



Minnesota Green Expo

The inception of the Minnesota Green Expo on January 8, 9 and 10, 2003 is the culmination of several years of negotiations between the Minnesota Turf & Grounds Foundation (MTGF) and the Minnesota Nursery and Landscape Association (MNLA). Historically each of these organizations held their own annual conference and trade show at the Minneapolis Convention Center. Each of these annual events was successful and was the backbone of the annual revenue for each organization.

However, as more and more industry consolidations were occurring and the traditional methods of doing business continued to change, the expense of hosting these events separately were rising more quickly than the revenue streams would support. As a result it was becoming evident that plateaus had been reached and to facilitate further growth in size and quality, a bold, new effort was required.

While the Minnesota Green Expo is the combined effort of these two organizations, each continues to be an independent entity. The only area of combined effort is the Minnesota Green Expo. The MTGF continues to operate independently as does the MNLA.

What does all of this mean for the MTGF and its members? The potential synergies of this combined offering are numerous. The educational offering will be unparalleled for a local or regional conference. All aspects of the Green Industry will be addressed,

including design, maintenance, renovation, irrigation, personnel, environmental, business management, insurance, liability and safety issues. The trade show has been expanded to two halls at the Convention Center and most likely will be "Sold Out". As of this writing, over 80% of the proposed booth spaces have been pre-sold with additional reservations coming in daily.

One of the major changes that MTGF members will notice is that the cost of attending this event will be significantly reduced. This will provide a great opportunity for members to include staff personnel that might otherwise have not been able to attend due to budget limitations. There will be several educational presentations specifically targeted to staff personnel so that you, your operation and these valued team members will benefit from attending the Minnesota Green Expo. The popular "Turf 101" and the Mechanic Sessions will again be held in order to broaden the value of attending the Expo for your staff personnel. In addition, this year there will be an added session hosted by a professional gardener so that there is an educational opportunity for those valued staff members as well. All in all, there will be something for virtually everyone involved in the Green Industry, so plan on attending and including as many staff members as possible. ■

The U of M Turfgrass Working Group

Have you ever wondered about the scope of activities on the St. Paul Campus that is dedicated to working on turf and turf-related issues? As the following list will indicate, those activities are very extensive and represent a wide variety of disciplines relating to many facets of this industry.

The following, listed in alphabetical order, will provide a list of the individuals involved, their department and the respective area of participation.

Dr. Nancy Ehlke, Agronomy, is involved in Kentucky bluegrass and perennial ryegrass breeding. Dr. Brian Horgan, Horticulture, Turfgrass Extension and Research, focuses on nutrient fate and general turfgrass management. Dr. Vera Krischick, Entomology, is involved

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Third Annual University of Minnesota Turfgrass Field Day



On July 25th, the University of Minnesota, in conjunction with the Minnesota Turf and Grounds Foundation is pleased to announce the third Annual University of Minnesota Turf and Grounds Field Day. This event is designed to give you an opportunity to experience what research is going on at the University, to examine the field plots where the research is being conducted, and to interact with the faculty and staff at the University. In addition to presenting research, the field day will also provide practical demonstrations and hands-on learning opportunities.

The field day will present opportunities for participants to attend one of three tracks; general grounds, low maintenance turf, and high maintenance turf. The general grounds tour will highlight the woody and ornamental species along with the horticultural display and demonstration garden. The low maintenance turf track will target lower maintenance turf management practices of parks and home lawns. The high maintenance track is targeted to management of turfgrasses of athletic fields and golf courses.

This will also be your first opportunity to see the site of the University of Minnesota's new Turfgrass Research, Outreach, and Education center which is currently under development. This facility is being developed in conjunction with industry to allow cutting edge research and educational opportunities at the University. Future research projects at this facility range from alternative ground covers to nutrient/pesticide run off to greens management systems.

The turfgrass tracks will cover a broad range of topics including turfgrass breeding, soils, nutrient fate, ornamental grasses, insect management, disease management, and new technologies. Attendees will also have the opportunity to take time to evaluate turfgrass varieties in the National Turf Evaluation Program (NTEP) trials on campus including Kentucky bluegrass, fairway bentgrass, and the perennial ryegrass trial. In addition to the turfgrass track of the field day we will also be offering a concurrent session that will address arboricultural and landscape. The landscape and arboricultural track will highlight some of the features of the demonstration gardens and some of the more exotic species cultivated on the University of Minnesota St. Paul campus. Attendees will have the opportunity to attend selected stops on other tracks offered at the field day.

The field day is scheduled to begin at 9:30 AM and end by 2:00. As with last year, special parking privileges on campus will be available for attendees. The cost for participating in the field day will be \$15 for persons who pre-register, parking and lunch included. The sign-in desk will be open from 8 to 9:30 AM at the demonstration gardens. Registration will be available on the day of the field tours for \$20. All participants will be provided with a field day program at the sign-in desk. Coffee and doughnuts will be available in the morning and refreshments will be available during the field tours. You are invited to stay after the tours to take an extended look at field plots, visit with presenters, or to walk around campus. The proceeds of this event will go to support research and educational activities at the University.

