



TURFGRASS TOPICS

The Official Publication of the Northwest Turfgrass Association

Vol. 34, No. 4 Summer 1990/91

45th Northwest Turfgrass Conference and Exhibition is a Go!

The meeting facilities and golf course are reserved; speakers are scheduled; exhibitors are booking exhibit spaces; tour busses are reserved; the cruise boat is chartered; menus are being selected; and, the various last-minute details that go into planning and executing a conference like the **45th NORTHWEST TURFGRASS CONFERENCE AND EXHIBITION** scheduled for Coeur d'Alene, Idaho, September 16-19, 1991 are being finalized.

The first mailing of registration packets was mailed to NTA members the middle of June. The second and final mailing to members went out the last week in July. Members who have misplaced their registration packet and non-members who want to obtain registration information should contact the NTA office.

Suppliers interested in exhibiting at the table-top trade show who have not already received exhibit registration materials may obtain them by contacting the NTA office, too.

For further information on the conference or related activities, contact

NTA
P.O. Box 1367
Olympia, WA 98507
(206) 754-0825

Conference Program Better Than Ever

The program for the conference has been finalized.

It will again include the general and split session (two-track) format that was so well received at previous annual conferences. One of the split session tracks will be designed for golf course personnel while the second track will be aimed at parks, grounds and athletic field personnel.

Dr. **David Minner** of the University of Missouri, **Nancy Sadlon** of the United States Golf Association, **Tom Hougham** of the Monsanto Corporation, along with some **20 additional outstanding speakers** will provide presentations on such topics as: Turfgrass Wear; Golf and the Environment; Turf and the Environment; Grasses for Sports Turf; Turfgrass Stress; Effective Weed Control; Sports Turf Maintenance; Can We Really Maintain Turf Without Synthetic Chemicals; Minimizing Winter Kill/Recovery from Winter Kill; Motivating Employees; Effective Communication; A Golfers View of Maintenance; Golf Course Maintenance Facilities; Endophyte Enhanced Turfgrasses; Solving Winter Turfgrass Problems; Establishing an Organizational Safety Committee; Effective Nitrogen Fertilization on Necrotic Ring

Spot; Fungicide/Nitrogen Movement from Poa/Bentgrass Turf; Quinclorac-Postemergence Crabgrass/Veronica/Clover Control and More; Surface Management of Putting Greens; The 10 Greatest Sins of Golf Course Management; Enhanced Turfgrass Seed and Seedling Performance by Solid-Matrix Priming; Evaluating Buffalograss as a Low Maintenance Turf for the Pacific Northwest; and more, more, more!

Oregon, Washington and Idaho pesticide recertification credits and GCSAA CEUs will be available for program attendees.

A copy of the complete program is enclosed.

Turfgrass Conference Golf Tournament

The traditional men's and women's golf tournaments have been melded into one **Turfgrass Conference Golf Tournament** this year. It will be held Monday afternoon, September 16th, on the newly constructed Coeur d'Alene Resort Golf Course located on the edge of sparkling Lake Coeur d'Alene.

The Coeur d'Alene Resort Golf Course was designed by Scott Miller. Miller's credentials include design work on Castle Pines Golf Club, Augusta National Golf Club (renovation), two new courses at Westin Hotels in Hawaii and two courses in Japan. A few of the design features that make this course popular are: bent grass greens and tees and fairways (encouraging long drives); minimum of four oversized tee boxes on each hole, providing an equalizer to the different skill levels of golfers; landscaping with 1,500 wild roses, 1,500 azaleas, 11,000 junipers shrubs, an estimated 40,000 geraniums and other flowering annuals, and several thousand Austrian pines planted around the perimeter of the course to eliminate outside distractions and noise; an innovative system of concrete cart paths, stretching 4.5 miles across the course; and, of course, the world's first floating green weighing over 5 million pounds and 14,000 square feet of varied terrain ranging from 2 to 8 feet in height.

Transportation from the hotel to the golf course is the responsibility of each individual golfer, no group transportation is being organized. One option is the complimentary vans which shuttle golfers to and from the course—if the vans are not being used for airport limo service. A complimentary 20 passenger shuttle boat departs from the Boardwalk Marina located immediately in front (lakeside) of the hotel every 20 to 30 minutes. Finally, there is limited parking at the course for vehicles. Golfers are encouraged to group up if driving to avert any parking problems.

President's Message

It hardly seems possible that this year could have gone by as quickly as it has. My time as president of the NTA is quickly drawing to a close and the impulse is to try to look back and determine "what have YOU accomplished this year"? To be truthful, I can't think of any one thing that "I" have accomplished. That probably is as it should be as the NTA is not about me or what I can accomplish. It always needs to be a group effort concentrating on what will best serve the membership. I am just one "small" person in a group of people who make up your board of directors, officers, and staff of the NTA. It seems sometimes that as we work on one area and get it working smoothly that two others pop up and say "help". But the news isn't bad, on the contrary we are seeing some things that should cause us all to be proud of the NTA. Our yearly educational conference continues to be one of the very best in the nation, providing a quality of topics and speakers that make it one of the best educational values available in the turf industry today. Membership has increased by almost 100 members this year, and both research allocations and scholarships have been given increased funding. Our relationship with other turf organizations is becoming more positive as we work together towards common goals. That doesn't mean that the job is finished or even close. The need for an accurate assessment of the needs of the membership, an increased funding base for research and scholarships, and an ever increasing and diverse membership base will continue to be the main challenges for future boards.

