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The agronomic benefits of this technological advancement have been substantiated through three years of research at Michigan State University. Cultivation with Water Injection Aeration was compared to Hollow Tine Core Aeration on several turfs, but primarily on creeping bent grass putting greens.



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The HydroJect 3000 will penetrate to relieve compaction and improve infiltration at depths ranging from 4" to 8" depending on the diameter of the nozzles used. This additional depth penetrates beyond traditional coring depths, breaking through any hardpan which may have developed over time. Depths beyond 8" (beyond 20" is possible) can be achieved using multiple shots of water to relieve localized areas with drainage issues.

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HOLE NOTES

Official Publication
of the
Minnesota Golf Course
Superintendents' Association

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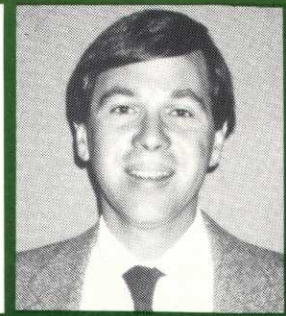
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FROM THE PRESIDENT'S DESK

Our 1991 Season Is Off To A Great Beginning



Our April meeting in Owatonna produced a fantastic turn-out with more than 100 members playing golf and enjoying one another in camaraderie, a much different scene from last year when snowflakes were in the air and five hardy souls ventured out.

Thank you, Randy Nelson and staff, for inviting us to Owatonna Country Club. The golf course was in mid-summer condition.

* * * *

Once again we owe our thanks to Kevin Clunis who testified on our behalf before a Senate Committee to keep Calo Clor as one of our tools against snow mold. Just recently the House passed a bill banning mercury, although there was no companion bill in the Senate. Recently the Senate heard a bill and tried bringing it to the floor for a vote. However, testimony by Kevin and other industries persuaded the committee to drop the bill until next year.

Should this issue be reviewed in 1992, we may ask individuals to write letters or call upon his/her representative to help support or reject certain legislation. I must make it clear at this time that mercury is not banned from usage on golf course greens and tees. Ultimately, we must prepare for the future in learning to use less.

* * * *

Although this winter was somewhat easier on our turf than in the past, our Research Committee has been contemplating conducting experiments in conjunction with Dr. Stienstrau and Dr. Larson on ice sheets and why they damage the turf so severely.

They also will attempt to determine if it is better to remove ice after a certain amount of time or remove it immediately. Another aspect of the project is to recognize which protectant covers work the best at shielding the turf from ice and winter dessiccation.

The Research Committee has not viewed the final proposal of this project but anticipates having one in May to be voted on and institutionalized this fall. Our experimental green at the University of Minnesota Golf Course is the proposed site for testing.

* * * *

Greg Hubbard is looking for a few good men with flow meters on their pump stations to participate in his water use survey. Anyone interested in helping may call Greg at Manitou Ridge (612/777-1436) for the application survey information.

* * * *

Join us May 13 in River Falls for lunch and golf.

— Tom Fischer
MGCSA President

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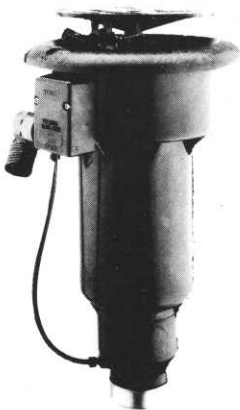
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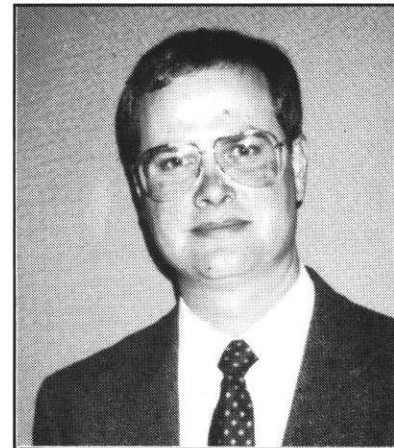
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RESEARCH BENEFIT AT 17 COURSES

**Fifth Annual MGCSA
Turf Tourney to Be
Played on June 21**



**Rick Fredericksen
Turf Tourney Chairman**

Plans for the fifth annual MGCSA Turf Tourney — to be held at 17 private courses in the Twin Cities metropolitan area on Friday, June 21 — are in full swing.