So mark July 25th on your calendar and plan on joining us for this summer event. If you have any questions about the field day feel free to contact Jon Powell at 612-625-5290 or visit the web site <http://turf.umn.edu> or <http://www.crc.agri.umn.edu/~jpowell/turf/fieldday.htm>. ■

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Pre-registration forms must be submitted by July 10

MTGF Allied Associations

- Minnesota Association of Cemeteries*
- Minnesota Park Supervisors Association*
- Minnesota Sports Turf Managers Association*
- Minnesota Turf Association*

- Minnesota Golf Course Superintendents Association*
- Minnesota Society of Arboriculture*
- Minnesota Association of School Maintenance Supervisors*
- Northern Minnesota Forage and Turf Seed Advisory Committee*

ALMOST A YEAR ON THE JOB

By Brian Horgan

It has almost been one full year since I started as the turfgrass extension specialist at the University of Minnesota. I have been overwhelmed by the level of support from the turfgrass industry, other faculty, staff and the College administrators. Although I have not met my initial goal of meeting each of you that make up the Minnesota Turf and Grounds Foundation, I have made significant progress.

This past year has been jammed-packed with all sorts of interesting projects, programs, and research projects. Although I'm not going to discuss in this article all of these items, I will highlight those that are most interesting to the industry.

Research

My research program is still in its infancy. However, I have applied for grants to study the fate of phosphorus fertilizer applied to turf, overseeding protocol to maintain high quality athletic fields while reducing pesticide inputs, and characterizing variation of soil physical properties on golf course fairways. I hope to hear from each of these granting agencies later this summer and I'll keep you posted as to the status of these projects. I have also made contacts with industry representatives to evaluate herbicides, nutrients, plant growth regulators, and wetting agents. These projects will be conducted at the University of Minnesota research facility and at golf courses throughout the state. Results from some of these projects will be discussed at Field Day on July 25, 2002.

Extension/Outreach

In cooperation with Bob Mugaas, Jerry Spetzman, and Rodney Elmstrand, we have developed a novel extension education program called "Lawn Care Advisor Program". This is a "train-the-trainer" activity whereby Bob and I provided 12 hours of lecture, laboratory, and case studies to 25 students who in turn have agreed to volunteer to advise 10 homeowners on lawn care issues. We will be modifying this program and offer it as advance training for Master Gardner's with the eventual goal of making this a state-wide program.

I also have formed a cooperative agreement with the University of Wisconsin to offer a 4 day-long School of Turfgrass Management short course. This will enable both the University of Minnesota and the University of Wisconsin to pool resources to provide an excellent training program that will rotate between Minneapolis/St. Paul and Milwaukee each year. Stay tuned and look for promotional information this fall. The School of Turfgrass Management will be held in the Twin Cities sometime in early 2003.

Turfgrass Research, Outreach, and Education Center

We have some very exciting news from the University of Minnesota. Members of the turfgrass working group, working in conjunction with administrators in the College of Agriculture, Food and Environmental Sciences, have acquired 16 acres of land on the St. Paul campus to develop a new Turfgrass Research, Outreach and Education (TROE) Center. This process started in September 2001 with a thorough evaluation of the turfgrass program. From these initial discussions, we determined that our research facility was not adequate to support three full-time faculty working with turf (Don White, Jon Powell, and I) and seven other faculty members that have some turfgrass responsibility.

An in-depth proposal was submitted to Dean Charles Muscoplat that describes the creation and development of a turfgrass program with the focal point being the TROE Center. Our goal is to develop a world-class facility that can be used by the entire faculty that has interest in turfgrass. Also included in the proposal is an undergraduate enrollment projection of 72 students by 2006-2007 (currently we have 36 undergraduate students enrolled with turfgrass designated as their major). This will require aggressive program promotion and recruitment by the College and we are confident in meeting our projections. (*see map of the TROE Center on page 11*)

Challenges

Like any development project, we will be seeking support from the University of Minnesota and from members of the MTGF. Support can come in many forms from in-kind contributions, donations to a Turfgrass Endowment Fund, recommending our undergraduate turfgrass program to your employees, and participation in MTGF sponsored events (Green Expo and Field Day).

I understand that summer schedules are hectic, but please consider taking a day to attend our 3rd annual Turfgrass Field Day on July 25. We will be discussing interesting research, providing insect, weed and turfgrass I.D. seminars and touring the location for the future TROE Center. ■

Editor: Larry G. Vetter

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NMFTSAC

Roseau, Mn 56751

by Jim Habstritt, MTGF Board Member

The Northern Minnesota Forage-Turf Seed Advisory Committee was formed in 1986 to serve as a sounding board at the time when Dr. Laddie Elling was retiring. They helped with the screening for the position currently held by Dr. Nancy Ehkle on the St. Paul Campus of the University of Minnesota.

The current board of directors includes: 3 local seed processors, extension agents, 1 Crop Improvement representative, 1 Financial institution representative, and 6 growers from the area, for a total of 13 members.

THE OBJECTIVES OF THE NORTHERN MINNESOTA FORAGE-TURF SEED ADVISORY COMMITTEE ARE:

1. To encourage improved production of forage and turf seed in Northwest Minnesota for domestic and foreign consumption.
2. To identify the needs for applied and basic research for improved production of forage and turf seed.
3. To provide leadership in production of forage and turf seed for the betterment of the community and state of Minnesota.
4. To encourage Industry and Business organizations to support the forage and turf seed industry in Northwest Minnesota.
5. To sponsor annual education activities such as tours, seed institutes, special educational events.
6. To serve as a sounding board for the introduction of new production practices and new introductions for commercial production.