It has been a privilege to work with this dedicated and hard working group that make up the Board, Officers, and Staff of the NTA and I look forward to continuing working with them. We all are just a representation of "you" the membership and we look forward to listening to your input.

Oh, and should the urge strike you, share with a board member, officer, or staff person your appreciation of their efforts.



Bill Griffith

for a tour of some WSU turf plots. This will also provide the opportunity to see how this new golf course is maturing.

For the final stop on the tour, the group will head back to Coeur d'Alene and tour the recently opened **Coeur d'Alene Resort Golf Course** maintenance facility. This facility represents current (and future) state-of-the-art environmental compliance, waste management and all other aspects of golf course maintenance. Maintenance of 5 million pound, 14,000 square foot floating green should be a story in itself, not to mention the elaborate landscaping and the bentgrass tees, fairways and greens.

Table-Top Exhibit and Get-Acquainted Reception

The 15,000 square-foot conference center, offering first class facilities and uncompromising service in some of the finest surroundings in the Northwest, will be the setting for our Monday evening, September 16th, "**Get Acquainted**" **Reception and Table-top Exhibition**. The informal setting with delectable (hosted) hors d'oeuvres, no-host beverages, door prize drawings throughout the evening and the chance to visit with industry suppliers in a casual atmosphere all make for a fun evening. (Note — a regular or spouse/guest registrant badge will be required for admission/children will be admitted with their parents.)

Conference Spouse/Guest Offerings

Monday evening will be the conference kick-off event, the **Get-acquainted Reception and Table-top Exhibition**. This has become a highlight of the conference where registrants have the opportunity to mingle and renew old acquaintances and make new ones. The informal setting with delectable (hosted) hors d'oeuvres, no-host beverages, door prize drawings throughout the evening and the chance to visit with industry suppliers in a casual atmosphere all make for a fun evening. (Note: regular or spouse/guest registrant badges will be required for admission/children will be admitted with their parents.)

Tuesday spouses/guests will have the opportunity to ride the world's longest gondola for a mountain of Fall fun at legendary **Silver Mountain**. A 16-minute gondola ride whisks riders 3.1 miles and 3,400 vertical feet from the City of Kellogg to the ski and summer resort high above the valley floor. Once at the Mountain Haus, folks may enjoy a mountain-top no-host luncheon, surrounded by the beauty of North Idaho and spectacular vistas of three states and Canada. For the adventurous, there is a chairlift ride from Mountain Haus to the summit of Kellogg Peak (6,300 feet).

Wednesday afternoon there will be an opportunity for spouses/guests to "show and tell" about their professions, businesses, hobbies, interests or whatever. Individuals have already indicated they'll be prepared to share such things as beauty make-over, skin analysis, jewelry accessories, and several others are deciding what they will be sharing. That evening, instead of the traditional annual banquet, there will be a cruise on Lake Coeur d'Alene with hors d'oeuvres and refreshments. With the weather Coeur d'Alene offers in the Fall and one of the most beautiful lakes in the world at the front door steps, this cruise is a must.

4th Annual Turfgrass Facilities Tour

The fourth annual conference **Turfgrass Facilities Tour** will be conducted Monday, September 16th. The first stop on this year's tour will be in Coeur d'Alene at **Dan Hague's Commercial Landscape Maintenance**. The focal point of the visit will be their work with mulching mowers and the restoration and renovation of turf contaminated with Necrotic Ring Spot.

Traveling west on I-90, the next stop will be at the **Jacklin Seed Company** in Post Falls where we will be provided with a tour of their seed operation and turf plots. Jacklin Seed Company is one of the official sites for the prestigious National Kentucky bluegrass, perennial ryegrass, bermuda and tall fescue evaluation trials. In addition, they have over 200,000 plants in their research greenhouse, an integral part of developing varieties for future professional user's needs.

Continuing west on I-90 just across the border into Washington, the Meadowood Golf Course will be the site

Coeur d'Alene Lodging Accommodations

The Coeur d'Alene Resort setting has been called "America's Switzerland." Its lake is renowned as one of the five most beautiful in the world; the resort has been named "America's Number One Resort" by *Conde Nast Traveler* magazine; and *U.S. News & World Report* has named the city among the nation's ten best in which to live.

The resort is a full service resort facility with over 338 rooms ("mini homes") most of which have doorbells, entryways, fireplaces, and separate sleeping and living-dining areas. Some have sunken living rooms, and many feature oak cabinetry, bars and refrigerators, bay windows and french doors opening to private lanais.

To make room reservations for the conference, complete and return the enclosed **Housing Reservation Form** with the required deposit or call toll free 800-688-5253 in the US & Canada. The block of rooms reserved by the NTA will not be held beyond **August 15, 1991**, so don't procrastinate on making your reservations. After that date, reservations will be accepted on a "space available" basis only and in the Fall there normally isn't much of that at The Coeur d'Alene Resort.

For your convenience, check-in time is 4:00 p.m. Early arrivals will be accommodated as rooms become available.

For further information regarding housing or Coeur d'Alene facilities, contact:

The Coeur d'Alene Resort
Caller 7200
Coeur d'Alene, Idaho 83814-1941
(208) 765-4000
800 688-5253 (Reservations)

Alternate housing (lodging, campgrounds and bed and breakfast inns) is available in the Coeur d'Alene area. For information, contact The Greater Coeur d'Alene Convention and Visitors Bureau at 800 232-4968.

