**LARGEST TURF SHOW IN THE SOUTHEAST**
- 3 days - Tuesday *FREE* admission for Show Only
- Over 350 exhibitors from the U.S., Canada and England
- New products, new techniques and strategies

**3 IN-DEPTH EDUCATIONAL SESSIONS**
- Golf/Sports Turf
- General Turf
- Governmental Regulation Environment Policies

**21 WORKSHOPS**
- Beginning Turf Disease Control, ID & Fungicide Treatment for the Golf Course Superintendent
- Basic Turf Insect ID and Control
- Motivating Your Workers
- Beginning Turf Weed Control Recommendations
- Business & Personal Financial Management
- Safety in the Work Place
- Understanding Soils for Turf Management in Florida
- Advanced Turf Insect ID & Control
- Time Management
- Shopping for a Plant Disease Diagnostic Service
- Managing Pesticides on Golf Courses for Environmental Protection
- Advanced Turf Weed ID & Weed Biology
- Identifying Diseases of our Ornamentals
- Family Medical Leave Act - Update
- Turf Tissue Analysis & Soil - Test Fertility Recommendations
- Spill Control Management
- Effective Environmental Communications
- Palm Management, Repair & Protection on Florida Golf Courses & Parks
- Understanding Nematode Management in St. Augustinegrass & Bermudagrass
- Native Ornamentals for Golf Courses and Parks
- New Specifications for USGA Greens in Florida

**TURFGRASS RESEARCH REPORTS**
- Latest Updates on FTGA Sponsored Studies

**SOCIAL EVENTS**
- Toro Corn Boil
- Spouse Program
- Golf Tournament
- Fishing Tournament
- Suppliers’ Reception
- President’s Reception
- Bill Wagner Memorial Prayer Breakfast

Please call 1-800-882-6721 for further information.
Economically sound conditioning program during the "natural" growing season will increase the probability that the superintendent can provide consistent turf during the "forced" winter growing season. Unfortunately, the physical disruption of the playing surface during renovation is in itself not very pleasing to the eye or the golf swing.

**The Yin/Yang of turf management**

As the winter months progress, the shorter days and cooler temperatures dictate that the superintendent provide additional nutrients to force the turf to recover from damage and maintain acceptable color. The compaction from equipment, carts, and foot traffic reduces the ability of water to penetrate the soil and carry nutrients to the root system. This can begin a vicious cycle as more and more water is applied and the soil becomes saturated in the top layer. The wet conditions increase the rate of compaction, root systems shrink to the elevated water table and conditions become more favorable for disease development and turf decline.

Renovation should do more than simply allow the turf to withstand these pressures and survive until spring. Along with reconditioning the soil, a program of efficient irrigation and fertilization should be implemented to extend the natural growth period as far into the winter as possible.

Light reconditioning of the soil should start early to achieve maximum possible vitality when the plant is given the opportunity to improve itself. A weak plant with low food reserves will be slow to develop new roots to aid in nutrient uptake.

Before physically disrupting the soil, take soil and tissue samples for analysis. Soil tests will indicate what will be needed to encourage steady recovery, and what long range modifications are necessary to balance the growing medium. The tissue test will suggest what the immediate needs of the plant are and indicate if it is efficiently gathering and processing the nutrients that are available in the soil. This information can be used to determine what formulations of granular and foliar fertilizer can be used more efficiently over the upcoming months.

As soon as the turf can be spiked or sliced without displaying unacceptable discoloration, begin opening up the high traffic areas exhibiting the most damage. Experiment on a remote area to deter-
Sand particle size and organic content of the topdressing will be an important factor that contributes a long-term residual effect from the aerification process and will be a deciding factor in the continued success of the turf management program.

mine a good time to start.
Use of wetting agents or soil conditioners after slicing may soften the area further and allow for more efficient water penetration. Now is the time to start cutting back on overwatering and try to aid deeper root development through less frequent irrigation.
Where localized dry spots develop every summer or areas are continually susceptible to nematode damage, these procedures, started early and continued regularly, help the plant withstand the stress of hot, dry periods. If these areas are low in organic matter, start applying amendments that will aid in the development of beneficial microorganisms.
As the winter season is ending and the turf begins to respond to the early conditioning program, tissue analysis should indicate that the plant is reaching optimum nutrient balance. All that must be provided now is room to grow. The turf can now be subjected to more aggressive cultivating techniques and have the ability to respond quickly to the improved...
soil structure.