Editor's note: The NMFTSAC is one of the 8 Allied Associations that make up the MTGF. This is a unique group inasmuch as they are involved in the research and production of turf seed varieties for use by many of our other members. They work very closely with Dr. Nancy Ehlke and Dr. Don Wyse at the University of Minnesota in the quest for improved varieties that can not only expand production opportunities in Northwest Minnesota but also provide the turf and grounds industry with clean, functional seed varieties for our turf areas. ■

Turfgrass continued from cover

in insect problems. Associate Dean Dr. Phil Larsen, Turfgrass Pathologist, participates as time permits and provides a direct communications link to COAFES. Dr. Mary Meyer, Horticulture, is the head of the Master Gardener Program and works with alternative ground covers. Bob Mugaas, Hennepin County Extension, deals with residential turf issues. Brad Pedersen, Horticulture, is the head of the Landscape Design and Maintenance programs. Dr. Jon Powell, Plant Pathology, is the turfgrass pathologist dealing with turf disease issues. Dr. Carl Rosen, Interim Head of Horticulture, specializes in soil fertility and nutrient cycling. Dr. Don White, Horticulture, conducts annual bluegrass breeding and teaches turf management classes. Dr. Don Wyse, Agronomy, specializes in perennial weed control for grass and legume seed production.

Given the anticipated expansion of the turf research facility and the opportunities this expansion can offer, we are extremely fortunate to have such an array of expertise participating in activities that will enhance our ability to better serve our employers, customers and the general public.

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ED'S NOTES

By *Larry G. Vetter*
Executive Director

Winter has finally departed and everyone is in full swing for a busy 2002. There are a number of events throughout the coming year either sponsored or assisted by the MTGF. First and foremost is the preparation for the first-ever **Minnesota Green Expo**. This event promises to be the premier event of its kind in this part of the country. As announced in last fall's edition of this newsletter, the MTGF, after much deliberation, signed an agreement with the Minnesota Nursery and Landscape Association (MNLA) to jointly hold a conference and trade show. This combined event will replace the two separate events formerly held by these two groups.

The inaugural event will be held **January 8-10, 2003** at the Minneapolis Convention Center. As of the time of this writing, it appears certain that the trade show portion of this event will fill two halls of the Convention Center. In excess of 80% of the available exhibit space has already been sold to previous exhibitors of the two groups even before general mailings have been made to other prospective exhibitors. The educational portion of the Expo will be unparalleled in the quality and variety of speaker offerings. Be sure to mark those dates on your calendars as a "must attend" event!

The 3rd Annual University of Minnesota **Field Day** will be held on July 25, 2002 on the St. Paul Campus. Again this year, two separate tracks will be offered. One will focus on turf-related research with the other featuring other types of ornamental plantings. This year there will also be demonstrations of various items that will be of interest to all attendees. It is also hoped that there will be activity on an expanded new site that may soon be made available for additional turf research and demonstration activities. Several University scientists, along with individuals involved in the "Drive for the U" conducted by MGCSA have been "burning the midnight oil" in order to make this a reality. It is hoped that there will be "something to see" on this new, expanded site by the time July 25th arrives. Even though everyone who has attended this event in the past has been impressed with the scope of activities taking place on the St. Paul Campus, should this expansion become reality, the U. of M. turf program will be positioned to take a giant leap into the national arena.

The MTGF will be offering a **Pesticide Recertification** opportunity on October 15, 2002. Since the MTGF Conference and Trade Show will not be held in calendar 2002 and a grace period to wait for the Expo in January 2003 was not available, MTGF realized that a number of its members

needed a separate opportunity to recertify. For information on the time and location, visit our web site more details.

Speaking of the **MTGF web site**, take a minute to visit and see the progress that has been made in giving us a presence on the world wide web. This site will link you to some of our allied associations as well as various University of Minnesota and other interesting sites. In addition, information regarding the current Board of Directors and the Presidents of our allied associations is included for quick, easy reference. Visit www.mtgf.org to get the latest news relating to the turf and grounds industry in this area. We will be continually expanding and updating this site so that you will have access to the most recent information regarding the MTGF, coming events and news affecting your operations.

A new feature in this issue is information about the allied associations that make up the MTGF. All allied associations were invited to write a column that would feature information about their group. Most responded with some excellent information that should be of interest to all. Hopefully this is a feature that can be expanded upon in future editions of *Clippings*.

Please remember to support our advertisers, exhibitors and sponsors. They make all of our activities possible. Have a safe and successful season and help grow the MTGF by participating in the events mentioned above. They all offer excellent opportunities for education, networking and general information. ■



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MTGF Members Make Stem-Girdling Roots Prevention Video A Success



Rich Hauer, President Minnesota Society of Arboriculture

When trees are planted in landscapes and communities, the general public and consumers of trees imagine that old majestic oak, or maple, or ash. During the 1990's a phenomenon termed Stem Girdling Roots (SGR's) has caused the premature loss of many trees. One of the primary causes is buried tree root systems. It can take 12 to 20 years for symptoms (canopy dieback, smaller leaves, fall coloration in August) to first appear. The unfortunate situation is we now know that the economic benefits that are derived from societal and ecological functions of trees are just surpassing the costs associated with tree planting and establishment in trees 10 to 20 years after planting.

Tree failure can also occur suddenly with SGR trees. These trees show no symptoms and the stem snaps during storms at the point of compression due to decay. Gary Johnson, Professor of Urban and Community Forestry at the University of Minnesota has documented that approximately 30% of tree failures during storms are related to deeply buried roots systems and SGR's. Even 1 inch of extra soil over the root system can lead to SGR's and premature

tree failure. Surveys sponsored by the Department of Forest Resources at the University for Minnesota since the mid 1990's have demonstrated trees to be commonly buried with 3 to 4 inches of soil. The good news is removal of the extra soil at planting can remedy the problem.

We can speculate on many different reasons why root systems are buried: nursery culture, burying the root system during planting, excessive mulch against stems, regrading the landscape after planting, tree genetics, and others. Or we can look forward. Looking forward is exactly

Video continued on next page



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Video continued from page 6

what has happened over the last few years among a core group of professionally affiliated members of MTGF.