“Proceeds from this competition go to the MGCSA’s Turfgrass Research Fund, which benefited by more than \$4,000 last year,” said Rick Fredericksen, Woodhill Country Club, MGCSA vice-president and chairman of the Turfgrass Research Benefit Day.

The 17 clubs, each of which has opened its course to four four-person teams, are:

- Dellwood Hills GC
- Golden Valley CC
- Hillcrest GC
- Indian Hills GC
- Interlachen CC
- Lafayette Club
- Midland Hills CC
- Minikahda Club
- Minnesota Valley CC
- Oak Ridge CC
- Rolling Green CC
- Stillwater CC
- Southview GC
- Town & Country Club
- Wayzata CC
- Wedgewood Valley
- Woodhill CC

Entry fee is \$320 per team (\$80 per player). Choice of golf courses is on a first-come, first-served basis. Entries are open to golfers who have an official USGA handicap index, and all entries are subject to approval or rejection by the MGCSA Tournament Committee.

The entry fee pays for the player’s green fees, cart and a

sit-down dinner to be held at Town & Country Club in St. Paul.

Starting at 11 a.m. on Friday, June 21, each team will play 18 holes at its assigned club. Two golf carts are included in the entry fee/donation price.

Competition will be the two best net balls on each hole. Any tie will be played off hole-by-hole in a card match versus par, starting on each hole number one until a winning team is determined.

In the competition, team members will use 90% of their course-adjusted handicap.

Following the tournament, each player is invited to the cocktail party, sit-down dinner and awards program at Town & Country Club.

All entries must be on the official MGCSA Turf Tourney entry forms, and they must arrive at the MGCSA Office (240 Minnetonka Ave. South, P.O. Box 617, Wayzata, MN 55391) no later than 5 p.m., Wednesday, June 12, 1991.

Late or incomplete entries are not accepted and will be returned.

Changes in the participating team can be made at any time before the start of the tournament as long as the substitutes meet the eligibility requirements. The MGCSA Tournament Committee should be notified of the change immediately so the proper modifications in the arrangements may be made.

A team’s entry fee will be refunded, regardless of reason, if the MGCSA office (612/473-0557) is notified before the close of entries on June 12. After the close of entries, the entry fee will be refunded in event of injury or illness if requested by June 15. There will be no refunds for any reason after June 15. A \$5.00 service charge will be deducted from all refunds.

Any questions should be directed to Chairperson Rick Fredericksen at 612/473-0113.

Let's Get Planting

* * * *

Here Are Some Excellent Suggestions to Consider

By TWILA WYSOCKI
Landscape Gardener, Wayzata Country Club

Now that you're up to your ears in all those annoying little situations that make a Golf Course Superintendent's job the challenge that it is, you find that you can no longer put off that haunting questions. . .

"CAN WE GET MORE COLOR ON THE GOLF COURSE?"

The month of May is the peak planting season: however, there are always a few items that must be discussed, so that your flower bed, be it perennial or annual, is a complete success.

1. Purchase your plant material from a reputable business. If they grow their own stock, you may be able to work with them in the fall to order specific varieties of plant material for the next spring.
2. Determine the purpose of your planting. Are you trying to control traffic, screen an eyesore or direct your view away from an eyesore, control an erosion problem, or just make a specific area more aesthetically pleasing.
3. Consider the soil type, amount of sunlight available, water source, and exposure to heat (such as parking lot or patio plantings).
4. Your range of view is also important. Is this a flower bed that is viewed up close, or is it in an open area viewed from several hundred feet away? Can the flower bed be viewed from all or just one side, or is it to be viewed from inside the clubhouse or when driving over a bridge?

When I consider colors in my designs (notice that this is a personal opinion) I have found bright reds, yellows, oranges and bright pinks work well for long distance views and white flowers work well when used against a dark background. Blues and purples are good colors for close viewbeds but tend to fade into the landscape at a long distance..

A flower bed with just a few colors is more eye-appealing than a conglomerate of many colors. When using a color mix (such as a mass planting of mixed petunias), the colors tend to wash each other out in a long distance view, but they are very attractive when viewed up close.