Getting to the Conference

Spokane International Airport is serviced by nonstop or one-stop flights from most of the U.S. and Canadian cities. From there, limousine or all the normal automobile rental services are available for the 40 mile drive to Coeur d'Alene.

For those driving to Coeur d'Alene, it is located on Interstate 90 east of Spokane, Washington. The 40 mile drive from Spokane cuts through some of the most beautiful scenery in the West ending outside the spectacular 18-story Coeur d'Alene Resort on the Lake.

Coeur d'Alene Offers Numerous Recreation Options

While conference registrants are working, there is a wide variety of activities and recreation opportunities for family members and guests. The Coeur d'Alene Resort is located in the heart of a recreational paradise. Hiking trails, golf, tennis, swimming (indoor and outdoor), jacuzzi spas, weight rooms; racquetball, steam room and sauna, suntan salon, brunswick bowling alley (in the hotel), computerized golf course (in the hotel), fishing, sailing, jet skiing, lake cruises, museums, historic mining areas, whitewater rafting, horseback riding, canoeing, the world's longest floating boardwalk, and more.

For further information about tourist opportunities, area services and recreation contact:

The Greater Coeur d'Alene Convention & Visitors Bureau
Second & Fourth/P.O. Box 1088
Coeur d'Alene, Idaho 83814
Toll Free 1-800-232-4968 (U.S.)
Toll Free 1-800-544-9855 (Canada)

The Coeur d'Alene Resort on the Lake
Caller 7200
Coeur d'Alene, Idaho 83814
Toll Free 1-800-688-5253 (Reservations)
(208) 765-4000

For further information on the conference or related activities, contact:

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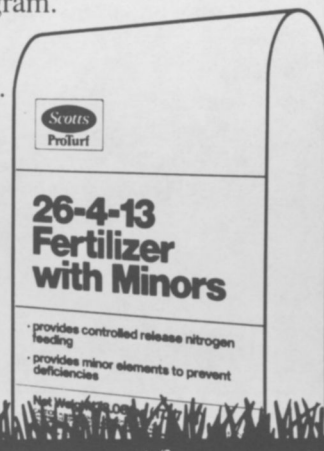
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1991/92 Association Directory to be Distributed Soon

The DIRECTORY OF THE NORTHWEST TURFGRASS ASSOCIATION FOR 1991/92 will be mailed out in the next few weeks to members of the association. This publication is provided as a membership benefit to the members of the association annually.

This year's publication includes listings of: association officers, board and committee members; active, student and lifetime honorary members; and, past presidents. Other information included in the directory are listings of turfgrass industry associations and publications; and, turfgrass, plant management and soils information and technical information references.

Efforts have been made to ensure the accuracy of all the directory information; however, mistakes will undoubtedly occur. Please check your own listing and let us know if there are any corrections necessary.

1991 Membership Certificates

Membership certificates for 1991 are being mailed with the annual directories. Members that should receive certificates include: regular, student and honorary members. If you do not receive a certificate and think you should, contact the NTA Office.

Board Director Nominations

The Nominations Committee, chaired by Immediate Past President William Johnston, has selected a slate of nominees for three board of director positions that become vacant at the 1991 annual meeting of the members.

Nominations of directors candidates may either come from the Nominations Committee or via a written nomination endorsed by not less than fifteen (15) active members of the association. Such written nominations must be received in the NTA office at least twenty-five (25) days before the date of the annual membership meeting (September 18, 1991). Nominations cannot be accepted from the floor at the annual membership meeting, so anyone interested in running for a director position should either contact the nominations committee chair or prepare to submit a written nomination as prescribed above.

Vacancies on the board of directors are filled by vote of the members present at the annual membership meeting conducted during the annual conference. Board directors are elected for three year terms.

Nominees for the three open positions to be filled at the 1991 annual meeting of the members are as follows:

Jon Hooper Position B-2 (term 9/90-9/93)

Grounds Manager
(University of Washington)

Tim Werner Position C-1 (term 9/91-9/94)

Grounds Supervisor
(Whitman College)

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Board Director Nominations

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Donald Clemans Position C-2 (term 9/91-9/94)
Technical Representative
(O.M. Scott & Sons)

NTA Scholarships Awarded for 1991/92

Tom Wolff, NTA Research/Scholarship Fund Committee chairperson, announced the recipients of the 1990/91 NTA Turfgrass Management Scholarships as follows:

OSU	Jim Peterson	\$750
OSU	Paul Backman	\$500
WSU	Chris Burrows	\$750

Jim Peterson is currently a junior at Oregon State University majoring in Turf Management. He has an accumulative grade point of 4.0 in his major field. Paul Backman is a senior at Oregon State University majoring in Turf Management and maintaining a 3.3 grade average in his major field. Chris Burrows is a graduate student at WSU majoring in agronomy maintaining a 3.9 GPA in his major field of study.

Scholarship recipients are determined through an application and screening process conducted by the NTA Research/Scholarship Fund Committee. The committee screens each applicant's application and references then prepares a report for the NTA Board of Directors regarding those applicants they would recommend receive scholarships. The NTA Board of Directors then acts on those recommendations giving final approval to the awarding of a scholarship.