During an open forum with professionals from the arboriculture, landscape and nursery trades in February 2000, the SGR problem was discussed and possible methods to solve the SGR issue were discussed. Prevention was identified as the best long-term solution. When the core group subsequently met at a latter date to discuss how to best prevent buried root systems in the landscape, training materials and outreach were recognized as being very important.

About the time that the February 2000 meeting occurred, *The Practitioners Guide to Stem Girdling Roots* was just printed. You can find the publication at <http://www.extension.umn.edu/distribution/naturalresources/DD7501.html>. A training video was also identified as an important part of the prevention goal.

The video is now completed and ready to ship. You can order the training video through the MNLA (651-633-4987) or visit the MSA web site (www.isa-msa.org) for a copy of the brochure. The video retails for \$24.95 (\$19.95 for MSA and MNLA members) plus shipping and handling. Both English and Spanish version are available. The video has practical messages on the prevention of SGR's during nursery culture and landscape installation and why this issue is important to prevent. Techniques to correct SGR's at planting are also presented. The important message is told by professionals from the MNLA and industry leaders such as Bachman's, Bailey's, Margolis company and Law's nursery; arborist's from Top Notch Treecare and the University of Minnesota; and tree specialists from the Minnesota Departments of Agriculture and Transportation.

Is the SGR problem totally eliminated? Not yet! However, the mission the MSA's past-president Mark Stennes started by bringing the core group of people together two years ago is part of the revolution. The revolution to do what's best for the tree. The training video will be part of this. Consumers of trees are also starting to develop specifications that limit the depth that the root collar (crown) can be buried in B&B and container trees. A four inch maximum has been specified by the Minnesota Department of Transportation with the root collar being at grade following installation. Nationally a common specification of having the root collar at grade or slightly above grade has been developed in at least 6 states.

The progressive nature of the people of Minnesota has set in place the means to prevent SGR's in our trees. Tom Faust from Bachman's has pointed out "planting a tree just got a whole lot more technical." Your horticultural knowledge just got more valuable and possibly worth more. Think about it, you could also market trees and landscape



installations as "root crown at ground" verified and charge a premium. Regardless, our descendents will benefit from our collective actions of doing what is best for the tree. ■

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Letter from the MASMS president

Greetings,

Last Fall when I accepted the position of President for the (MASMS) Minnesota Association of School Maintenance Supervisors organization I was very excited and took it on as a challenge because I knew we were experiencing many new changes and had several goals that we wanted to achieve this coming year. As a professional organization committed to promoting excellence in the operation and care of educational facilities we wanted to “raise the bar” for our members in the facilities management profession.

Little did I know of the magnitude of opportunities that MASMS would experience this coming year. If you ask me today “what’s new at MASMS” I would tell you a lot of great things are happening and I am excited to tell you about some of them.

We’ve had exceptional growth in our membership, and now have over 800 members and vendors serving the educational sector. Our Mission is to promote education, training and networking opportunities to our facilities management personnel. This year we have been able to expand on this and have teamed with the (AFE) Association for Facilities Engineering to offer a Certification Program to our members. This program is currently underway and is being given in two areas of expertise, the Certified Plant Engineer(CPE) and the Certified Plant Maintenance Manager (CPMM). The Department of Children Families and Learning has endorsed both programs. These programs are interactive and broadcast to host satellites throughout the State. They will be presented several times this year with future dates, times and places yet to be completely determined. We will be offering an intensive one week “boot camp” session at the College of St. Benedict this summer.

MASMS is proud to host the National School Plant Management National Conference May 13-16th at the Radisson South Hotel. This is an excellent personal development opportunity with over 18 educational sessions, many special events and an exhibit show on Tuesday, May 14th that will be “MASMS Day” at the NSPMA Conference. Members are encouraged to attend this special day of education, the MASMS May State Meeting, lunch in the exhibit area, the Presidents Reception and the MASMS poolside hospitality room.

June 19th and 20th will be our Annual MASMS *Custodial/Maintenance Days* hosted by Wayzata High School. This will be a “value added” seminar for custodial maintenance and supervisory personnel with “hands-on” seminars, exhibits, and an “old fashioned barbecue”.

October 2-4,2002 will be our *Annual MASMS Fall Convention* at the Holiday Inn, St. Cloud. Look for a great educational agenda with a theme of; motivation, administrative and

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John Wiley, Turf Supply Co. (right) presents a sponsorship check for education to the 2001 MTGF President, Mike Brower (center) along with Executive Director Larry Vetter.

technology on today’s current issues, in addition of a lot of fun, entertainment, special events and many surprises.

For further information on any of these events you may review our MASMS website at www.MASMS.org, contact our Administrator Marlene Robinson at (651) 483-2326 or e-mail: marlenerobinson@msn.com. ■

*Sincerely,
 Cliff Buhman
 President, MASMS*

The Minnesota Association of Cemeteries—Keepers of Minnesota’s Heritage

What is a cemetery? A cemetery is a history of people, a perpetual record, a sanctuary of peace and quiet. Cemeteries hold memorials that are a sustaining source of comfort to the living and an ongoing record of a community’s past. Cemeteries are also a sanctuary for wildlife, lush landscaping and gardens, and a preservation of natural beauty.

The Minnesota Association of Cemeteries (MAC) was founded in 1923 to advance the interests of everyone concerned with the present and future of cemeteries in Minnesota. MAC brings cemeteries in Minnesota together through shared information, purpose and camaraderie, and fosters their role as the keepers of Minnesota’s heritage. In doing so, it serves as a focal point for cooperation and communications within the industry.