I'll be the last one to tell a Golf Course Superintendent how beautiful the color green is. There's a wide variety of green plants that offer some interesting textures to your designs, such as ferns, Castor Bean (an annual that gets upwards of 5' to 8' tall and looks very tropical), Kochia (very soft dense plant with a lime green summer color and then a brilliant red color in the fall), and don't forget there are many plants that are normally used as houseplants that work well outdoors. Some of them are; Swedish Ivy, Springer Fern, Inch plant (Wandering Jew) and a wide assortment of Ivy's. Don't rule out using herbs in a flower design. Curled Leaf Parsley makes a beautiful border. Some vegetables have their places, too. Green Peppers or Eggplant can be used to separate varieties of flowers.

Some plants such as Ornamental Cabbage (Kale), Flowering Maple (Abulition), Sedums and Hostas are not necessarily used for their flowers. They instead have interesting foliage color and texture that let them stand on their own. To achieve a full-looking flower bed early in the season, I try to plant the flowers as close together as possible. Of course, consideration is taken for those plants that are naturally susceptible to disease and need good air circulation such as Zinneas, Geraniums, Begonias and Roses.

Look through seed catalogs or books on flowers to get an idea on mature size, which determines plant spacing. On the average, the spacing that is recommended in these books or on plant labels is very generous. I have assembled a list of commonly used plants and some average spacing I use in my designs:

Allyssum	6" apart	. . 4" - 6" between rows
Ageratum	6" apart	. . 4" - 6" between rows
Cannas	12" apart	. . . 12" between rows
Geraniums	9" apart 9" between rows
Impatiens	8" apart 8" between rows
Petunias	8" apart 6" between rows
Salvia	8" apart 8" between rows
Snapdragons	8" apart 6" between rows
Wax Begonias	6" apart 6" between rows
Tuberous Begonias	8" apart 6" between rows
Zinnia dwarf	6" apart 6" between rows
Zinnia med.-tall	12" apart	. . 9" - 12" between rows

Where do I get ideas for flower combinations? Start off by keeping a camera with you when you're going to be out driving. If you see a design you like, take a photo. If you have trouble remembering names of particular flow-

(Continued on Page 21)

COUNTDOWN TO THE OPEN!

* * * *

Hazeltine Gets Ready for Prestigious June Tournament

By JOHN HARRIS
Editor

(First of two reports)

June of '91 brings the U.S. Open to Hazeltine National Golf Club.

The greens, tees and fairways will be critiqued by every "arm chair" touring pro around the world. Preparation for this event has been years in the making.

The planning and organization, the volunteers, the players, cameras, logistics and many other details come down to four days in June. Certainly a number of people are responsible for bringing this event to Minnesota, but sooner or later everything must funnel through one office.

Chris Hague CGCS and course superintendent at Hazeltine sits in that office. His responsibilities are broad and varied, touching on every aspect involving this prestigious event. However, the number one priority for Chris and his staff is everything inside the gallery ropes.

Course maintenance begins with professional staffing. Chris has had every position filled since last winter. On March 15 his staff increased from seven to twenty personnel.

In December, professional tree trimmers began the task of pruning every tree on the grounds. All dead branches have been taken out for liability reasons. Limbs that could have interfered with a golfer's well-placed shot also have been removed.

The covers on the greens and other turf areas may take up to two weeks to remove as weather patterns may hamper their efforts. The possibility of winter

kill is a threat and was dealt with by overseeding in late March and recovering these areas to warm soil temps and speed germination.

During the month of April, the outside amenities began to arrive. These forward people will need to set up their facilities, which may involve disruption of the upper soil layer.

For this reason, Chris has created his own "Gopher One" service. Before anyone digs on any site within the grounds, the superintendent must be notified. In turn, Chris will send his wire man to the site and all wiring will be located by him before any structures are erected...not just irrigation wire but all wire-power, phone, scoring etc.

To give you an idea of how much underground wiring there is, the communications and scoring system is the equivalent to setting up an entire phone system in a small community of 7,000 people. Needless to say, "Hazeltine Gopher One" will be very busy.

Cutting practices during April were your average Minnesota start-up.

The beginning of May will see a staff increase to 35 if needed. On the first of May some of the cutting techniques will change. Tees will be mowed with hand greens mowers. The same techniques will apply to collars, and the approaches, which will be cut 30 yards out from the green. Along with the additional hand mowing, there will be an increase of greens mowers from eight units to 14. Fairway units will increase from 3-4 units to 7-8, all in preparation for the "Blitz

Krieg" technique during the tournament schedule. (More on this in June issue.)

