



Glen Lentner, CGCS and Kevin Schmidt, Inverwood Golf Club discuss irrigation with Cary Femrite of Pebble Creek.



Bob Reihe, MTI gets award of encouragement from Cary Femrite.



“Hall of Famer” Russ Adams.

MEMBERSHIP REPORT

APRIL 19, 1993
NORTHLAND INN

NEW MEMBERS—APRIL 19, 1993

Steve Archibald	Palmetto Dunes Resorts	Class A
Fredrick Ehlers	Anoka Technical College	C
Jack Mueller	Minnesota Roadways Co.	F
Martin Long	Scott County Nursery	F
Randy Pankonen	Anoka Technical College	C

RECLASSIFICATIONS—APRIL 19, 1993

Chris Youngbauer	Pine River Country Club	BII to B
Mike Mueller	Montgomery Golf Club	BII to A
John Ewens	Eshquaguma Country Club	C to BII

John Granholt, Membership Chairman

Agency Makes Wetlands Announcement

EPA has announced that it will use a manual issued in 1987 to identify wetlands.

The announcement brought to a close a long-running controversy sparked by the Bush administration's proposed changes in wetlands delineation procedures. The action formally killed the proposal, which environmentalists said could eliminate Clean Water Act protections for large amounts of wetlands.

EPA's use of the 1987 manual will eliminate confusion over federal wetlands programs by assuring consistency and predictability in wetlands determinations made by EPA and the U.S. Army Corps of Engineers, the agency said.



Budget Cuts Will Hamper Pesticides, Toxics Work

Congressional budget reductions will cut sharply into EPA's pesticides and toxics efforts, according to a report assembled by the agency and submitted to House and Senate appropriations committees.

According to the report, Congress reduced by \$10 million President Bush's request for money to be used in the agency's pesticides programs.

The reduction resulted in a 22-percent cut in contracting money and a 7-percent drop in research for the Office of Prevention, Pesticides and Toxic Substances.

However, the cuts will not prevent the agency from meeting statutory or court-ordered deadlines in the pesticides or toxic substances areas, the report noted.

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Quality Time

During the hectic work schedule of the summer months, it always seems that I simply lack the energy to spend quality time with my family. As my thoughts linger on the past day's events and on plans for tomorrow, I find it hard to focus on life outside of work. It takes extra effort to break away from the workaday world and focus on what is truly important in life - family.

Ideally, when I get a day or two off work, I try my best to create some quality time with my wife and children. Summers are short in Northern Michigan, and we all have to make the most efficient use of our schedules. Though I am tempted to improve my golf game (as many of you know I should), going back to the course after 12 or 14 hour days falls pretty low on the priority list. Though all of the windows on my house didn't get painted last summer, the pressure to finish them this summer is not strong enough to make me spend my day off on a ladder with a scraper and a paint brush. And though one or two community obligations beckon me to work, I find comfort in knowing that there are others who can help with the volunteer projects. Priority number one must be my family.

Perhaps I have spread myself too thin and simply can't keep up with all of my extra jobs and duties. I do enjoy my involvement with the golf course, special projects, community and church. But as the great preacher Ecclesiastes writes, "for everything there is a season and a time for every matter under heaven. . ." (3.1). Knowing the separate time for work, service, play and family offers great peace of mind. In the midst of all the hubbub of summer work and obligations, it is refreshing to know that there is a time just for love and family.

At the beginning of this summer, I planned to restore one window on my house each week until all were scraped, primed, painted and in good working order. Of course I knew that if I missed one week, I could catch up the next week. Now it looks like I'm backed up into 1993, unless we have an unusually mild fall and winter. You see, when your main helper is four years old, and his taste in color is extremely non-traditional (i.e. purple), and his favorite tools are hammer and saw, painting windows takes more time. And this is not to mention the frequent interruptions to swing, eat ice cream, make a bow and arrow, and so on. I look forward to the day when I can play a relaxing game of golf with my daughter (now seven) in the evening learning to play the game of golf, and enjoying the beautiful setting I've worked hard to maintain. But for now, I am happy to spend a free evening sitting down with a stack of books and listening to her read.

There is a time for everything. When it's time for family, other matters become secondary. Making time to go to church or to walk with my wife should come easy. Listening to my daughter play the piano and helping my son with an art project should quickly pre-empt thoughts about work

or committee obligations. Making quality time takes effort, but it becomes easy when I realize that I won't always have a four-year-old to "help" me paint or a seven-year-old to read to me, while at the same time there will always be grass to mow and golf courses to play.