1991 Turfgrass Summerfest Enjoyed By All

The third annual NTA Turfgrass Summerfest was enjoyed by all who participated. Some fifty golfers participated in the **R.L. Goss Golf Tournament for Research** hosted by the Tumwater Valley Golf Club. Tumwater Valley did an excellent job hosting the tournament. The course was in great shape and the food was outstanding. Many thanks to Tumwater Valley.

The WSU Field Day at WSU's Farm 5 outside Puyallup was attended by as many or more than they have ever had for past field days. Attendance at this event is growing annually. Stan Brauen and the WSU staff did an excellent job preparing for and conducting the program, as usual.

The NTA Equipment Show and luncheon hosted by High Cedars Golf Club had a mixed reception. A good share of the field day attendees went down to the golf course for the luncheon but the numbers at the equipment show were less than expected.

The NTA Board of Directors, along with the WSU staff, will be reviewing the future of the summerfest at its August board meeting. Any thoughts or suggestions members or suppliers may have would be sincerely appreciated. Give the NTA office a call.

1991/92 Turfgrass Topics Advertising Space Available

Invitations to advertise in the 1991/92 (October 1991-September 1992) quarterly issues of the **NORTHWEST TURFGRASS TOPICS** will be mailed to potential advertisers this next month. The invitations will also be mailed to non-supplier members of the association with hopes that they will pass the information on to suppliers they work with regularly.

Advertisers have made it possible for NTA to produce the quality, informative quarterly publication we have been receiving these past few years. We thank those who have advertised in the past and hope they will continue to advertise in the future.

Turfgrass Research in the West

*by Dr. William Johnston, Agronomy and Soils,
Washington State University*

Turfgrass research has been conducted at western universities for many years. Many of the turfgrass management practices in common use today were first developed in the research laboratories and at the experiment station field plots of these universities. The following report highlights recent efforts of these research programs. Readers are encouraged to attend local field days and turf conferences and to contact listed turfgrass personnel for information concerning specific practices and recommendations.

Species and Cultivar Development

Despite its many positive characteristics, zoysiagrass has not achieved the popularity of other turfgrass species. However, the desirable "minimum maintenance" characteristics of zoysiagrass have led to zoysiagrass improvement programs at several universities. Ali Harivandi has made the following observations on the zoysiagrass trial at the U.C. Field Station in Santa Clara, California. 'Korean Common' germination was very slow and plots were severely infested with both summer and winter annual weeds. Nevertheless, seedling were very aggressive growers and by the second season covered the entire plot. Sodded 'El Toro' performed well, however, it is coarse textured and light colored. Experimental cultivars from Texas and 'Sun Burst' exhibited the fastest lateral growth. Weed control was a problem in seeded cultivars and due to heavy mat production, mowing the finer textured zoysiagrasses with a rotary mower does not provide a quality turf.

Harivandi is also evaluating 44 cultivars of fine-leaf fescue at the Santa Clara location. When grown as monostands in full sun and mowed, he found no cultivar produced acceptable turf throughout the year in the San Francisco Area. Most cultivars exhibited high temperature stress during the summer and were prone to summer diseases (no fungicides were used in the trial). All cultivars performed well during the winter and, in general, hard fescue cultivars out-performed both red and Chewing's fescues.

Common and hybrid bermudagrass are well adapted for turfgrass use in much of California. They are resource efficient grasses and are resistant to most pests. However their widespread use is restricted by winter dormancy. At the University of California, Riverside, Vic Gibeault, et al. are evaluating the winter color of bermudagrass for use in

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Turfgrass Research in the West

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southern California. Of 32 cultivars evaluated, hybrid bermudagrasses retained color better than the common types. Of the hybrids, 'Santa Ana', 'Tifway', 'Tifway II', and 'MSB10' gave the best winter color.

Arden Baltensperger has retired at New Mexico State University but continues to be involved on a "part time" basis. MNSU research indicates that 'NuMex', 'Sahara', and several experimental strains continue to score better for turfgrass quality than other seeded varieties tested. Additional work by Baltensperger and G. J. Cluff indicates that an increase in bermudagrass seed yield is possible through plant genetics and breeding.

Sports Turf

Steve Cockerham et al. at the University of California, Riverside, conducted a study to quantify the injury that occurs to a football field during a game. They used this data to evaluate cultivars and management practices. The elite perennial ryegrasses were very tolerant of football-type traffic in southern California. There were no differences in performance among the top 40 cultivars tested. Common bermudagrass overseeded with perennial ryegrass, tall fescue, annual ryegrass, roughstock bluegrass, Chewing's fescue and creeping red fescue were submitted to simulated cleated-shoe traffic. Perennial ryegrass was the most tolerant and tall fescue was the second most tolerant species tested.

An established stand of tall fescue was treated with nitrogen fertilizer at three rates with nitrogen fertilizer at three rates and submitted to three rates of traffic. Thatch thickness in all treatments decreased with an increase in traffic. Increasing nitrogen increased the traffic tolerance. Turf hardness, as measured by a penetrometer, increased with an increase in traffic.

Water

Water use and water conservation continue to be important issues for turfgrass managers. A recent University of California Extension Service publication in California Turfgrass Culture vol. 40 by Ali Harivandi and Vic Gibeault on "Managing Turfgrasses During Drought" gives many excellent and practical turfgrass management techniques for use during drought.