Even under favorable conditions, deep verticutting, aerifying, and scalping all damage the plant to some extent. High rates of fast release or high chloride fertilization immediately after cultivation can burn new roots and leach quickly, contributing only a small portion to plant recovery. Post cultivation fertilizer should contain nutrient sources timed to release as the plant can use them to recover in an efficient, healthy manner.

Forcing the turf to "close up" quickly through excess nitrogen application will produce leggy and inconsistent top growth along with an environment favorable to disease and insect pressure. This is the optimum time to apply controlled release nutrients and conditioners that will balance and improve the soil throughout the year and establish a consistent food source for the developing root system.

For the turf manager who is unable to suspend play while renovation takes place and turf recovers, there is additional pressure to quickly restore a smooth, consistent playing surface and keep visual disruption at a minimum. Make sure that slicing and verticutting blades are straight with good bearings. Aerifiers should be properly timed so the tines enter and exit the soil cleanly. On the putting surface, remove all aerified debris before topdressing. Leftover plugs become imbedded in the soft surface and are a sure excuse for missed putts. Applying the correct amount of topdressing to fill aerification holes is one of the single most important factors in determining how the ball will roll immediately after topdressing.

Forcing the turf to "close up" quickly through excess nitrogen application will produce leggy and inconsistent top growth along with an environment favorable to disease and insect pressure.

John Foy of the USGA Green section recommends leaving the holes slightly unfilled. As non-aerified areas settle and expand into the freshly topdressed holes, the positive effects of cultivation are spread more evenly throughout the soil. Topdressing is forced to the surface by the encroaching soil, providing a smoother ball roll. A greens roller may be used after topdressing to expedite this process.

To maintain consistency throughout the entire green, the holes should be filled as evenly as possible. Steel mats, brushes and rugs may be used in various combinations to achieve the best results and a shop broom can patch up any missed areas. The contours of the green, type of topdressing and height of cut will determine the most efficient dragging method.

Time size and cutting height for cultivation should be determined based on the level of compaction, layering or thatch buildup, turf vitality and environmental conditions. Cutting at low heights in an attempt to provide a smoother ball roll after aerification may delay turf recovery and should be approached with caution.

Sand particle size and organic content of the topdressing will be an important...
factor that contributes a long-term residual effect from the aerification process and will be a deciding factor in the continued success of the turf management program. Do thorough research to determine the best mix to improve ongoing quality of the soil.

A valuable lesson can be learned from an act of vandalism experienced by most superintendents at some point in their career. Spinning donuts on a golf green can destroy a smooth putting surface and likewise a great deal of damage can be caused by wheel ruts inflicted by heavy equipment used during and after cultivation.

Turning on a green should always be avoided, especially on soft, aerified soil. Drive equipment straight through the green and turn on collar or apron. Be sure these areas are clean of debris and weed seed to avoid dragging foreign matter on the putting surface.

HYDROTURF
The Hydroject Aerification Service

Winter Aerification Options for overseeded Bermuda

1) HYDROJECT

- Relieve compaction throughout winter without disturbing the putting surface.
- Reduce potential for bermuda winterkill.
- Increase percolation during wet months.

Hydrojeturf looks forward to serving superintendents in Central and North Florida with a professional, turn-key service.

Contact Chris McIntyre at 404-406-1494 for scheduling information.

Turf Management of Golf Courses increasingly requires proper storage of pesticides, fertilizers, and other hazardous chemicals to minimize exposure risk and be in compliance with evolving EPA, OSHA, State and local environmental regulations.

- Fire-rated - heavy gauge steel, with unique UL classified cementitious fireproofing material, 1-4 hour rating.
- Features - shelving, eye wash station, explosion proof lighting, ventilation, color choice, portability for easy location, and vandal proof 3 point lockable security.
- Economical designs with an unlimited selection of standard and custom-engineered options.

Call your Florida Representative: Lynn Long at 1-800-627-8885

Since 1948
Florida Silica Sand Co., Inc.

Special GOLF COURSE MIXES
Sterilization Available
Dade County 949-3521
Broward County 923 8323

Complete Line Of LANDSCAPE Materials
Red Ball Diamond Clay

Florida Silica Sand Co., Inc.
Several strategies in scheduling can make the renovation process less disruptive to the player’s eye and golf game. If it is necessary to core aerify greens several times over a summer, it may have to be attempted without closing the course. On the first morning, aerify, clean, topdress and drag the last five holes. That afternoon allow the back nine play only and get as many front nine holes completed as possible. The next morning, start play on the back and finish aerifying the front. That afternoon allow play on the front nine only and finish the back. This specific procedure will only be possible on courses with back nine start accessibility. The concept can be adapted to any situation. Examine the components of this program. 