Its purpose is still strong today. Membership comes with many benefits, including a periodic newsletter with legislative updates, industry news, landscaping tips and profiles of Minnesota cemeteries and the people who run them. MAC works to protect the interests of Minnesota Cemeteries by retaining a skilled lobbyist to provide legislative representation at the state legislature. And the

association is a resource for information on a variety of topics, including cemetery operation, real estate matters, and insurance and financing issues, as well as new products and services.

MAC membership includes hundreds of Minnesota cemeteries, large and small, municipal and private, religious and nonsectarian, as well as a variety of associate members who serve the industry.

Members are invited to an annual convention in the fall. The convention is a great opportunity for cemetery operators and owners to meet and share ideas with vendors and individuals from other cemeteries, see new products and hear about the latest developments affecting Minnesota cemeteries.

This year the annual meeting is being held on October 2–4 at Breezy Point Resort on Pelican Lake, just south of Crosslake. For more information about the convention or MAC membership, call secretary/treasurer Ron Gjerde at (612) 822-2171. ■

The Minnesota Turf Association was organized as a non-profit corporation under the statutes of the State of Minnesota. The purpose of this Association is to maintain a trade association of individuals and firms engaged in the business of planting, growing, marketing, and installation of sod.

The object of the MTA is threefold:

1. The betterment of the conditions of those individuals and firms engaged in the business planting, growing, selling, and installing sod by fostering and promoting the general welfare of the sod industry.
2. To better acquaint the public with the product of the members and to provide suggestions and instructions for the planting cultured turf.
3. To represent and act for members before divisions of the government and before public and private organizations whose activities affect the industry.

Who is a member?

A profile survey of turf producers was recently done by Turf Producers International and compiled the following results.

The typical turf grass sod producing member is in his mid-40s, married, with two children. He has a college degree, has been in the industry for more than 15 years and a member for 11 years. He prefers to be called a “turfgrass sod producer.”

The farm is an incorporated operation of 300 owned acres, with nearly 80% of the land devoted to sod production. Of the 100 acres of sod expected to be harvested in 2003, most will go to landscape contractors for use on private residences. It will be delivered by the farm owner’s trucks, but not installed by his staff.

The average farm as of 1992 was valued at \$1,450,000 including all equipment, inventory and supplies.

I hope that gives members of the MTGF a snapshot of who we are because we share many common concerns. As a wise man once said “ keep your head up and your stick on the ice.”

John Hogdal
President MTA

Plant Elements of Design

A Plant Selection Program on CD

(Now available to MTGF members at a new reduced price)

Superintendents, park managers and grounds supervisors, how often have you wondered which plants to purchase for that small landscaping job along the foundation of a new building? Do you need to select a good, hardy shade tree for the island in the new parking lot? Do you wonder which daylily is the right replacement for the ones damaged last winter during snow removal? Often, specific information to help you make these decisions is hard to find. Should you use a woody or herbaceous plant? Deciduous or evergreen? Annual or perennial? What height and width should the plant be? What form, texture and seasonal interest or color should it have? There are also many other important considerations, e.g., soil, water, sun, shade, disease and insect problems, etc. This is all-important information you need to know to make the best selection possible.

In 1996, work began on a new program entitled, "Plant Elements of Design, A Plant Selection Program", written in visual basic for CD. Bradley Pedersen, professor in the University of Minnesota Department of Horticultural Science, and Diana Alfuth, then master of science student in landscape design, coordinated development of the new program. As part of her master's project, Diana researched and compiled the database that now contains over 550 woody and 700 herbaceous plants, all hardy in zone 4 and with adjacent zones listed. The database is accompanied by over 2400 images. The program was made available to a select market for evaluation during 2001; and now in 2002, after a full year of customer evaluation, the CD is available to an expanded market.

The CD is unique in a number of ways. First, a one-page format allows users to search for woody or herbaceous plants by common or scientific

name, or by as few as one, or as many as fourteen, plant elements. These elements include plant type, texture, form, seasonal interest, height and width as well as data specific to light, soil, disease, insect, and a variety of other characteristics.

As an example of how the program works, if you type in 'Maple' you would generate the list of maples in the database (almost forty of them). Run time for this operation is less than one second. If you type in 'Acer', you would generate the same list. Clicking on any of the maples for either list will automatically bring up the "Plant Data" screen with all the elements specific to that plant. This operation is instantaneous. On the other hand, if you already know which maple you want, just type in its name, for example "Autumn Blaze Maple". The data for that plant would then appear.

To search for plants by characteristic, the program provides a series of pull-down boxes from which to select the desired search data. Except for plant height and width, you don't need to type anything, just click on the pull-down box. If you are searching for a herbaceous plant and click on the 'Plant Type' pull-down box you might choose 'Hardy Perennial' which is one of 11 categories of herbaceous plants. You then might add 'Full shade' under the 'Light' pull-down box. This search would generate 98 plants. If you add a height and width restriction and a seasonal interest or color requirement, the number of plants on the list would be reduced. The best way to search for plants is to start broad and, using the pull-down boxes, add characteristics to make your plant selection more specific and limit the number of plants you wish to view. Searching by design elements works well for retailers. A list of plants can be generated that fits the customers' needs and is also in inventory. Once a plant is selected, you can click on 'pictures' to view from one to three images for each plant. While pictures are not available for every cultivar, there is at least one image for most plants.

The most innovative part of the program allows users to change data for any plant in the database. Users can also add or delete entire plants to/from the database. Because the plant data is stored on your hard drive, you can customize the program any way you wish. You can even use the 'Other' pull-down box to create an unlimited number of plant files, e.g., data by project, site, maintenance level, or even a personal 'A' list of favorites. The pull-down boxes prompt you to use the correct wording in the input of new plants.