At the University of Arizona, D. J. Garrot and Charles Mancino are determining the minimum water requirement of fairway bermudagrass in southern Arizona. Total water use for 'Tifgreen', 'Midiron', and 'Texturf-10' was 32", 31", and 37", respectively. The high water use of Texturf-10 is due to overseeding with perennial ryegrass. The water use reported represented, on average, 60% of predicted ET. Fifty percent, 30% and 20% of total water use was from the first, second and third foot of soil, respectively. Turf quality was acceptable or better than acceptable in all plots. They also reported that nitrate-N accumulated to fairly high levels (greater than 100 ppm) due to reduced top growth of turf between irrigation events.

Fertility

Recently the turfgrass industry has been suspect of threatening environmental quality by the use of nitrogen, major nutrients, and pesticides to maintain turf in high quality condition and appearance. At Washington State University, Stan Brauen, Gwen Stahnke, and co-workers have been evaluating the efficiency of N source on growth and quality

of bentgrass in putting green turf in a multiple lysimeter study conducted over several years. They found, on average, that 55% of the N applied was removed in the clippings. However, 70% of the 34% of the N was removed in the clippings from plots of ammonium sulfate and urea formaldehyde, respectively. Due to the high N rates used in the study, nitrates were detected in the lysimeter leachates above the minimum U.S. water standard on many occasions and from all N sources. However, these researchers believe that nitrates can be controlled in sand greens and athletic turf by selected use of N products, more frequent light applications (even of slow release sources), and by the use of combination products.

Pests and Pesticides

Gary Chastagner et al., at Washington State University, is evaluating the susceptibility of bluegrass cultivars in the NTEP Kentucky bluegrass trial to Necrotic Ring Spot disease. Seventy-two bluegrasses have been inoculated with three isolates of *Leptosphaeria korrae* and preliminary indications are that there are differences in the susceptibility of the bluegrass cultivars to the different isolates. This research will continue over the next several years.

Bill Johnston and Charles Golob at Washington State University recently concluded several years' work with the herbicide Acclaim (manufactured by Hoechst Roussel Agri-Vet). Several conclusions could be drawn from their research: (1) Acclaim and their experimental compound HOE46360 (single isomer of Acclaim) gave excellent postemergence control of crabgrass control, and (3) high rates of Acclaim (0.32 lb. a.i./A) and experimental compounds HOE46360-18H and HOE46360-05H may result in slightly unacceptable injury to well maintained actively growing mature bluegrass up to two weeks after application.

Cultural Practices

Turf cultivation by core aeration has many beneficial and few negative effects on turf. Thatch control, relieved soil surface compaction, improved water infiltration, and improved surface aeration and rooting are often observed. However, core aeration may enhance injury to stress, increase weed establishment, disrupt the surface quality, and possibly slow water infiltration through soil below the depth of core cultivation. Reduced water infiltration may occur through the development of a zone of increased soil density just below the depth of tine penetration. A compaction zone, if present, may be dissimilar between hollow-tine coring (HTC) and solid-tine coring (STC) due to differences in downward forces imposed by tine structure on soils. To study this issue, Stan Brauen at WSU has been evaluating solid and hollow tine aeration on thatch development, soil infiltration rate, and soil bulk density.

Brauen reports that thatch dry weight and depth was not changed by method of coring, but did decrease as number of annual core aerifications increased. Soil bulk density below the depth of tine penetration was not significantly changed by method but increased numerically as the number of corings increased. Field saturated hydraulic conductivity was reduced by coring but STC retained the ability of soil to conduct water through the soil area 4" below the turf surface to a greater extent than HTC.

In the Pacific Northwest, winter desiccation of turf causes extensive loss of turf, particularly on elevated, exposed putting greens. Bill Johnston and Charles Golob, at Wash-

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Turfgrass Research in the West

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ington State University, have been evaluating the use of a protective turf cover in combination with PGRs to suppress excessive spring plant growth under the cover while maintaining high turfgrass quality during the early spring on bentgrass putting greens. Preliminary results indicate that application of PGRs (0.37 lb. a.i./A mefluidide or 0.5 l. a.i./A flurprimidol) just prior to permanent snow cover can provide improved spring turf quality without an unmanageable surge of spring growth.

Source: Parks & Grounds Mgt. (7/91)

Washington State Turfgrass Fertilizer and Pesticide Survey

by Gwen Stahnke and Stan Brauen

The public attention has been focused on the application of pesticides and fertilizers to golf course, home lawn and public park areas. These applications have been implicated as possible sources of groundwater contamination since they are so visible, but there is no documentation behind these allegations. The EPA and DOE have attempted to extrapolate from the pesticide usage in California to estimate products and quantities of products applied in the state of Washington. This is not an accurate comparison due to the varying climatic conditions and species of grasses used in both of these regions.

In order to clarify this discrepancy, a survey of fertilizer and pesticide use has been put together for the state of Washington and sent out initially to golf course superintendents for their response. It is a lengthy survey, but very important to be filled out and returned to us so that we can document the products being used. All survey individuals will be identified by a number in order that we can tell which survey was returned, but results will not be listed by individual locations.

A modified version of this survey will be sent out shortly to sod producers and to parks and recreation managers so that we can also try to get some numbers on applications in both of those areas as well.

We feel this is an important piece of information for our industry to have. It is partially supported by funds from the NTA. Please respond as quickly as possible in order that we can make use of this information to help support the industry.

Grounds Maintenance Management Guidelines

A revised edition of the Grounds Maintenance Management Guidelines has been published by the Professional Grounds Management Society (PGMS). The manual is a collection of examples of maintenance standards, operating manuals, contract specifications and other working documents to help managers plan and evaluate their operation.

