



Officers and Directors Elected

Randy H. White, CGCS, golf course superintendent at Everett Golf and Country Club in Everett, Washington was elected president of the Northwest Turfgrass Association during the organization's 48th annual conference held recently at the Salishan Resort in Glenden Beach, Oregon. White, will preside as president of the 450+ member professional association of representatives of various segments of the turfgrass management industry in the Pacific Northwest October 1994 to October of 1995.

White, a certified golf course superintendent (CGCS), recently completed a term as a director on the association's board of directors, is a past president of the Western Washington Golf Course Superintendents Association and has been active in the Golf Course Superintendents Association of America.

Elected vice president was **Tom A. Christy**, CGCS, golf course superintendent at Riverside Golf and Country Club in Portland, Oregon. Elected to serve as secretary was **James W. Dusin**, Golf Course Greenkeeper at Apple Tree Golf Course in Yakima, Washington and treasurer was **Donald A. Clemans**, CGCS & CPAg, Senior Technical Representative for O.M. Scott & Sons based in Sisters, Oregon. **Tom A. Christy** will wear the two hats on the board one as vice president and one as immediate past president.

Board directors elected to three year terms during the annual membership meeting were **James E. Connolly**, Senior Technical Agronomist with JacklinGolf of Post Falls, Idaho; **Chris P. Gaughan**, Golf Course Greenkeeper at Eugene Country Club in Eugene, Oregon; **Kay B. Kinyon**, Parks Superintendent for the City of Lake Oswego, Oregon. Other board directors for the year, whose terms are unexpired, are **Mike W. Erb**, Sales Representative with Wilbur Ellis Company based in Auburn, Washington and **John W. Monson**, CGCS, Facilities Manager for the Seattle Seahawks, Inc. in Kirkland, Washington.

In addition to the elected members of the board, **Roy L. Goss** is an honorary nonvoting "Director Emeritus" and **Blair Patrick** serves as the nonvoting Executive Director.

\$28,470 in Research Grant Funds Awarded by NTA

Research grant funds totaling \$28,470 have been awarded to two universities for six research projects by the Northwest Turfgrass Association. Oregon State University (Corvallis), Washington State University Research and Extension Center (Puyallup), Washington State University (Pullman), are recipients of funds.

Grant requests this year totaled over \$47,470. NTA Research and Scholarship Fund limitations precluded the NTA from granting any more than the \$28,470. Below is a summary of the funding requested and approved for the 1994-95 academic year:

Instit. & Researcher(s)	Project	Requested	Approved
OSU Cook	On-line Subscription Hook-up -MSU "Turfgrass Information File"	\$166	\$166
OSU Cook	On-going Programs	\$0	\$0
WSU Brauen (Puyallup)	Quantification and Fate of Nitrogen from Amended and Trafficked Sand Putting Green/Tee Profiles	\$8195	\$6470
WSU Brauen (Puyallup)	Identification of Water-use Requirements and Stress Tolerance on Turfgrasses	\$10750	\$7000
WSU Stahnke (Puyallup)	Screening Antagonistic Microorganisms for Suppression of <i>Microdochium nivale</i> and <i>Gaeumannomyces graminis</i> var. <i>avenae</i>	\$5024	\$4500
WSU Johnston (Pullman)	Improving Turfgrass Establishment & Quality Utilizing Solid Matrix Seed Priming	\$10500	\$3000
WSU Johnston (Pullman)	On-going Programs	\$12500	\$7000
WSU Brauen/Stahnke (Puyallup)	On-line Subscription Hook-up -MSU "Turfgrass Information File"	\$166	\$166
WSU Johnston (Pullman)	On-line Subscription Hook-up -MSU "Turfgrass Information File"	\$166	\$166

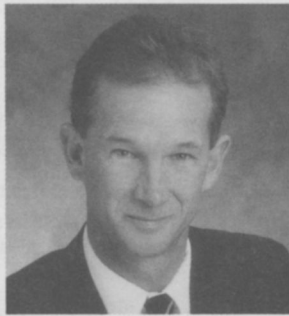
All the research grants deal with issues relevant to today's problems and environmental concerns and have the potential of being beneficial to today's grounds manager.

Promoting turfgrass research is a major purpose of the NTA. Funds for grants are obtained through a direct voluntary solicitation campaign and various other events and activities designed to generate donations to the NTA Research and Scholarship Fund (R & S Fund) and the NTA Turfgrass Universities Research Fund (T.U.R.F.).

Over the last eight years, NTA has donated over \$205,230 to research here in the Pacific Northwest, thanks to the on-going commitment and contributions of NTA members.

President's Message

In this age of fast-paced changes in regulations and environmental awareness, support is available from the NTA through education and research pertinent to the Northwest. The NTA is a collection of turfgrass professionals led by a core of volunteers and administrated by an executive director. This year I look forward to helping continue the tradition of assisting turfgrass research and providing scholarships for students pursuing a degree related to turfgrass culture.



Randy White

The 48th conference at Salishan Lodge was an example of what an outstanding group of individuals we have as members. Mark Snyder, superintendent at Salishan, provided participants with a great golf tournament. John Monson and Don Clemans put together a very informative and balanced educational program, from the opening session with Tom Cook to the closing bell with Larry Gilhuly and James Moore.