Finally, the Plant Elements of Design CD allows you to print each plant selected to a page that includes common and scientific name as well as all fourteen characteristics and up to three colored images. This is an excellent 'handout' or presentation tool for meetings or just an excellent record of work that has been done.

Design continued on next page

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INDUSTRY EXPERTS

Design continued from page 10

Plant data can also be exported to an *Excel* spreadsheet with a simple click of the print button. Once in *Excel*, the plant data can be organized per *Excel* methods and printed for use in landscape program documents or applied directly to landscape designs as a plant name and characteristic key.

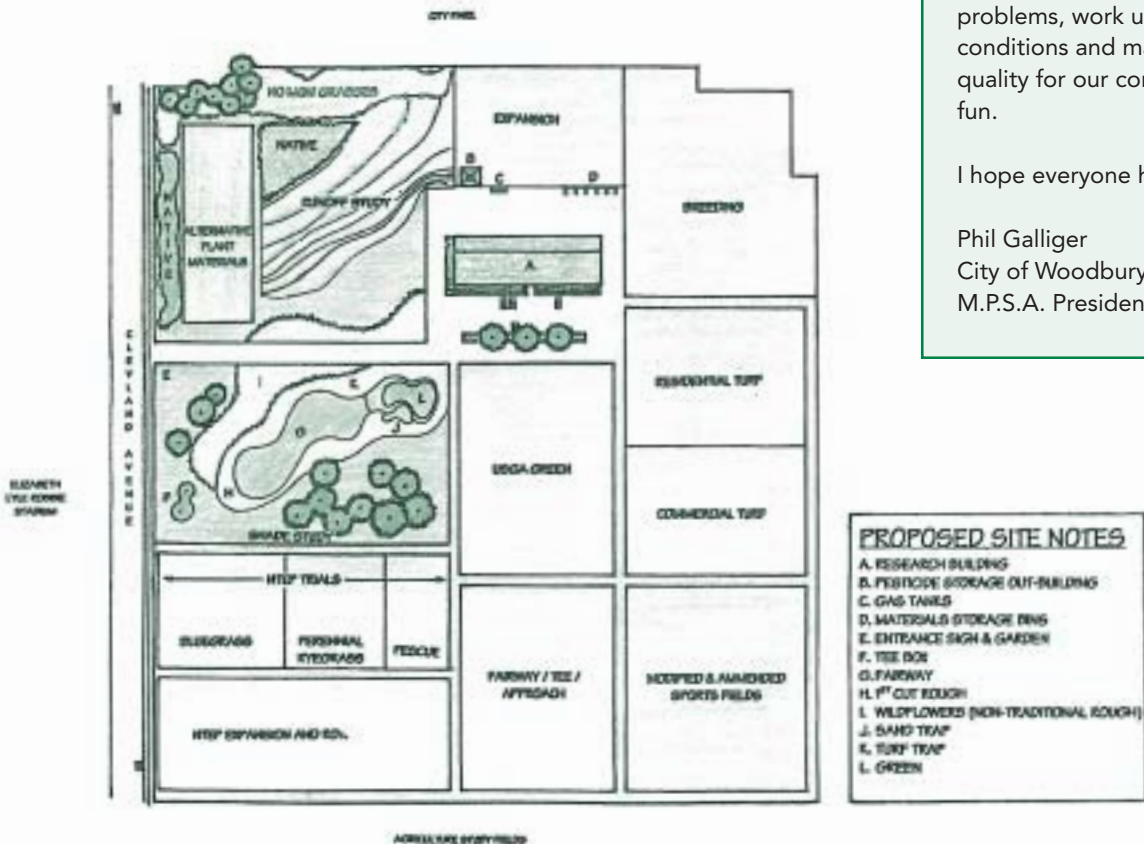
Best of all, the Plant Elements of Design CD is currently available at a new post-evaluation price of \$99.95 plus tax and S&H. If you are visiting the MTGF office on the University of Minnesota St. Paul campus, you can pick up your CD and save the S&H.

For purchasing information, just bookmark the Sustainable Urban Landscape Information Series (SULIS) Web site at www.sustland.umn.edu, and click on the pop-up that appears on the front page. We are sure you will find this special tool invaluable to your grounds management program. ■

Proceeds from the sale of CDs are used to fund the University of Minnesota Department of Horticultural Science Landscape Program including: the Landscape Design Studio and the Sustainable Urban Landscape Information Series (SULIS) Web site.

Bradley Pedersen
 Professor and Director of Undergraduate Studies
 Department of Horticultural Science
 University of Minnesota

Map of TROE Center



Spring has definitely sprung and we are all glad we are through another winter. The birds are in migration. trees are budding, wild flowers are in bloom, and yes the grass is growing. We are all extremely busy at work, inspecting playgrounds, lining and dragging fields sweeping trails, and hiring seasonals. The list is endless and at times can be overwhelming. Springtime always sets a frantic pace and there never seems to be enough hours in a day to get everything accomplished. We seem to get pulled in a dozen directions at once and often wonder if things will ever let up.

We can also be assured of positive feedback and analysis from our user groups. The grass is to long or to short, the fields are to wet, the lines are not painted, and the buildings are not open.... Every day brings new challenges and variety. I enjoy the multitude of various tasks and daily activities. I am forever thankful I chose to be in this profession. The chance to solve problems, work under sometimes trying conditions and maintain a high degree of quality for our community, is for me great fun.

I hope everyone has a great year.

