, super products and other surfaces as alternatives.

Natural grass has been and will continue to be the best playing surface for a wide variety of outdoor sports and playground activities.

However, criticism of natural turf fields should be aimed at weaknesses in construction or maintenance, not the turfgrass itself.

Natural grass has been and will continue to be the best playing surface for a wide variety of outdoor sports and playground activities. Its characteristic resiliency and cushion not only contribute to the enjoyment of a specific sport, but also provide superior footing and reduction in sports-surface-related injuries when compared to plastic substitutes, however green and glossy they may be.

These advantages, combined with aes-

thetic and economic considerations, make natural turf and its management high priorities for sports in the coming years.

Success in providing superior natural turf playing surfaces requires serious and continuous attention to a combination of many factors in the establishment and subsequent maintenance of turf. It also requires overcoming or correcting errors in construction. Neglect, for even a relatively short period of time, jeopardizes previous investment in field construction and maintenance.

Using appearance as the primary criterion for a successfully managed field can be misleading and generate false impressions of natural playing surfaces. Appearance is undoubtedly important, but durability to intensive use under a wide range of conditions is more critical.

Athletic fields proven to be most successful are based upon similar principles in design, planning, construction and maintenance. Failure of these surfaces also is based upon a set of similar mistakes.

Failure of natural turf to provide the aesthetics for the spectator and a safe, firm surface for the players can be linked to the following causes:

• Improper specifications — Too often in the original construction of an athletic field, standard specifications are used with little or no regard for the varying conditions peculiar to a specific site. Each proposed site should be evaluated critically before formulating accurate specifications. If this approach is not utilized, there exists a high potential for a field with "built-in" problems that are very difficult or impossible to correct with the best of maintenance procedures.

• Enforcement of specifications — The best of specifications are of little or no value unless construction procedures adhere to the stipulated requirements developed for the site. Too often, construction is allowed to proceed without the "watchful eye" of a knowledgeable individual. Under such conditions, the temptation to bypass or eliminate critical procedures becomes too great for proper construction, particularly where contract responsibilities are awarded to the low bidder.

• Improper or inadequate maintenance after successful establishment. Once a satisfactory turf of properly selected grasses has been established, its future performance depends upon the type and amount of attention devoted to a maintenance program.

The investment in establishing a turf cover is wasted unless proper provision is also made for maintenance. A well-planned program should include equipment, materials, personnel and an adequate budget. In addition, supervisory responsibilities should be entrusted to a conscientious individual knowledgeable in turfgrass management principles and techniques.

• Abuse in field use — A well-established and maintained turf can withstand a considerable amount of use without serious damage. However, there are limits to the tolerance of turf to continued intensive use.

Damage will be most serious where proper construction procedures have been bypassed, particularly in situations of excessive soil moisture. Under such conditions, use should be curtailed or minimized to reduce the damaging impact on the turf. Decisions of this nature, including the responsibility of determining the intensity of use of the field, should be delegated to the grounds superintendent.

• Provision for inadequate facilities — Closely allied to field use is the surging interest in outdoor athletic activities and the resulting increased pressure on existing facilities. Because of economic reasons and/or unavailability of open space for the construction of additional fields, the use of existing facilities is intensified.

Most of the existing fields are improperly constructed. As a result, these fields are unable to accommodate more intensive use without exhibiting serious deterioration of the turf cover.

As the intensity of use increases, it becomes imperative for the survival and wear tolerance of the turf that the fields be properly constructed.

The single most influential factor in failure of natural turf fields is improper drainage. Poor drainage not only affects

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Proper drainage can prevent a field from being torn apart in the rain. Drainage reduces the amount of repair needed following games.

The poor condition of this field is caused partly by unnecessary events. Bands can cause as much damage as football teams.

Common Mistakes

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the playability of the field, but also has a strong negative influence on the growth of the turfgrass and increases maintenance costs.

Various reasons can be cited for overlooking drainage as a critical factor in athletic field construction. Perhaps the most important is a lack of understanding or appreciation of the importance of drainage while formulating the specifications for the field or in the finalizing process before submitting for bids. Unfortunately, in many instances, adequate drainage is eliminated or reduced to inadequate by cost-cutters who do not realize the future cost of improper drainage.

In some cases, poor drainage conditions prevail in spite of efforts to improve these conditions. Such failures most likely can be attributed to improper specifications and/or other deficiencies in construction. Some of the common faults of ineffective performance of drainage systems include:

- Provision for surface drainage only — A crowned or turtle-backed field with a few catch basins on the sidelines can facilitate removal of surface runoff, but will do little for improving internal drainage.
- Improper design of the drainage system involving pipe spacing, depth, grade and outlet.
- Installation of drainage pipe on improper grade.
- Backfilling of drainage trenches with heavy textured material restricting percolation of water to the drainage pipes.
- Improper physical properties of topsoil above the drainage system.

Topsoil

The physical condition of the topsoil is a major factor limiting proper functioning of a drainage system.

Soils containing excessive amounts of silt, clay, and very fine sand are often used above the drainage system as the growing medium for the turf. Soils of this nature tend to restrict proper drainage due to slow percolation of water. Consequently, during rainy conditions such soils tend to be soft and soggy in spite of a properly installed drainage system.

Soils of this nature compact very readily when subjected to traffic. Compaction makes the drainage problem more pronounced. Air porosity tends to be reduced by both moisture saturation and compaction. The situation becomes increasingly complex, resulting in a less favorable environment for proper root growth as reflected in a shallow root system, weakened topgrowth, reduced wear tolerance and turf deterioration.

Results approaching miracles can be achieved in restoring improperly contructed or maintained fields.

Recent advances in turfgrass breeding have made available superior varieties of turfgrasses; particularly among the Kentucky bluegrasses, turf-type tall fescues and turf-type ryegrasses.

These can be effectively established in existing fields by renovation techniques. They include core aerification to relieve compaction and verti-grooving to prepare a seedbed without destruction of grade or established turfgrasses.

The new seedlings introduced during renovation can be nurtured to a mature, dense turf with adequate provision for lime, fertilizer, supplemental irrigation, mowing and restrictions on use. To fully restore a field in this way a restricted use period of at least six months is needed. If this amount of time cannot be sacrificed, restoration with a high quality sod can provide instant results.

As impressive and effective as renovation may seem, an improperly constructed field will rapidly decline again. Repeated renovation efforts will follow the same pattern until inherent construction problems are corrected. Reliance on such procedures to overcome initial construction weaknesses will be discouraging and costly.

Natural turf is becoming increasingly recognized as a superior surface for sports fields. However, avoidable failures are a major deterrent to its increased popularity. Failure in recognizing and providing for the factors essential to establish and maintain a satisfactory natural turf playing surface is a sure path to failure.

Success, on the other hand, characterized by an aesthetically pleasing surface supportive of intensive use, is a realistic objective. It can be successfully achieved and ensured through adherence to essential basic principles involving planning, design, construction, maintenance and use. ►

Editor's Note: Dr. Indyk is professor of turf grass management, Rutgers University New Brunswick, N.J. He has been instrumental in the development of the American Sod Producers Association, the New Jersey Turfgrass Foundation, and the New Jersey Golf Course Superintendents Association. His involvement in sports turf construction and maintenance stretches over three decades.