Others who participated in planning the conference included Jim Dusin (tours), Becky Michels (spouse program) and Tim Haldeman (sponsors). A long list of sponsors contributed \$18,000 making our conference a financial success. This money goes directly to research and scholarships. Of course the conference would not have been possible without months of work and detail coordination by Executive Director Blair Patrick, along with the help of Jerry Crabill. Thank you gentlemen.

As a keystone of our association, the annual conference has a tradition reaching back before most of our careers began. The opportunity to get timely and pertinent reports on research projects should be a very high priority for all turfgrass professionals. These along with professional relations presentations, made the conference a value. We hope to see you all at Skamania Lodge next October.

I would also like to acknowledge the years of volunteerism by outgoing board members Becky Michels, Tim Werner, Tim Haldeman and Mark Snyder. Thanks for the countless hours of time and effort, rewarded only by the knowledge of a good job done! Very special congratulations to Tom Christy on a great year as President. He has begun a program, Turf Universities Research Fund, that will be the cornerstone of fundraising efforts for the future. His abilities are well known to most of us and we all appreciate the work he has put into this and other projects.

And finally, I wish to welcome the new board members Kay Kinyon, Parks Superintendent for City of Lake Oswego; Chris Gaughan, Superintendent of Eugene Country Club; and Jim Connolly, Senior Technical Agronomist for Jacklin Seed. Continuing to serve for the final year of Tim Haldedman's term will be Don Clemans of Scott's Pro Turf. I hope they enjoy the coming year as much as I know I will.

Randy White, CGCS
President

NTA Awards \$5,000 in Scholarships

Five outstanding students have been selected to receive \$5,000 in NTA Scholarships for the 1994-95 academic year. Scholarships have been awarded to two Oregon State University (OSU) and three Washington State University (WSU) students.

OSU students receiving \$1,000 scholarships each were **William V. Dierdorff** and **Eric W. Johnson**, both juniors with majors of "Horticulture Turf & Lands Management." WSU students receiving scholarships of \$1,000 each, were **Matt Fagerness**, a senior majoring in "Crop & Soil Sciences," **Ryan Kreizenbeck**, a senior majoring in "Turf Management" and **Samuel S. Sprague**, a junior majoring in "Agronomy."

Scholarship Recipients Thank NTA Members

I am writing to thank you for the \$1000 scholarship I received for the 1994-95 academic year. The scholarship you've given me will definitely help in relieving the financial burden of college and allow me to focus on my school work. Again, I really appreciate the assistance and admire the NTA for their willingness to support academic achievement in the field of turf management.

-Ryan Kreizenbeck-

I would like to extend my deepest gratitude and appreciation for your donation of financial aid to my college degree program in the field of agronomy. This scholarship will go a long way in helping me through my final year at WSU. Gifts such as yours mean more than just money. It really makes one feel special to be recognized for their achievements academically. Once again, thanks.

-Samuel S. Sprague-

Northwest Turfgrass Conference Applauded by Participants

This year's 48th **Northwest Turfgrass Conference**, held at the Salishan Lodge in Glenden Beach, Oregon in September, was rated a grand success by the participants. Everything-the preconference botanical tour and golf tournament, the professional development program, the get acquainted reception, the annual banquet, and the companion events-all received outstandingly high marks from conference participants. Everyone commented on how much they got out of the conference and how much they enjoyed it.

The professional development program, with over 25 presentations, covered a wide range of timely turf management related topics. Presenters from throughout the nation served up a banquet of information. A conference **Proceedings**, to be published this winter, incorporating all of the presentations made at the conference, will be provided to all NTA members as a member service.

Wrapping up the 1994 conference, out-going NTA President Tom Christy urged everyone to make plans now to attend next year's 49th **Northwest Turfgrass Conference** scheduled for the new Skamania Lodge in Stevenson, Washington October 9-12, 1995.

Sponsorship Program Continues to Grow

Turf grounds maintenance and irrigation suppliers have been invited for two years now to be financial **Sponsors** during the **Northwest Turfgrass Conference**. The goal of the "Sponsor Program" is to provide suppliers with an opportunity for tax deductible advertising and, at the same time, through the reduction in conference costs, free-up conference receipts for research and scholarships.

During the first year of the program, only golf tees were available for sponsors. For the last two years golf tees, presenter honoraria and food/beverage events were available for sponsorship. In exchange for a tax deductible donation, sponsors are recognized with a very professionally done multi-colored reproduction of the their company logo displayed at the sponsored event and during the general sessions throughout the conference.

The sponsors of this year's conference, listed below, will be recognized in each quarterly issue of the **Northwest Turfgrass Topics** this year in hopes that it will encourage you to consider them when in need of products or services.

1994 Northwest Turfgrass Conference Sponsors

The companies listed below deserve our special thanks and appreciation for being "Sponsors" of the 1994 Northwest Turfgrass Conference.

Sponsors' donations go for research funds and scholarships.