Phil Galliger
 City of Woodbury
 M.P.S.A. President 2002

Japanese Beetle Management in Minnesota



Vera Krischik, Department of Entomology, University of Minnesota

Japanese beetle (*Popillia japonica*)

Japanese beetle is a serious pest of turf and ornamental plants. Grubs feed on the roots of turfgrass and adults feed on the foliage of over 300 plant species. A good treatment program consists of identifying grubs to species, determining grub numbers, identifying thresholds, timing pesticide application to the vulnerable stag of the grub, and monitoring the treated area for results, since additional pesticide applications maybe necessary. Japanese beetle needs to be monitored and controlled in nursery commodities, golfcourses, recreational fields, and home lawns to minimize damage to turf or nursery plants, prevent beetle spread to other areas, and maintain the opportunity to sell nursery products to all markets.

Identification of adult Japanese beetle

Japanese beetle adults are approximately 7/16 inch. The front of the beetle is dark metallic green and the wing

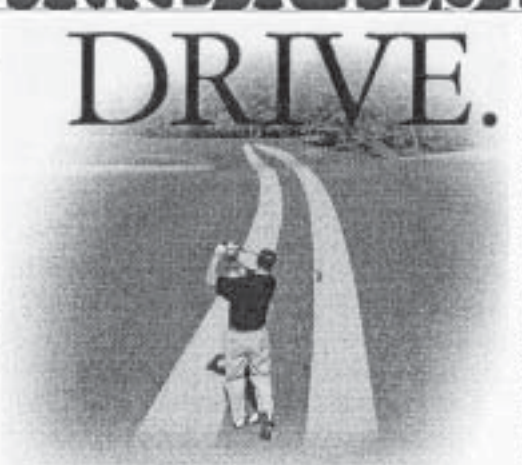
covers are dark tan. There are five small, white patches of short hairs along each side of the dorsal abdomen on the beetle. These patches are a key characteristic for identification. If it does not have these white hair tufts, but it has the other color traits, then it may be the false Japanese beetle.

Identification of the grub stage of Japanese beetle

The larval or grub stage of the Japanese beetle is a "C" shaped white grub that lives in the soil. Its primary food source is grass roots, but they are known to feed on the roots of corn, beans, tomatoes, and strawberries. All species of "white grubs" have similar-looking grubs, but vary in their life cycle, so identifying the grub to species is important for the proper timing of pesticide application. Grubs can be identified to species by the pattern of hairs on their brown hindends (raster). Using a 10-power hand lens, you can see that the hairs on the raster of Japanese beetle form a small "V" shape just below the anal slit.

Beetle continued on next page

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Beetle *continued from page 12*

Scouting for grubs

Grub populations between 7 and 15 per square foot can cause significant damage to non-irrigated turf. Irrigated turf can withstand a higher grub count because the increase in water compensates for the roots chewed off by the grub. Grubs chew off grass roots and they reduce the ability of grass to take up enough water to withstand the stresses of hot, dry weather. As a result, large dead patches of grass develop in the grub-invested areas. The sod on these dead patches can be rolled back like a carpet to expose the grubs and lack of turf roots. Early recognition of the problem can prevent this destruction. When grubs are close to the surface, starlings and crows as well as moles, shrews, and skunks crows may be seen digging up grubs and damaging turf.

Timing pesticide application

Timing of your pesticide treatment is important. The larger the grub, the more difficult it is to control with insecticides. The best time to apply grub insecticides is when the eggs hatch and the grubs first began to feed, which in Minnesota is around the June/ July. In the fall (October) the grubs are difficult to kill because of their larger size. Treating grubs in the spring is also more difficult as they are bigger and do not feed for long before they pupate.

Insecticide recommendations for grub control

Insecticides are needed to control grubs, but repeated applications may be necessary because of the relatively short residual effect of the pesticides. A significant rainfall shortly after an application may reduce the insecticide's concentration below effective levels. Also, cautions about their use must be observed. A one or more-inch thick layer of thatch may absorb the insecticide before it can reach the layer of soil where the grub is feeding making it ineffective. Irrigating after an insecticide application improves the performance of soil insect control. Grub infestations should be checked one week after an insecticide is applied, especially if the original population was high.

Imidacloprid - is NOT fast acting, so use as a preventative control, not as a rescue treatment. Apply imidacloprid after May 15 and before August 15. It has minimal risk to birds and fish.

Halofenzide - is NOT fast acting, so use as a preventative control, not as a rescue treatment. Halofenzide mimics an insect hormone and is best applied when adults are active and laying eggs from June to the beginning of August. Minimize thatch since heavy thatch will prevent the insecticide from penetrating to the area where insects are feeding.

Trichlorfon - is a fast-acting material, but is susceptible to alkaline hydrolysis. It degrades very rapidly in very hard or alkaline water or in a high pH soil. One-half of the active ingredients will be degraded in 30 minutes at a pH of 9. Do not lime your lawn just before or after treatment for the same reason. **Trichlorfon can be used as a rescue treatment when damage is observed.**

Milky spore disease-is caused by the bacteria *Bacillus popilliae* and is sold under the names of Japidemic Doom and Milky Spore. Recent trials with these formulations have not reduced Japanese beetle grub numbers in turf.