New this year is a section covering the environment: water conservation, integrated pest management, pesticides and disposal of yard wastes, petroleum and plastic products.

The manual is free to PGMS members; \$12.00 for non-members. Write to PGMS, 10402 Ridgland Rd., Ste. 4, Cockeysville, Maryland 21030.

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"Grass Heals the Scars of Man," a 16-page publication available from Hubbard, OR based Turf-Seed, Inc., describes the environmental benefits of turfgrass and explains the characteristics of five cool-season species. The booklet also recommends specific mixtures or blends for planting roadsides, golf courses, etc.

To obtain a complimentary copy, contact the firm at 800/247-6910.

WSU Turfgrass Research and Extension Program

by Dr. Gwen Stahnke, Extension Turfgrass Specialist, WSU-Puyallup

Washington State University has had a statewide turf-research and extension program for over 35 years. Often, research and extension projects carried out at WSU are funded by the Northwest Turfgrass Association (NTA), which is made up of members of the Inland Empire Golf Course Superintendents Association, the Oregon Golf Course Superintendents Association and the Western Washington Golf Course Superintendents Association.

Presently, Dr. Bill Johnston is located on the main campus in Pullman and has responsibilities for turfgrass research (60%) in eastern Washington and teaching (40%) of the undergraduate turfgrass program. Graduate students are also a part of Dr. Johnston's program in Pullman, with assistance from Dr. Stahnke at the WSU-Puyallup Research Facility. Bill's extension role is not official, but he is always there to answer a question or point the question in the right direction.

Dr. Stan Brauen at WSU-Puyallup (Research and Extension Center) has the major responsibility (75%) for turfgrass research throughout Washington, management of the Farm 5 Research Facility and organization of the WSU Turfgrass Research Field Day in Western Washington. He also has (25%) responsibility for turfgrass extension primarily with commercial turfgrass professionals.

Dr. Gwen Stahnke, also at WSU-Puyallup, has the major responsibility for turfgrass extension (75%) with county

agents, Master Gardeners, professional turfgrass managers and some homeowners throughout Washington along with a (25%) research appointment. The extension portion involves organizing a Public Field Day, with Dr. Brauen's assistance, for Master Gardeners and interested homeowners. Other responsibilities also include writing and revising extension bulletins, evaluating current research results from other portions of the country for this area, as well as educational seminars from any of the groups previously listed. Drs. Brauen, Johnston, and Stahnke are all important disseminators of current research knowledge to the industry.

Each county office or area has a master gardener program to help with homeowner questions and information which can be obtained from the related extension bulletins. If this is not adequate, then the question or problem is relayed on to WSU-Puyallup. Washington State University operates a Plant Clinic at WSU-Puyallup where county agents can send samples for identification of turfgrass diseases, insects, or grasses and cultural problems. Samples are examined by Carrie Foss, Plant Clinic Diagnostician, Dr. Ralph Byther, Extension Plant Pathologist and Dr. Art Antonelli, Extension Entomologist. Contact your county extension agent for proper sampling and packing procedures.

Washington State University's turfgrass program is continually supporting and improving methods of environmentally sound turfgrass management practices. Please don't hesitate to ask for help or advice if you need it.

The Perils of Winterkill – An Ongoing Saga

by James R. Chapman, The Chas. H. Lilly Company

Lest you have already forgotten, the just past winter was not kind to us in many ways. How can you ignore holes in the roads, dead ornamentals standing as stick monuments, the rhododendrons/azaleas/camellias without bloom? These are facts. You can see them. But some of the damage is hidden.

As those of you who have attended the Lilly/Miller Seminars have heard over and over, the fall-winter season is more than a resting period for turf and ornamentals. During this dormant spell much of the nutrient reserves that will sustain these plants during the following year are stored in the roots. The plants continue growth as long as the ground is not frozen and growing conditions prevail. Topgrowth is limited and the energy produced by photosynthesis is stored as protein within the root system.

November, 1990, we experienced heavy, saturating rain and many soils were so full of water the turf and some other ornamental plants could not breathe. No room in the soil for oxygen. The fall active root development period begins in September and reaches prime activity in November. The lack of air and excess of water reversed the process, drowning newly developing roots, stunting the entire root system.

Bad enough, but this we could survive—as we have in the past—since the root development continues up into the spring months. BUT along comes the hard freeze. Imagine the pain you experienced when you restubbed your toe before it had healed. That is what is happening to the roots. Barely alive, gasping for air, trying to grow and store energy reserves, now hit by a deep and lasting freeze.

On top of that is the lack of snow cover for much of the time. The sun shown with little warmth, but enough light to

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stimulate transpiration and the plant leaves tried to comply. With no moisture available from the roots, or through the frozen stem tissue, leaves and branches wilted and died. You could see this. You couldn't see the roots, already stunted, dying back to just a few durable stumps.

Finally, the grip of winter relaxed and warmer days brought on the spring euphoria that all was well. Many of the plants were not blooming but we want to believe they will return to full vigor with time. And many will! But some will not! The root system in some cases was badly damaged in the winter of 1988-89, struggled to recover through a mild winter in 1989-90, only to receive a more severe shock this winter past. The current bloom, if there is one, may be the last gasp.

With turf, the root system in many cases degraded back to the thatch level. The surviving roots are few in number and not fine enough to take up enough water to maintain vigor during a stressful summer. Already I have seen serious damage from product burn, equipment compression/compaction, and drought discoloration.