Aquatrols Corp. of America, Inc.	Cherry Hill, NJ
Country Club Sales, Inc.	Kent, WA
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JR Simplot/Best Fertilizer	Bothell, WA
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Oregon Golf Course Superintendents Assn.	Vancouver, WA
Pac-West Distributing	Wilsonville, OR
Pacific Calcium, Inc.	Beaverton, OR
Rainbird Sales, Inc.	Gresham, OR
Tee-2-Green Corp.	Hubbard, OR
The Chas. H. Lilly Co.	Portland, OR
United Horticultural Supply	Salem, OR
United Pipe and Supply Company, Inc.	Portland, OR
Western Equipment Distributors, Inc.	Kent, WA
West. Wa. Golf Course Supers. Assn.	Tacoma, WA
Wilbur Ellis Co.	Auburn, WA

CONFERENCE GOLF TOURNAMENT WINNERS

80+ golfers participated in the **R.L. Goss Golf Tournament for Research** at Salishan Golf Links during the conference. The tournament format was four man scramble with half of the field (10 teams) receiving gift certificates. Special prize winners were as follows:

Winning Team

Score-60	Michael Hilsenkopf	Pete O'Brien
	Mike Troutman	Roger Vandehey

Closest to Hole

4th Hole	Hank Gordon
6th Hole	John Cronan (Hole in One)
11th Hole	Bill Johnston
15th Hole	George Smith

Long Drive

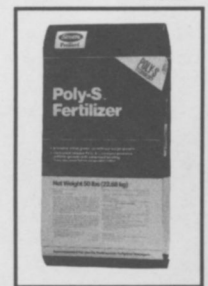
5th Hole	Mike Barber
10th Hole	Jeff Coad

1994-95 Membership Directory Distributed

The **Directory of the Northwest Turfgrass Association for 1994/1995** is at the printers and will be mailed to Northwest Turfgrass Association members within the next few weeks. The directory is provided as a membership service for members annually. It includes a variety of resource information including the names, addresses and telephone numbers of members; turfgrass, plant management and soils information and a technical

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Directory (continued)

listing of industry publications and associations; and, other valuable information. Any member not receiving a copy within the next few weeks should contact the NTA office.

The directory will reflect the change in area code from (206) to (360) that become effective January 15, 1995 for parts of western Washington.

1995 Membership Dues Statements Out

Annual dues statements for 1995 have been mailed and should be in members hands. The dues are \$75.00 for active members (individuals engaged in the turfgrass industry or in the development or application of turfgrass industry technology); \$25.00 for subscribers (any person employed and sponsored by an active member), and \$15.00 for student members (any person enrolled in a university, college, community college or vocational school turfgrass or related industry program of studies).

The Northwest Turfgrass Association (NTA) is a nonprofit corporation founded in 1948 to help all people interest in turf grass culture. The association membership has nearly doubled over the past six years increasing from around 230 members to over 450. Members represent a variety of interests in the turf and grounds management industry including: golf course superintendents; parks, school, university and college,

and other public grounds management personnel; sports field management personnel; cemetery grounds management; commercial and residential grounds and lawn care management personnel; et al. In addition, lawn spray services, landscape designer services, landscape contractors, irrigation services and equipment and chemical suppliers, et al. all participate as members in the organization. Through its many activities, the NTA has benefited all of these people by helping them learn more about their industry and professions. The NTA's annual conference and publications provide timely and pertinent information specifically aimed at turf culture needs in the Pacific Northwest.

The NTA organization is directed by its membership through a board of directors. Board representation takes into account industry interest groups and the geographical make-up of the organization. Board members, elected by the general membership during the annual meeting, serve 3 year terms. The officers of the association are elected by and from the board for 1 year terms.

The NTA offers an opportunity to participate shoulder to shoulder with leading turf management professionals and the suppliers supporting the industry in the Pacific Northwest.

Research Grant Proposals and Scholarship Applications

Research proposal grant application information and scholarship application information for the 1995-96 academic year will be included in the Winter issue of the **Northwest Turfgrass Topics**. Individuals interested in submitting a research proposal and students interested in applying for a scholarship should watch for detailed information in the next issue of the topics.

Conferences, Shows and Seminars

OGCSA Mechanics Seminar

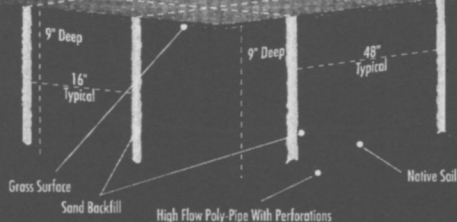
The Oregon Golf Course Superintendents Association is sponsoring a Mechanics Seminar to be held December 5, 1994 at the Oregon Golf Club. The registration fee, which includes lunch, is \$20.00. For further information, contact the OGCSA office (206) 573-6969.

Pacific Coast Turf & Landscape Conference

December 7 & 8, 1994 are the dates for the sixth annual Pacific Coast Turf & Landscape Conference cosponsored by the Western Washington Golf Course Superintendents Association and the Washington State Nursery & Landscape Association. The show, "Growing Crazy VI," will be held at the Washington State Convention & Visitors Center and will feature three tracts of educational sessions and a trade show. For further information, call 1 (800) 275-9198.

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Washington State Nursery and Landscape Association Convention

The site of the January 5-7, 1995 WSNLA convention will be Semi-Ah-Moo in Blaine, Washington. The convention committee promises an all-new program with just the right mix of business, education, social events and free-time to enjoy the facilities.

For more information, contact WSNLA at (206) 863-4482.