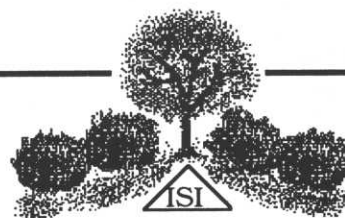
—Michael Morris, Superintendent
Crystal Downs Country Club

Turf Times, Northern Michigan Turf Managers Association

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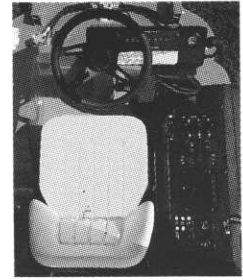
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How To Deal With Summer Allergies

Hay fever is one of those odd names: It's not caused by hay and it doesn't cause a fever. But to the estimated 30-40 million Americans who sneeze through the summer, allergic rhinitis (to give it its proper name) is a real illness.

Most people who suffer from allergies are allergic to things that come from the outdoors. About 10 percent of allergy sufferers can blame the ragweed and ryegrass that pollinate in the late summer. July and August mark the peak of the allergy season. But there are several things you can do to reduce your suffering. Here are some tips from Research Products Corporation, maker of Space-Gard high efficiency air cleaners.

- Avoid outdoor activities first thing in the morning. Many plants release their pollen between 5 a.m. and 10 a.m., so pollen levels may be highest then. (Not very practical on golf courses).
- Do not hang sheets and bedding outdoors to dry. Even though sundried sheets smell and feel great they may also collect a load of pollen and other allergen when hung outdoors.
- Keep your house closed up, especially during the morning hours when pollen may be more prevalent.
- Consider central air conditioning for your home. Air conditioners alone with conventional filters aren't very efficient at filtering air, but they do allow you to close up your

house and still stay comfortable. If your air conditioner allows you to recirculate indoor air instead of bringing in pollen-laden outdoor air, use the recirculating feature.

- Add a high efficiency, nonelectronic air cleaner to your heating and cooling system. A high efficiency air cleaner removes up to 99 percent of dust and pollen and doesn't produce ozone, which can aggravate breathing problems.

- Run your air conditioner and/or high efficiency air cleaner when you are home and moving about. Pollen is relatively heavy and settles out of still air in about 20 minutes. However, activity stirs up the pollen and gets it airborne again where it can be captured by your nose, or your high efficiency air cleaner, whichever comes first.

Be aware that pollen is just one of many irritants that may cause allergies and asthma. Spores, dust and the feces of the common house dust mite also cause problems. It is virtually impossible to avoid all allergy causes, but following these suggestions can reduce your exposure to many of them.

For more information about how a high efficiency air cleaner can help you maintain your indoor air quality, call the Consumer Information Department of Research Products Corporation at 1-800-545-2219. Ask for the free air cleaning facts booklet.

—*Farm and Dairy News*

1993 MGCSA Schedule

Fox Hollow Golf Club	May 10
Lafayette Club	June 14
Research Turf Tourney	June 18
White Bear Yacht Club	July 19
The Links at Northfork	August 9
Stodola Tourney @ Hillcrest Country Club & (TBA)	Sept. 13
Eau Claire Country Club	Oct. 11
Annual Conference @ Northland Inn	Nov. 17, 18 & 19

Alternatives to Winter Patch Disease Control

On July 1, 1994, mercuric compounds are no longer available to Turfgrass Managers as a control for winter patch diseases. Did anyone use anything different? If so, what did you use? What were the rates of application? Did you use an Anti-Descendant? With the winter of 1993-94 approaching, are you going to try some alternatives to mercury, or are you just going to make up your mind later? If you are interested in helping out everyone within the MGCSA, please send what you did to protect your turf to: Dale Wysocki, Faribault Golf & C.C., P.O. Box 833, Faribault, MN 55021. The results will be published in the September issue of *HOLE NOTES*. Please include all data pertaining to application. Thank You.

Endophyte-Enhanced Turf: Not Just For Bug Control

By DR. TONY KOSKI
Assistant Professor, Extension Turfgrass Specialist
Colorado State University

What is an Endophyte?

Just to refresh your memory, or to lay to rest misconceptions about endophytes. . . an endophyte, simply put, is a bacteria or fungus that lives within a plant *without causing disease*. The endophytes of greatest interest to turfgrass managers and researchers are fungi from the genus *Acremonium* that infect perennial rye grass, tall fescue and fine fescue.

The fungus can be transferred from plant-to-plant in two ways. One is via seed that came from a mother plant that was also infected with the fungus. The second way is by tillering and rhizomes as affected mother plants produce new plants which in turn contain endophytes. The fungus does not grow into the roots of grasses, an important point to remember when it comes to using endophyte-enhanced turf for insect control. Some seed varieties tend to possess high endophyte levels, but this will vary from one seed to another. The endophyte can be easily killed if the seed is stored for too long of a period, especially under warm conditions.