It is critical that extra effort be made in some cases to keep turf alive. Think about the exposure of the lawn. The most damaging weather came from the north this winter. Large areas of winter wheat in the Palouse—hundreds to thousands of acres—are killed on the north and west slopes of hills. Those protected from the northwest wind—facing south and east—survived. Much of the turf and ornamental damage will be similar.

Check the root depth with a soil probe or trowel. If it isn't at least four inches—preferably more—plan to aerify, overseed, fertilize with a starter type fertilizer. By now you

should have taken soil tests and planned the lime treatment program recommended. If not, take them ASAP. Lime will have an important bearing on the recovery of the turf, and perhaps even the ornamentals.

It is very important to provide the maximum optimum growing environment for the plants we want to encourage. You will need to check and correct conditions that will inhibit plant response and vigorous growth. Some problems we might treat casually will be serious this year: Poor drainage, thatch buildup, sloping or mounded areas hard to water, compaction from equipment or foot traffic, buried debris or layers of different textured soils that restrict root and water movement.

This may be the year to renovate. Old plants, even old lawns, might be easier to replace than to mollycoddle along. If you keep the troubled areas, be careful not to overdo any product applications around them. The roots will be close to the surface, not very strong, and easily damaged even by a fertilizer application that might have been "normal" in the past. Certainly herbicide use should be carefully planned and applied. Many areas will need wetting agents to keep a good water flow through bark or thatch. Begin watering early for the soils are already drying. Don't let April rain fool you. Plan fall watering too. The cooler weather and cloudy skies give us a false sense of security.



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The "Environmental" Times, They Are A' Changing...

You don't have to be a marketing analyst to realize that big changes are taking place in the turf and ornamental industries. Environmental issues continue to take top billing in the print and television news arenas, while government regulations continue to increase. Therefore, it is critical that industry professionals do their part to ensure the public is provided with accurate, well-documented information on pesticides.

For example, it is important that people know most pesticides used in the green industry are not highly mobile. They are applied in extremely diluted concentrations and are broadcast rather than applied in narrow bands. Furthermore, most pesticides that reach the soil are applied only once or twice a year, and over the course of the growing season degrade to insignificant levels. The result is that these crop protection chemicals are only present for limited amounts of time, and even then, only in amounts that have been extensively tested by the EPA.

Runoff Fears

Still, runoff issues remain a topic that continues to cause concern among the general public, especially among people whose homes are located near golf courses. But "runoff" becomes less of a scary word when it is properly understood.

Healthy turfgrass generally does an excellent job of keeping pest control products where they are intended. This is because turfgrass is able to form dense plant communities containing up to 2,500 plants per square foot. The plants also produce a thatch layer that is high in organic matter, which acts to bind with and filter pesticides. Additionally, the thatch harbors huge populations of microorganisms that use the pesticides as energy sources and aid in pesticide degradation. Turfgrass, root systems, because they are dense and fibrous, are capable of absorbing pesticides that might penetrate the foliage canopy and thatch.

In addition to this extensive organic breakdown of products, other factors such as hydrolysis and photodecomposition also act to naturally break down pesticides.

Some Risks Remain

Despite the numerous ways in which pesticides are normally degraded, the potential for accidents does call for caution. In fact, the greatest risk for pesticide contamination of groundwater and surface waters comes from spills of concentrated materials, which can occur through careless handling during mixing and loading operations. This crucial factor in the safety equation underscores the need for careful employee training and supervision. Industry-wide precautions such as certification of pesticide applicators improves safety awareness and greatly reduces the potential for improper pesticide handling.

The Bottom Line

A number of detailed research studies have shown that well-maintained, dense turf can reduce the leaching and runoff of pesticides and fertilizer to nearly zero. These studies also show that the use of slow-release fertilizers with lower rates and more frequent applications can further reduce the potential for nitrate contamination of groundwater.

The studies are useful, but it is what we do with such information that will play a key role in the future of turf and ornamental professionals.

Today, more than ever, it is critical for all participants in our industry to encourage the safe handling and use of pesticides. And it is also critical to communicate this to our publics, whoever and wherever they may be.

After all, plants and turfgrass provide many benefits that can often be overshadowed by unfounded fears. Turfgrass, trees and landscape plants absorb carbon dioxide, cool the environment, reduce soil erosion, provide sources of recreation and beautify the great outdoors. Indoor plants also enhance our quality of life by absorbing known pollutants and irritants in the air that can pose serious health risks.

You can play your part by communicating information such as this to greens committees, members, customers and even your counterparts at other facilities.

By taking the proper steps now, we can all help to ensure that the green industry is allowed to keep on growing.

Source: Chips & Tips

Improving Communications With Your Members

by Paul M. Alexander, Ph.D., Georgetown Technical College

Effective communications between any golf course superintendent and the golf public—whether members or not—is an on-going factor in any superintendent's professional career. Depending upon your personal outlook, this can be an enjoyable part of your day-to-day responsibilities or it can be a royal pain in the neck.

For the purpose of this brief article, let's assume that you sincerely wish to improve your communication skills. And the reason(s) you want to do so may be because:

1. you would like to make your work more pleasant;
2. you would receive more recognition for what you are doing, or have done, for improvement of turf conditions;
- or
3. any number of other personal reasons.

Now, let's look at some of the factors you may want to consider in order to achieve your goal(s).