Inland Northwest Turf & Landscape Trade Show

January 26, 1995 from 9:00 a.m. to 3:00 p.m. is the date and time for the Inland Northwest Turf & Landscape Trade Show and the Interstate Fairgrounds in Spokane is the location. Vendors will be showing equipment, products, and supplies for the turfgrass

industry and there will be door prizes awarded throughout the day. For more information, contact the IEGSA office at (509) 535-8305.

GCSAA 66th International Golf Course Conference and Show

The San Francisco Moscone Center will be the site of 66th annual conference and show for GCSAA scheduled for February 20-27, 1995. The conference includes educational seminars, sessions and forums; 600+ exhibits

and the annual golf tournament. For information contact 1 (800) 472-7878.

Digging Deeper for Better Solutions Seminar

One of the most recognized names in tree biology, **Dr. Alex Shigo** will present a two-day seminar on the basic science of trees and their treatments on March 9 and 10, 1995 at the Vancouver Convention Centre in Vancouver, B.C. For further information, contact (503) 254-0482.

"CGCS" Designations Granted

NTA members **Mark Cupit**, golf course superintendent at Canterwood Golf & Country Club in Gig Harbor, Washington; **James Howes**, golf course superintendent at Lake Padden Golf Course, Bellingham, Washington; **Jerry Mathews**, golf course superintendent at Port Ludlow Golf Course in Port Ludlow, Washington; and, **Randy Shults**, golf course superintendent at Tualatin Country Club in Tualatin, Oregon, have each been designated a Certified Golf Course Superintendent (CGCS) by the Golf Course Superintendents Association of America (GCSAA) this past year.

GCSAA instituted the certification program in 1971 to recognize outstanding and progressive superintendents and more than 1400 superintendents currently hold the "CGCS" certification. To become certified, a candidate

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CGCS (continued)

must have five years of experience as a golf course superintendent, be employed in that capacity and meet specific educational requirements of college credit or continuing education units. The candidate must then pass a rigorous six-hour examination covering turfgrass and pest management practices; safety compliance practices; financial and organizational management practices; and, rules of golf. An additional element of the certification process is an on-site inspection of the candidate's golf course operation.

Names In The News

Pacific Northwest Golfer, a new official magazine of the Pacific Northwest Golf Association, Oregon Golf Association, Washington State Golf Association and British Columbia Golf Association, was recently distributed. Editorial, advertising or circulation information is available through the PNGA/WSGA office at (206) 526-1238.

"ASPA" Becomes "TPI" The members of the American Sod Producers Association (ASPA) have approved a change of their association name to Turfgrass Producers International (TPI).

Dr. Olaf K. Ribiero, renowned Certified Professional Plant Pathologist, has announced his association with the new ASTEC division of Prescription Turf Services, Inc. Dr. Ribiero will serve as the director of research and pathology.

Tony Jacklin, four-time European Ryder Cup captain, has been signed on to be spokesperson for JacklinGolf. His winning experience on the golf course, not to mention his last name, make him a natural for this job.

GCSAA headquarters in Lawrence, Kansas has established new office hours from 7:30 a.m. to 5:00 p.m. (central time) or 5:30 a.m. to 3:00 p.m. (pacific standard time).

Steve Eisele, a manufacturers representative for Spraying Systems Co. has relocated operations from Portland, Oregon to Boise, Idaho under the new name TeeJet West.

The Role of Turfgrass in Environmental Protection

The following is an abstract of an article by James B. Beard and Robert L. Green that appeared in the Journal of Environmental Quality, Vol 23, No. 3, May-June 1994. (for reprints of entire article write to: Journal of Environmental quality, 677 South Sogoe Road, Madison, Wisconsin 54711)

Turfgrasses have been utilized by humans to enhance their environment for more than 10 centuries. The complexity and comprehensiveness of these environmental benefits that improve our quality-of-life are just now being quantitatively documented through research. Turfgrass benefits may be divided into (i)

functional, (ii) recreational, and (iii) aesthetic components. Specific functional benefits include: excellent soil erosion control and dust stabilization thereby protecting a vital soil resource; improved recharge and quality protection of groundwater, plus flood control; enhanced entrapment and biodegradation of synthetic organic compounds; soil improvement that includes CO₂ conversion; accelerated restoration of disturbed soils; substantial urban heat dissipation-temperature moderation; reduced noise, glare, and visual pollution problems; decreased noxious pests and allergy-related pollens; safety in vehicle operation on roadsides and engine longevity on airfields; lowered fire hazard via open, green turfed firebreaks; and improved security of sensitive installations provided by high visibility zones. The recreational benefits include a low-cost surface for outdoor sport and leisure activities, enhanced physical health of participants, and a unique low-cost cushion against personal impact injuries. The aesthetic benefits include enhanced beauty and attractiveness; a complimentary relationship to the total landscape ecosystem of flowers, shrubs and trees; improved mental health with a positive therapeutic impact, social harmony and stability; improved work productivity; and an overall better quality of life, especially in densely populated urban areas.

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It's time for golfers to pay their fair share

Over the years, the entire golf industry has borne the cost of turfgrass research. The United States Golf Association, private industry, the Golf Course Superintendents Association of America and state and regional chapters have all gone to great lengths to raise money, then given it away to scientists investigating everything from pesticide fate to low-input turfgrasses.