1) Finish each green before players arrive. Be careful not to let the aerifiers get too far ahead to the clean-up crew. A green that is aerified is unpleasant, a green covered with plugs is unplayable. Use the same caution with the topdressing and dragging crew.

2) Using this program, once the player encounters an aerified green, he adjusts his game and finishes the round under the same conditions. Playing alternating aerified and non-aerified greens is totally disruptive to the continuity of the round.

3) Use your imagination and experience to form a plan that works best in your situation. Get the crew involved and listen to their suggestions as to ways to improve and expedite the procedures. Crew members that take pride in the details in cultivation and clean-up will contribute greatly to its success.

4) Take these concepts form the green to the renovation of the rest of the golf course. The golfer can tolerate playing through a crew cleaning one fairway and verticutting the next, yet will be annoyed by continually playing through mounds of thatch and springs. Remove cores on tees between the tee blocks immediately.

**Share equipment and ideas**

Everyone has their own techniques for renovating the golf course. Use your local GCSAA chapter meetings to discuss your situation and help others solve unique problems. Form an equipment co-op with other courses in the area. By sharing equipment, it will be possible to complete jobs quickly with less disruption of play. If your course can’t afford to purchase renovation equipment, explore the possibility of renting from an outside service. Use the available FTGA member services and USGA green section as additional sources of technical information and agronomic advice.

**Year round renovation**

Just as it is important to begin reconditioning the soil early to relieve winter stress, the superintendent should extend the program as far into the cool season as environmental conditions and amount of play will allow. The goal is to shorten the “forced growth” period as much as possible. Some procedures such as water aerification, light topdressing and grooming can be continued year round. Use tissue tests to determine what the plant is lacking for winter color and health, as the proper balance of minor nutrients may reduce the need for excess nitrogen application.

As the course begins to show signs of traffic stress and compaction, it will become more difficult to water efficiently and the tendency is to overwater and overfertilize these areas. Resist this temptation as long as possible and keep records as to where and when these areas develop. This information can guide you in the spring and help gauge the progress gained over the years. The successful renovation program will shorten the duration and intensity of turf stress and allow for the most consistent playing surface possible under any conditions.
"Best overseeded grasses on the putting green were Sabre and Cypress cultivars of Poa trivialis"

1992 University of Florida Dormant Bermudagrass Overseeding Trial - Gainesville, FL.

We're not surprised that Cypress Poa trivialis is getting high marks from professionals throughout the South.

Private and university trials have shown Cypress to be a premier overseeding grass that's driving the competition to distraction!

Cypress Poa trivialis establishes fast and can be cut close immediately, even after overseeding. As your Bermudagrass goes dormant, Cypress will provide the finest dark green putting surface with no interruption in play. You won't have to raise mowing heights or stop play to let the grass become established.

Cypress is tolerant to shade and damp soils. This unique prostrate growing variety thrives in cool weather and will survive cold weather that will damage turf-type ryegrasses. But most important, Cypress will maintain its dark green color all winter long.

As the weather turns hot in the spring, Cypress will die out naturally as your Bermudagrass begins to grow. Cypress will not choke out your Bermudagrass in the spring as some heat tolerant perennial ryegrasses do.

Cypress is available alone, or blended with Creeping Bentgrass and Streaker Redtop Bentgrass depending on customer preference.

Table 2. Monthly and seasonal means for turf quality of winter overseeded grasses December 1991 to April 1992 at Gainesville, FL.

IN FLORIDA CONTACT:

OBIE LAWSON
TERRA INTL.
MT. PLYMOUTH, FL
904-383-1692

STEVE GOEDEREIS
SUNNILAND CORP.
SANFORD, FL
407-322-2421
Hard to believe it was only 23 years ago

by Larry Coffman

© Copyright 1993 All Rights Reserved

It is difficult today to believe that President Nixon signed OSHA into law in 1970 because statistics convinced Congress that more Americans were disabled and killed at work than in combat in Vietnam.

It was a time when we commonly used lead in paint and gasoline, asbestos and PCBs, and arsenic and chlordane were commonly used insecticides. We dumped toxic chemicals in rivers and lakes in those days, and workers didn’t use eye and respiratory protection. It was just a generation ago.

Five years later (1975), President Ford signed HMTA into law, and the very next year, he signed RCRA and TSCA into legislative history. HMTA—the Department of Transportation’s Hazardous materials Transportation Act—RCRA, the Resource Conservation and Recovery Act, and TSCA—the Toxic Substances Control Act, formed the foundation for our current system of controls over toxic chemicals. These laws required the proper packaging, labeling and documenting of hazardous materials for movement in interstate commerce, registration of toxic substances when created, and cradle-to-grave liability for hazardous materials to prevent their illegal disposal.