Once an endophyte-containing plant is established it is virtually impossible to kill the endophyte unless, of course, the plant is killed. Pesticides, including fungicides, do not appear to significantly reduce endophyte levels in turf.

Endophytes apparently CANNOT be spread to non-infected plants via grass clippings, mowing or just by growing next to an infected plant. The only way to introduce endophytes into an existing turf is via overseeding with seed that contains the endophyte. To get endophyte-enhanced seed, you specifically request it when you are purchasing seed. The seed tag will indicate what percent of the seed contains endophytes.

Insect-Resistant Turf

The first recognized benefit offered by endophytes was that certain insects, most importantly those insects that feed on leaves or suck juices out of the plant leaves appear to be affected by the presence of endophytes. Top feeding insects like army worm, cutworm and sod webworm larvae, as well as adult billbugs, chinch bugs and green bugs (aphids) are most affected. The mechanisms by which the plant/endophyte combination repel these insects is probably a combination of *non-preference* (the endophyte-infected plants just plain taste or smell bad to the insect) and *antibiosis* (toxic chemicals occur in the plant which kill the insects or interfere with normal insect development). It is thought that at least 70% of the turf should contain endophyte-enhanced plants to substantially repel damaging insects. Even under considerable insect pressure, a loss of 30% of the turf to insects can often be tolerated until the area can regain its density by itself or via overseeding.

Other Benefits of Endophytes

Research has demonstrated that endophyte-enhanced turf is more resistant to environmental stresses like heat and drought, and more resistant to infection by other fungi which cause turf diseases. Fine fescue varieties which contain endophytes appear to grow better in shade than do

identical varieties. Stands of endophyte-enhanced turf appear to maintain density better (and have fewer weeds), probably because they are less prone to damage by insect feeding, disease and heat and drought stresses.

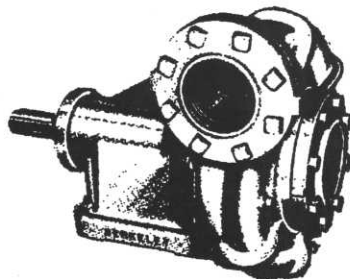
Is There a Down-Side To Endophytes?

Endophytes can cause problems for animals which may feed on infected grass plants. For example, cattle may get "fescue summer syndrome" (fescue toxicosis), sheep may get "ryegrass staggers" (not to be confused with the behavior of some golfers on hot afternoons!) and mares may suffer from agalactia (suppressed milk development). Domesticated animals do not seem to distinguish between grass which contains endophyte and that which does not. On the other hand, wild animals (like deer) are possibly able to discriminate in their feeding so as to avoid endophyte-containing turf. Endophyte contamination in pastures is a major problem for beef and sheep producers in some parts of the country.

In summary, the use of endophyte-enhanced turf varieties is yet another way for turf managers to practice integrated pest management. And while doing so, they may just be producing turf areas that are also more disease and stress resistant. Maybe it will even keep the geese and elk away!

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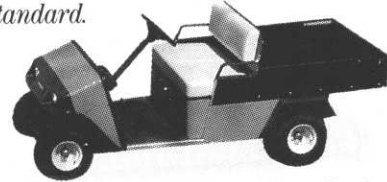
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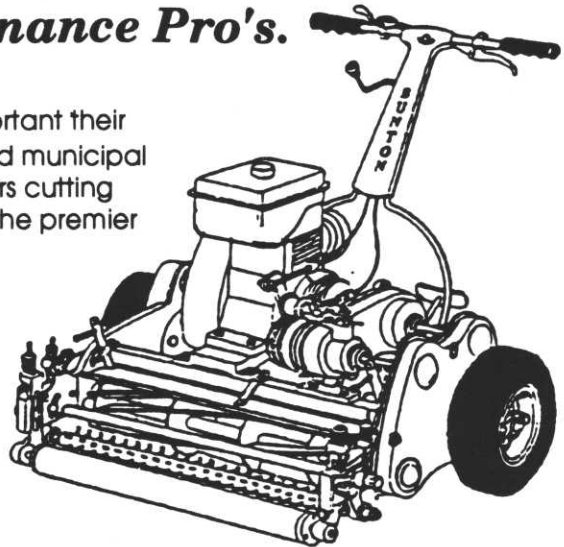
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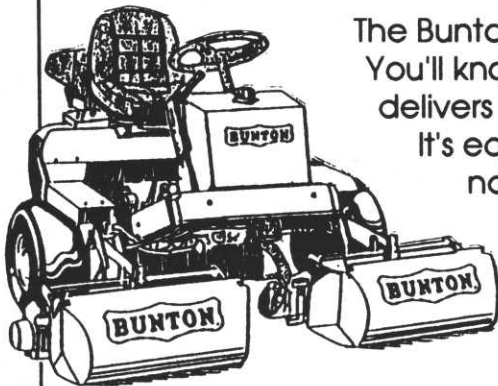
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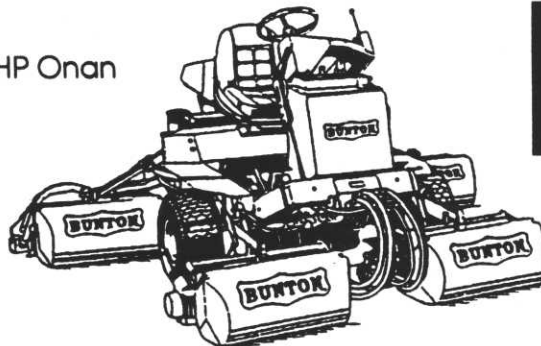
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1993 Harold Stodola Memorial Scholarship Fund