Now it's time for the end-user – the golfer – to pitch in. Golfers are, after all, the beneficiaries of the lifetime of hard work superintendents and their crews devote to creating perfect playing conditions.

The Arizona green industry took a severe blow this spring when two legislators killed legislation that would have assessed 10 cents per round of golf, with the funds bankrolling research. The entire golf industry reeled, stunned by that debacle. Similar legislation is in effect in various states supporting research in citrus, agriculture and other industries. Superintendents and scientists around the country expected to push for this type of law. That may still happen.

But in the meantime, others are undeterred in their own innovative efforts to raise funds.

Dick Stunz of Alovamar County Club in Lawrence, Kan., may have pioneered another way to skin this cat – using mailings to GIN Handicap users to ask for donations for research. Stunz and his green industry colleagues in Kansas should be lauded. They and others must have unique ideas to pass on. We welcome the chance to be the clearing house for these ideas, tried or untried. Multiply a \$2 donation by the number of golfers applying for handicaps in America and the potential is truly enormous for the Kansas-type fund-raising alone.

The industry could take the lead from organizers of the Herman Sani Fund in Iowa, which provides scholarships to graduating high school seniors. For 30 years they have raised funds at the state tournaments. Sometimes it's voluntary. Other times, a donation is simply added to tournament charges.

There must be myriad solutions to the money problem. One thing is certain: "A worker is worthy of his wages." And scientists from the University of Massachusetts to the University of Arizona continue to solve problems affecting golf courses.

They should get the support they need. And golfers should be among the supporters.

Source: Golf Course News

Over \$12.5 Billion Spent on Professional Landscape Services

Seventeen million U.S. households spent \$12.5 billion on professional landscaping and lawn care services in 1993, according to a recent Gallup survey. The study revealed that the number of homeowners using landscape professionals was up 29 percent over 1992, and expected

to grow by an additional six percent in 1994.

Results were based on personal interviews with a representative sample of 1,665 U.S. households about their 1993 spending on these services:

- Lawn/Landscape maintenance – lawn fertilization, mowing, renovation, insect/weed control, pruning and mulching.
- Landscape installation/construction – plants, walkways, fences, decks, pools and other water features.
- Landscape design – professional landscape design/landscape architecture services.

Average 1993 household spending on landscape services was \$721. Lawn/landscape maintenance received the largest share of total homeowner landscaping dollars at \$6.4 billion, followed by landscape installation/construction at \$5.6 billion, landscape design at \$381 million. The largest average household expenditures were on landscape installation/construction at \$2,971, followed by lawn/landscape maintenance at \$445 and landscape design at \$424.

Other highlights:

- Americans 50 and older accounted for nearly half of all expenditures on lawn/landscape maintenance services.
- The Western U.S. had the highest average expenditures on lawn/landscape maintenance services at \$536.
- Americans 30-49 years old accounted for 83 percent of landscape installation/constructions sales; they also had the highest average spending in this category, \$3,482.
- Homeowners in the South had the highest average spending on landscape installation/construction, \$6,147.
- Women accounted for 70 percent of spending on landscape design services; their average expenditures in this category were twice that of men.
- The Mid-Atlantic region accounted for nearly half of all landscape design spending.

The improved national economy, the upturn in homebuilding, and the growing awareness of landscaping's environmental and economic benefits are believed to be key factors contributing to the growth in homeowner spending on professional landscape services.

This first-of-its kind survey was sponsored by the American Association of Nurserymen, the American Society of Landscape Architects, the Associated Landscape Contractors of America, the International Society of Arboriculture, the National Arborist Association, and the Professional Lawn Care Association of America. It was conducted in cooperation with the National Gardening Association.

A Grape A Day Keeps The Geese Away

Geese hate grape. And golfers hate geese.

Enter Marvin S. Preiser of Middletown, a chemist and consultant who has figured out a way to use grape flavoring to chase geese off of golf courses, away from airports and anyplace else the birds are a nuisance. The chemical, methyl anthranilate, will not harm the birds or the environment, Preiser said.

"All the birds have to do is taste it," Preiser said, "It's like you or I biting into a chili pepper. It hurts, but it does no damage."

Preiser said birds quickly learn that they need to go somewhere else for food. Preiser said the grape substance will chase away not only geese, but other waterfowl such as swans and gulls.

Preiser explained that chemists have known for years about the repellent value of the grape flavoring. The problem, he said, was the texture. The substance would glob up on ponds and was too thick to use on grass.

So Preiser was hired by PMC Specialties Group in Cincinnati to convert the chemical - now with the trade name ReJex-It - into a powder to use on airport runways, a "lighter-than-water" liquid to float on ponds and a "tiny, tiny bead" substance to sprinkle on grass.

It took Preiser, 70, six months in his laboratory to get the job done. Now Preiser, a retired vice president at

Hercules-PFW and an independent consultant for the past eight years, is working on a formula to keep wood peckers off telephone poles.

Meanwhile, ReJex-It, which is biodegradable, has already been approved by the Federal Environmental Protection Agency. Now, it must be approved for use in each state.

"I consider it a miracle. It is so hard to resolve a conflict between man and animal," and biologist Leslie Gerstenfeld - Press of People for the Ethical Treatment of Animals. "We think it's a wonderful thing."