Then in 1977, President Carter signed the Clean Water Act into law and a totally new Clean Air Act into effect. These are the framework for the bulk of today’s environmental controls. And, finally, in 1980, he signed CERCLA into law. CERCLA—the Comprehensive Environmental Response, Compensation and Liability Act—was assigned a toxic dump site cleanup fund popularly known as the “Superfund.”

Ten years of radical new legislation brought opposition and President Reagan was elected on the theme to “get government off the backs of the people” but during his two terms, an avalanche of new laws and amendments to existing laws came to pass. Most notable of these were the Solid Waste Disposal Acts and Safe Drinking Water Act, but the most significant were FIFRA and SARA.

FIFRA, the Federal Insecticide, Fungicide and Rodenticide Act and SARA, the Superfund Amendments Reauthorization Act, were major new legislations and SARA was the most remarkable of them all. Title III of SARA was a separate and unique law—the Federal Emergency Planning and Community Right To Know Act of 1986, EPCRA. The habit for referring to this as SARA Title III is being relegated to the correct term, EPCRA.

It is not coincidental that the tide of regulations and their chemical lists and supportive data came about when the personal computer came upon the American scene, for without electronic processing, the task may never have begun. Remember, the PC became available in 1980. Before that revolutionary moment, we relied on typewriters.

The Federal database today is enormous and in North Carolina’s Research Triangle Park, the new EPA Supercomputer is being developed. The government has progressed light years ahead of the private sector and the probability of escaping discovery and prosecution for errors is bleak.

In 1990, EPA and OSHA joined forces. The 1990 Clean Air Act Amendments included EPA “ordering” OSHA to enact its Process Safety management Standard for Hazardous Chemicals, but then again EPA’s SARA hinges upon OSHA’s Hazard Communication Standard (the one we all mistakenly refer to as “Right to Know”).

Those Clean Air Act amendments took effect in January of this year and it’s clear...
We're committed to you from the ground up.

United Horticultural Supply™

Turf Fertilizer
Turf Chemicals • Turf Seed

For service throughout Florida

1-800-457-0415

Working To Enhance Our World
for anyone to see they are international in scope — the result of international accords, treaties and protocols — as part of the “new world order.” The HMTA was revised in 1990 under President Bush also. The new system, HMTUSA (Hazardous Materials Transportation Uniform Safety Act), is the United Nations system that all “first world” nations must adhere to under the “new world order.”

HMTUSA as HM181 in this country takes full effect this October.

The young manager faces a regulatory nightmare the remainder of this decade, and because our “information society” has neglected to inform us of these new and revised rules, we will find living with regulations in the 90s a very difficult task indeed, as the Clinton Administration turns to enforcement and penalty collection as a solution to the deficit.

The way for this took place Nov. 5, 1990, when President Bush signed FOBRRA into law. FOBRRA, the Federal Omnibus Budget Reconciliation Act of 1990 (Read My Lips) amended Section 17 of the 1970 OSHA Act raising penalties to $7,000 per violation and gave OSHA a penalty-collecting quota for its contribution to the national deficit. It’s happening today.

Quota-minded inspectors are citing absurd little errors as serious violations and cashing in on the opportunity to impress their superiors. It has altered the image of OSHA as concerned about worker safety to an OSHA trying to impress the President’s budget director.

As if all this isn’t enough to disturb a young manager, within a very few short years, ISO will take over. What is ISO? Tune in next edition. It will stun you. Meanwhile, you’d better get started catching up with the rules that submerge you before they drown you.

Larry Coffman is president of Compliance-Masters, Inc.

It may just be a status thing

72 presentations. I began to wonder if he should have been there at all if there was so much going on that needed his attention.

These phone and communication junkies need to find out the proper way to use their devices. There are beepers that pulse or vibrate rather than give off that loud beep alarm. Use it when you’re in a seminar or other indoor function. If you don’t have that type, upgrade and get one. Phone owners, turn your ring volume down, excuse yourself as if going to the restroom and make your call from the hall outside the meeting room. And tell your office not to call unless it is a dire emergency. After looking at the agenda, you can tell them you will call at the breaks and lunch.

When these new devices are used properly, there is no doubt that they can enhance a person’s flexibility and productivity. Maybe I’m missing something. Maybe these people aren’t trying to be more productive. It may just be a status thing. Bottom line is these techno-toys can be used as effective tools or abused to the detriment of others on the road, in a meeting, or on the course.