By **STEVE GARSKE**

Chairman, MGCSA Scholarship Committee

The MGCSA Scholarship Committee is pleased to announce the availability of scholarships again this year. The Harold Stodola Memorial Scholarship Fund was originally established in 1987, and it provides annual grants to candidates who are interested in golf course turf management as a career.

Criteria for consideration includes completion of the first year of a two-year turfgrass technical program or completion of the second year of a four-year or baccalaureate program with major emphasis in turf management. Candidates also must be a resident of Minnesota or be employed by a MGCSA member Superintendent. Scholarships are awarded to candidates who demonstrate high scholastic capabilities and superior performance as an employee of a golf course.

Interested students are encouraged to contact the MGCSA business office for an application. Completed applications must be received no later than July 1st, including transcripts and both advisor and employing Superintendent reports.

The 1993 Scholarship Committee members are Steve Garske, Chair, Joe Moris, Dale Wysocki, Mike Olson, Jeff Churchill and Butch Greeninger.

According to Steve Garske, the fund-raising efforts of the 1992 committee and the support of the MGCSA members, in general, will likely make possible, in 1993, the realization of a long standing goal, the establishment of a Scholarship Trust Fund. Scholarship monies are generated through monthly meetings, the Joseph S. Garske Scholarship Tournament, MGCSA apparel sales and donations.

Many thanks to all of you who have supported our Association's Scholarship Fund, allowing very talented students the opportunity to continue their pursuit of a career in our great industry. We ask for your continued support.

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Organic Fertilizers

(Continued from Page 11)

term may be "natural." That is, these fertilizers are generally derived from animal, plant or mineral sources, as opposed to a manufacturing process.

Organic fertilizers are derived from a huge number of sources. Manure of all types, sewage sludge, blood meal, cottonseed meal, granite dust and rock phosphate are but a few. Generally, organic fertilizers have a lower nitrogen content than chemical fertilizers. They rely on microbial activity to slowly break down the nitrogen into a nitrate form.

Processed sewage sludge is perhaps the most widely known organic fertilizer. Available for years, it is especially used in warmer months, when soil temperatures and microbial activity is higher.

If the thought of using a manure-based fertilizer brings odors and golfer complaints to mind, think again. Today's formulations of manure-based fertilizers are deo-

riized and sanitized, and for the most part even the most demanding clientele will not be able to detect any unpleasant odors.

In the past, many superintendents who have experimented with organics have been disappointed. For the most part, organics do not produce the fast results a green committee might demand. However, it is possible to incorporate organics into an existing program and achieve good results.

Since organics depend on microbial activity for release, a healthy soil is essential. On many golf courses, years of chemical usage may reduce the quantity of soil microbes. Many organic fertilizers supply a small quantity of organic matter, which will gradually increase the general soil health and quantity of microbes. In addition, new formulations supply their own microbes (or bacteria) to help them release.

Top dressing with organic material such as compost can also increase the soil's organic content, and thus the amount of microbes it contains. En-


zyme formulations and other biologically-active products are available to increase the soil's microbial activity. These are mainly liquid formulations that can simply be sprayed on. One company even specializes in designing customized "microbial soups" that are injected through the irrigation system.

If it's been awhile since you've experimented with your fertilizer program, this might be a good time to start. There are a wealth of new fertilizer formulations that promise good results with less labor. Remember, too, sometimes the parts add up to greater than the whole. Perhaps the addition of a new formulation to your regular regime may make the overall program work better. Start small, if it makes you more comfortable. Or try tackling your problem spots with different formulations. You'll find that a little innovation can make you a more environmentally-sound superintendent.

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