Estimates on how much ReJex-It will cost are still unavailable, but customers are likely to include greenkeepers, who hate geese because the birds' feces kills grass, and airport officials, who fear geese (and sea gulls) because the birds can get caught in airplay engines, causing damage and even crashes.

Source: Time Herald Record/Middletown, NY

Spikeless Spike

An August news release reads "Campaign against metal spikes gains momentum". Golf Digest reports that at least two of America's 100 Greatest Golf Courses have issued either full or partial bans on metal spikes, and many other prominent courses are experimenting with a new "spikeless spike".

Prairie Dunes County Club in Kansas (ranked No. 25 in America's 100 Greatest Courses) and Wynstone in Illinois (No. 85) have both instituted bans of metal spikes. Others considering the benefits of spikeless spikes include Pine Valley Golf Club, No. 1 on the 100 Greatest list.

Golf Digest reminds purists ready to protest this break from tradition that Old Tom Morris won four British Opens without a single spike on his shoes and Bernhard Langer missed a six-foot putt for the Ryder Cup largely because of two spike marks.

Reprinted from September issue of Golf Digest.

Wash Rack Should Be Environmental Focus

by Larry Gilhuly

The issue of clean groundwater has become an environmental agenda item that is receiving far more scrutiny than in the past. It is becoming a common practice to monitor groundwater on golf courses due to the possible threat of fertilizers and pesticides.

Is it possible that a greater threat of groundwater pollution does not exist in turf areas, but where equipment is washed following mowing operations and chemical applications.

There are those who may believe this approach is being somewhat reactionary. However,, the following was recently enacted in the state of Illinois that offers us a glimpse of the future. An amendment to the Illinois lawn care act now requires turf care professional to use wash water and rinsate collections devices. The amendment

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also gives the Illinois Department of Agriculture the authority to permit such devices.

The rules were developed by the ag department, the Illinois EPA and several concerned and interested persons from the turf care industry and related fields.

All licensed applicators in the state of Illinois received the rules, a permit application and instructions for meeting the terms of compliance of the rules. The permitting process has been simplified to help reduce the possible increased cost that can result from an extensive engineering plan.

To simplify the permitting process, a general permit class system has been approved. The permit will require the applicant to provide a location map of the facility, a detailed description of the wash pad location, selection of either a Class A, B or C device and the inclusion of a water supply protection device such as a reduced pressure backflow device and any other information required by the department. The permit would be renewable every five years.

This is just one example of how states are beginning to clamp down on wash areas and the potential problems. If a golf course superintendent or other turfgrass professional has a situation that requires improvement, there are three methods we have viewed during the past several years that address this issue.

- A sewer connection. A series of drop boxes can capture nearly all of the clippings following cleaning operations if the wash area is tied into a sewer system. An oil/water separator is also necessary with the remaining material entering the sewer system. With this type of operation, it would still be advisable to clean residues from pesticides sprayers or spreaders on areas covered with turf in the roughs.

- A combination sewer and pesticide containment area. This unique combination is at Eugene (Ore.) Country Club where the superintendent has combined a wash area for equipment connected to the sewer and a separate pesticide building/wash area for all herbicide, fungicide and insecticide applications. The innovative approach totally controls all pesticide rinsates by separating residues into individual tanks. The next time the pesticide operator is slated for an application, the residue accumulated from the previous spraying is used in filling the tank.

- Complete self-containment. Although this is more expensive and minimal maintenance is necessary, it does provide the ultimate answer in containing all wash material from the maintenance area.

Water runs downstream or into the ground and the watchdogs of the environmental movement can't wait to nail golf courses with environmental pollution claims. Do yourself, your golf course and the industry a big favor by updating this portion of the maintenance operation.

Fertilization – Fall and Late Fall Style

*By Paul E. Rieke
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One of the very important turf management practices during the fall is fertilization. This time of year there are many other activities which require time and attention, but fertilization must also be given priority. For many reasons, turf management practices done in the fall will have a major effect on the quality of turf the following spring. Fertilization is one of the most important.

Phosphorous and potassium in the fall

The key nutrient in fall fertilization is nitrogen. Some have suggested phosphorous and potassium are the key nutrients in fall fertilization. Certainly, these nutrients should be available to turf in adequate quantities. For example, when potassium is limiting, there is a reduction in stress tolerance. Considering the potential for low temperature injury to turf during winter, if potassium could have an impact on reducing low temperature injury, turf managers should be sure adequate potassium is available to the turf. There is also some evidence to suggest there is an increase in susceptibility to snowmold when potassium is limiting.

To be sure there is adequate potash in the soil, use a soil test for medium and fine-textured soils. If tests suggest potash is needed, appropriate rates should be applied based on recommendation and common sense. For turfs on sands, soil tests for potassium are usually low in spite of a potash fertilization program. Regular, light applications of potash at frequent intervals (spoon feeding) should be made on sandy soils, particularly on sand greens.

When late fall fertilization is practiced, some potash should also be applied along with the nitrogen. On finer-textured soils, apply potash at about half the rate of nitrogen. On sands, use equal quantities of nitrogen and potash.