Insecticides to control Japanese beetle grubs in soil* Available for homeowner use

common name	trade name	class
carbaryl*	Sevin	carbamate
halofenozide*	MACH2 GrubEX	IGR, insect growth regulator diacylhydrazine
imidacloprid*	Merit	chloronicotinyl
permethrin	Astro	pyrethroid
trichlorfon*	Dylox	organophosphahate

Insecticides to control Japanese beetle adults on ornamentals

common name	trade name	class
bifenthrin	Talstar	pyrethroid
carbaryl*	Sevin	carbamate
chlorpyrifos	Dursban	organophosphate
cyfluthrin*	Tempo	pyrethroid
deltamethrin	Deltagard	pyrethroid
malathion*	Malathion	organophosphate

MSTMA

by Kim Hintz

The purpose of the Minnesota Sports Turf Managers Association (MSTMA) is:

- To encourage the collection and dissemination of scientific, educational and applied knowledge through association with those persons engaged in, and who are concerned with, the construction, maintenance and use of sports turf areas for high quality and safe playing conditions.
- To provide educational grants that promote the sports turf industry.
- To support research and development of superior playing surfaces for sports turf facilities.
- To promote the development, design and use of related materials and equipment for the sports turf industry.
- To promote and assist the national governing body of the Sports Turf Managers Association to fulfill its mission, goals and objectives

The Objectives and goals of MSTMA is:

- Provide members with current information on field maintenance.
- Support educational and hands-on how-to-do workshops.
- Ability to network with other sports turf managers for problem solution.

General Membership: Through city, state, or educational sports facility.

\$25/year	First membership
\$10/year	Additional memberships from same facility

Commercial Membership: Through a business providing services or products to the sporting industry.

\$50/year	First membership
\$15/year	Additional memberships from same company

Contact the MSTMA chapter office at j-hintz@bethel.edu or MSTMA Chapter Office, 3900 Bethel Drive, St. Paul, MN 55112 to request an application.

One of our new tools is the STMA web page with a link to the MSTMA chapter web page (www.sportsturfmanagers.com). You can get to the Minnesota chapter web page by clicking on TAKING IT LOCAL, then click on CHAPTER MAP, and finally click on MINNESOTA CHAPTER. Make this a favorite spot in your web browser so that you can visit the site frequently. There is a lot of information on upcoming events and it is a convenient way to communicate with the Minnesota Chapter Office via an email hotlink to j-hintz@bethel.edu.

The Spring Workshop is scheduled for Tuesday, May 14th at Bethel College & Seminary. The topic will be 'Irrigation A to Z' with classroom in the morning and hands-on training on the fields in the

afternoon. The fees for the Spring Workshop are: Members \$25, Non-Member \$35 or Non-Member registration + Membership \$40. The Chapter Clash is scheduled for Friday, July 12th – Saturday, July 13th in Ames, Iowa. The MTGF Field Day is scheduled for July 25th at the U of MN-St. Paul Campus. This event will be even better than before with the influence of new staff member Professor, Brian Horgan. The Seminar on Wheels is scheduled for Friday, August 9th with a tour of Fort Snelling athletic fields and other sites yet to be announced. The Fall Workshop is scheduled for Thursday, October 17th at the City of Woodbury. You will be able to see how different products, installed at earlier dates, actually worked in the field.

One new project that MSTMA is doing is a Community Service Project. This is where volunteers are going to help renovate a softball or baseball field in a local community. Check out the Community Service Project Flyer on the Minnesota chapter web page for all the details. The project will happen sometime in September 2002.

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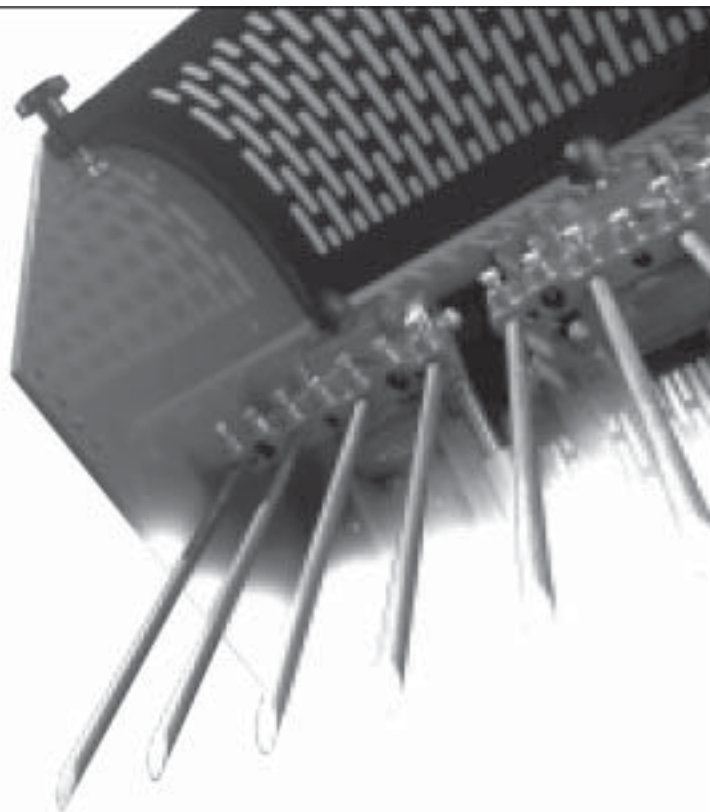


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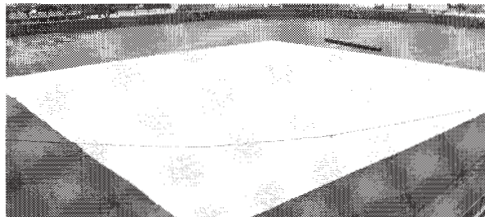
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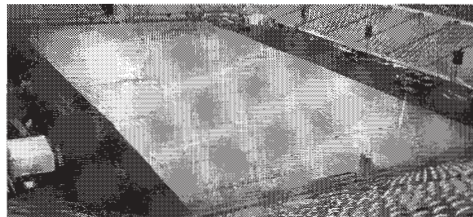
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