You must understand that there is much, much more to effectively communicating with your fellow man than merely talking or speaking to him. The use of the written word is, in all too many cases, sorely neglected or even complete omitted by more superintendents than I care to admit. And, in many such cases, I have learned that the superintendent in question has avoided using written communications because he/she has very poor handwriting or feels that his/her spelling is woefully inadequate. My response to such attitudes is "This is a cop-out on your part." Certainly, if that person is clever enough to find parts for a 20-year old piece of equipment, then finding someone with good penmanship or spelling skills should be a snap! This person may be one of your crew members or on the clubhouse staff—who really cares as long as the job gets done? The important thing is—use written communication when appropriate and when approved by your Board or other responsible party. Such communications can be posted in locker rooms, in the pro shop, in the main dining area or grill, at #1 and/or #10 teeing areas, or at the practice green or range.

What should be included in such written notices? A partial list would include:

- aerification operations
- topdressing of greens/tees
- turf replanting operations
- root-pruning work

- cart path repairs
- bridge repairs
- drain-line work
- bunker renovations
- tree work in playing areas
- irrigation work
- restroom or turn house work
- pesticide spraying/spreading

As you can see, there are many, many items which, when properly presented to your players, will alert them to less-than-desirable playing conditions and/or warnings as to potential hazards. Don't forget, people are less likely to complain about some of your agronomic operations if they are pre-notified. They may not understand why you "tore up" perfectly healthy-looking greens with an aerifier, but if they were pre-notified, they can re-schedule that golf match or perhaps make adjustments beforehand.

Other than "on-site" written notices, why not utilize your club's newsletter if they publish one? A paragraph or two about the coming month's maintenance operations can forestall a lot of complaining on the part of golfing members. If you are responsible for grounds beautification around the clubhouse or on the course, don't hesitate to let the members know that you and your crew have provided them with these spots of beauty. And, believe it or not, an occasion set of "before" and "after" photographs can work miracles, especially where that area had been a source of on-going complaints (i.e. highly visible areas such as those adjacent to a given tee, around a restroom, or by the entrance to the club).

With respect to oral communications, it is still very difficult to find a substitute for a sincerely-spoken:

- Good morning/afternoon Mr. or Mrs.
- How are you today?
- How is ____ doing after his/her accident?
- We missed you while you were on vacation (be sure you mean this one!)
- Since you know your members better than I do, develop your own techniques for greeting your members whenever the opportunity arises.

Over the years, I have learned that it is not a very good idea to greet members with "How's your game today?" If they are tense, worried about home affairs or just plain hung-over, it gives them an opportunity to really jump down your throat about course conditions, real or imaginary! Use your best judgement on this type of greeting.

Finally, I would suggest that you consider offering your considerable agronomic expertise as an occasional guest speaker at a local garden club (men's or women's). This can certainly help you develop further stature as a recognized turf professional in your community—provided you do a good job. I have several superintendent friends who also write short articles on turf/tree/ornamental care for either club newsletters or local newspapers or even appear on local TV programs. This, too, can enhance your professional image.

A limited number of superintendents have, with Board approval, helped local schools with their athletic fields or playgrounds and this is beneficial for both you and the club you represent.

Gentleman, think of your career goals and ask yourselves, "Am I honestly doing my best to effectively communicate with those who are responsible for providing me (and my family) with a decent livelihood?" If you have any doubts, re-read this article and act accordingly.

Communication Between the Golf Professional and the Golf Course Superintendent

by Ron Povick, P.G.A., Golf Professional, Edgewood C.C.

Respect. Good communication starts by respecting each other. The superintendent knowing a little about the golf pro's business, and the pro knowing something about the superintendent's business; with both working on the same wave length toward the same goal. In the golf professional's position, keeping the superintendent fully informed of the needs of the members, committees, and board members is a must.

Trust. The golf professional must have full confidence in the superintendent's ability and the decisions he makes. The golf pro must support the superintendent's decision and stand firm by them. They are partners, working together—talking over a cup of coffee or making decisions over lunch or a round of golf.

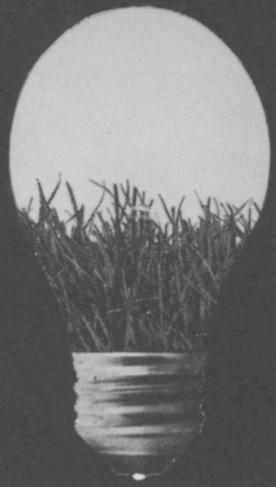
When either professional has a new idea, share it. Both can improve themselves and/or the course that they work.

The Golf Pro and the Superintendent should not be afraid to compliment each other. Give credit where credit is due.

I feel that my relationship with my golf course superintendent is the very best it could be. We make a good team which rubs off on the rest of our golf staff employees.

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September 16-19

**NTA 45th Annual Northwest Turfgrass
Conference and Exhibition**
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September 18

NTA Annual Membership Meeting
Contact: NTA (206) 754-0825

November 14-15

WWGCSA/GCSAA Golf Course Design Seminar
Contact: WWGCSA (206) 438-3748

November 17-21

**Landscape and Grounds Management
Conference**
Contact: PGMS (301) 667-1833

November 18-19

**5th Annual Inland Northwest Turf and
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Contact: Jones & Associates (509) 327-5904

December 3-4

**Pacific Coast Turf and Landscape
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Contact: Scott White (206) 292-9198

February 23-26 ('92)

**Western Canada Turfgrass Association
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