If needed based on soil test recommendations, phosphorus can be applied in the fall fertility program as well, normally in a complete fertilizer. Seldom is phosphorous limiting on turf. An exception is when no phosphorous has been applied and clippings are routinely removed. Another potential exception is on sand greens. Sands have little capacity to hold phosphate. We have seen several cases of phosphorous deficiency on sand greens, more commonly on new greens, but also on older greens where no phosphorous has been applied for some time. Soil tests must be used to determine need for phosphorous.

Fall Nitrogen

For cool season grasses, both fall and late fall fertilization should be considered. Fall fertilization is best done during September, preferable early in the month. With the weather changes in late summer, the shorter

Fertilization (continued)

days, cooler nights and more regular rainfall cause the turf plant to grow less rapid vertically than occurs in the spring. More lateral growth results in improvement in turf density after the rigors of the summer. So fertilization in the fall deserves top priority. Carbohydrates manufactured at this time of year will be more likely to be stored, building up the plant for next year.

Appropriate rates of nitrogen applied during the fall period depend on a number of variables, ranging from 1/2 to 1 lb. N per 1000 sq. ft. On occasion a higher rate may be justified; examples include newly established turf which needs pushing for rapid establishment or a turf which has suffered serious thinning over the summer due to injury from disease, insects, traffic or moisture stress or where an extensive weed population has been controlled, leaving open areas. On general turfs (lawns, grounds, etc.) all the nitrogen can be applied in one application. For greens and other high maintenance turfs, one can split this into two applications if the higher rate of nitrogen is needed. An alternative is to use a fertilizer which contains more slow release nitrogen. Or a spoon feeding program with weekly applications of soluble sources can be used, particularly on greens.

Normally, it is best to withhold nitrogen applications during October to permit the turf to "harden off." This permits the turf to accumulate carbohydrates and reduces the potential for frost-injury should the turf become very succulent before a major freeze. Avoiding nitrogen during October may reduce susceptibility to snow mold as we well.

Late Fall Nitrogen

There are a number of opinions as to how and when to use late fall nitrogen applications. In part, this occurs because of differences in climactic zones and variations from one season to the next. Perhaps the more important reason for variation in late fall fertilization is the objective for this practice.

From my perspective, the objective is to supply nitrogen to the turf after growth has ceased. The root system is still active since the soil is warmer than the air. Nitrate nitrogen can still be taken up and utilized by the plant. If proper nitrogen fertilization has been practiced during the fall (September) period, the turf should still be green and physiologically active. This permits the plant to continue photosynthesis whenever modest temperatures and some sunlight conditions occur. Carbohydrates manufactured during this time are not "burned off" with growth and clippings, but are stored. This builds up the plant for next spring.

Rate of application of nitrogen will again vary with turf conditions and philosophy of the turf manager. For greens, 1/2 lb. N per 1000 sq. ft. may be sufficient. If tees are still thin from traffic, especially on par 3 tees, 3/4 to 1 lb. may be needed. Fairways, could receive 1/2 to 3/4 lb. Lawns and general grounds can receive 3/4 to 1 lb. N.

Some turfs may perform better without the late fall nitrogen. Some lawn care companies cannot justify the

cost of late fall nitrogen for customers who may not continue with their services the next year. However, the quality of the turf the next spring should be excellent about the time spring sales begin.

Snowmold was severe on many turfs over the winter of 1992-93. Late fall nitrogen applications contributed to greater snowmold in some cases. If turfs are hard hit by snowmold nearly every year and no snowmold preventative program is followed, it may be best to avoid late fall nitrogen.

However, based on plot research done by Dr. Joe Vargas and on observations in the field, it is clear that while in most years the late fall nitrogen may increase the amount of snowmold, there is much quicker recovery from any injury caused. The snowmold damage may be more superficial with the late fall nitrogen and/or the recovery is quicker. Either way the next spring the turf returns to a better quality condition sooner with late fall nitrogen.

For the Great Lakes region, we suggest applying the nitrogen after growth has ceased for all practical purposes. This does not mean there will be no need to further mowing, but regular mowing will not be needed. An additional mowing or two may be required before growth ceased entirely. This occurs anywhere from the last week of October to the second week of November.

Potential problems with late fall nitrogen fertilization include the potential for leaching of applied nitrogen, late fall growth which would require more mowing, affecting snowmold and other winter injury, increase to thatch and earlier spring growth. In a study here at Michigan State being conducted by Eric Miltner and Bruce Branham, which compares late fall nitrogen treatments with those emphasizing spring applications, there is no significant leaching of nitrates from either treatment thus far. If the nitrogen is applied while the plant is still physiologically active, most of the nitrogen should be used and will not be available for leaching over the winter. There is evidence from Ohio State that late fall nitrogen may increase susceptibility to thatch formation to some degree.

While there may be a small increase in growth during the fall or spring, most turf managers are satisfied the benefits are far greater than the potential negative effects. There is no evidence for increased susceptibility to low temperatures or crown hydration injury which is caused by late fall nitrogen.

Benefits of late fall nitrogen include good carbohydrate levels in the turf the next spring, good early spring root growth, good fall and spring color and good turf density so there is less potential for establishment of spring weeds. Since root growth of cool season grasses begins before top growth, it is essential that a high level of carbohydrates exist in the plant to initiate that root growth.

The next spring the turf will have a good color. There will likely be a small increase in mowing needed in the spring compared to a turf which receives no nitrogen either in late fall or spring. But the growth will be very limited compared to a turf which receives an early spring fertilization. Avoiding early spring nitrogen has the advantages of reduced carbohydrate loss caused by the

excessive growth, less mowing, potential reduction in several diseases and greater moisture stress tolerance during the summer. If we can provide a turf which has good density and fewer weeds, requiring less herbicide as well as greater stress tolerance, why should we not adopt the practice?

With many advantages apparent for late fall nitrogen and few disadvantages, it is clear why so many turf managers have adopted this practice. I have not talked to anyone who has tried late fall nitrogen fertilization who has not continued to utilize the practice for agronomic reasons. This is the best testimonial for late fall fertilization.

Source: Hole Notes

Winter Storage of Engines and Equipment

When you do not plan to use your vehicle or equipment for some time, it should be stored in a dry and protected place. Unnecessary exposure to the elements may deteriorate its appearance and shorten the usual service life.

1. Operate the engine until the fuel is completely consumed.
2. Drain the fuel from the fuel tank. After draining the fuel, back flush the inline fuel filter.
3. While the engine is still warm, drain the oil from the crankcase and refill with fresh oil.
4. Clean exterior of engine. Paint the exposed metal or coat with a light coating of rust preventive oil. Use oil that complies with SEA #30 MIL-L-21260 Standards.
5. Wash, clean and completely lubricate the tractor. Refer to the charts in the "Lubrication" section. Paint the exposed metal or brush a light coat of rust preventive oil over unpainted metal.

Battery

Refer to manufacturer's manual for specific instructions. Remove battery and clean it; store in upright position. Maintenance-free batteries greatly increase self-discharge. If wet batteries are discharged, the electrolyte will freeze when stored below 20 degrees. **IMPORTANT** – The battery should be checked every 60 to 90 days while in storage, and should be recharged if necessary.

Tires

Before storing the vehicle, clean the tires thoroughly. Jack up the vehicle so the load is off the tires.

1. If it is not jacked up, check the tires at regular intervals and reinflate as necessary to keep them at the recommended pressure.
2. Store the vehicle so tires are protected from sunlight.

Starting after Storage

1. Check and recharge the battery according to recommendations given in the battery booklet. Reinstall the battery.
2. Clean the fuel filter and drain water from fuel tank.
3. Service the air cleaner and check the radiator water level.
4. Check level of oil in the engine crankcase and hydraulic system.
5. Fill the fuel tank with fresh fuel.
6. Before driving the vehicle, make certain the tires are inflated to the proper pressure.
7. Either move the vehicle outside before starting engine or keep doors and/or windows wide open to provide sufficient ventilation to prevent danger from carbon monoxide gas in the exhaust.

Start the engine but do not operate at high speed immediately after starting. Allow time for it to become properly warmed and lubricated.

Long Storage

Before storing the engine for more than a few months, remove any dirt on the machine and:

1. Drain the coolant in the radiator. Open the cock at the bottom of the radiator, and remove the pressure caps to drain water completely. Leave the cock open. Hang a note ("No water") on the pressure caps. Since water may freeze when the temperature drops below 32 degrees, it is very important no water is left in the machine.
2. Always set the accelerator lever on "Stop." Should the decompression lever be pushed, and compression reduced while the engine is stopped, starting the next time may be not only difficult but impossible.
3. Remove dirty engine oil, fill with new oil and run the engine for about 5 minutes to let the oil penetrate to all the parts.
4. Check all the nuts and bolts, and tighten if necessary.
5. Remove the battery from the engine, recharge it and adjust the electrolyte level. Store the battery in a dry and dark place.

Storing Tractors with Mowers

The outrigger and wing units should be stored in the raised position. Tie mowers in this position to relieve strain on hydraulic system. The front and center units are stored in the lower position on blocks so weight is not on tires. Store where tires will be protected from sunlight.

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Calendar of Events

- December 6, 1994** NTA Board Orientation & Meeting
Contact: (206) 754-0825
- December 7-8, 1994** Pacific Coast Turf & Landscape
Conference (WWGCSA & WSNLA)
Contact: 1-800-275-9198
- December 5, 1994** Mechanics Seminar (OGCSA)
Contact: (206) 573-6969
- January 5-7, 1995** Washington State Nursery & Landscape
Association Convention (WSNLA)
Contact: (206) 863-4482
- January 10, 1995** NTA Board Meeting
Contact: (206) 754-0825
- January 26, 1995** Inland N.W. Turf & Landscape Show
(IEGCSA)
Contact: (509) 534-4161
- February 12-15, 1995** Annual Conference & Show (WCTA)
Contact: (604) 467-2564
- February 20-27, 1995** International Golf Course Conference and
Show (GCSAA)
Contact: (913) 832-4430
- March 11-14, 1995** Annual Conference and Show (CGSA)
Contact: (905) 602-8873
- May 23, 1995** Field Day (OSU)
Contact: (503) 737-5449
- October 9-12, 1995** Northwest Turfgrass Conference (NTA)
Contact: (206) 754-0825
- September 27, 1994** NTA Annual Meeting of the Members
Contact: (206) 754-0825

-Pesticide Recertification Programs Information-

In Oregon, contact OSU Department of Agricultural Chemistry at
(503) 737-1811 and, in Washington, contact WSU Conferences & Institutes
(509) 335-2946.

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