Fairway leveling should be completed by mid-May along with seeding and sodding. Herbicides will be used mostly in target areas. Dense turf cutting and cultivating practices should keep weed invasion to a minimum with little use of herbicides.

Fairway divot repair will be a daily task. Chris estimates between 80 and 100 yards of seed-soil mix will be needed for fairways alone from the time they open the course of play. A green dye will be added to the mix prior to the Open for Television.

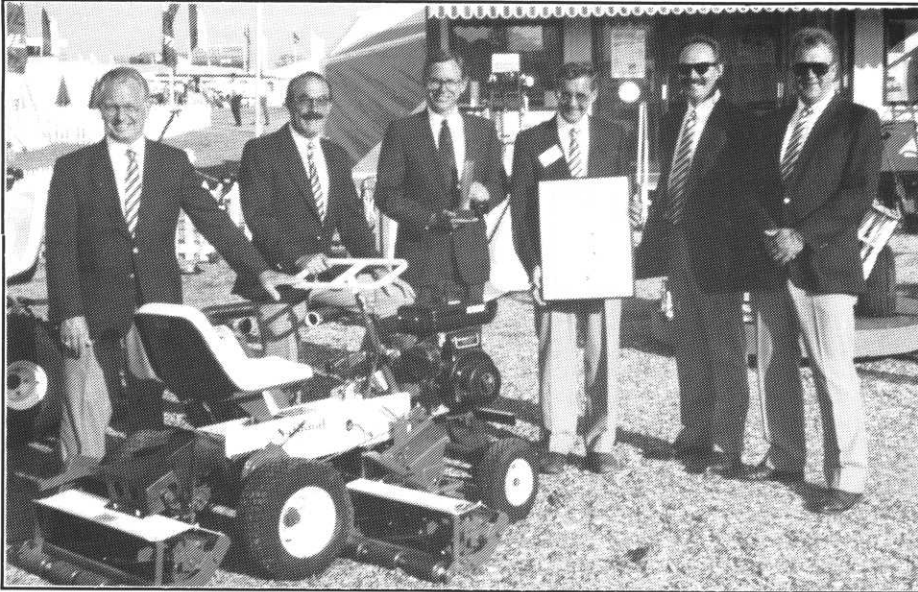
A firm putting surface is the goal and to acquire this, spring aerifying of greens has been eliminated and top dressing will be phased out in mid-May. Concerns over compacted greens should be alleviated by encouraging low play. Carts will not be allowed for the entire season, and outside events have been eliminated.

Bunkers will be raked 100% twice a week by and during May. The goal here is to have a firm front lip to encourage ball roll-down into the central portion of the bunker.

These steps and many more are part of a phenomenal effort to bring one of the most prestigious golf tournaments to Minnesota.

Next month, we will get into the intense mowing and grooming of the greens, rough heights, stepped-up cutting practices, bleachers, corporate tents and more.

ABOUT OUR ASSOCIATES



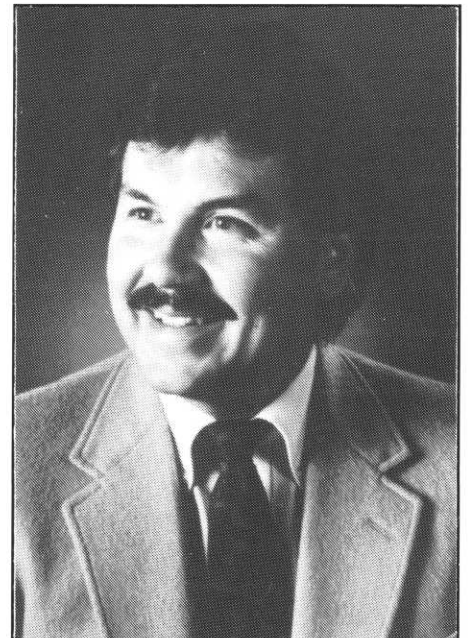
ST. PAUL COMPANY WINS BRITISH AWARD—Standing by the National Triplex that won a British Agricultural and Garden Machinery Association award for National Mower Company, St. Paul, are representatives of Allen Power Ltd., National Mower's British distributor, including Peter Jefferis, holding the certificate, and Stan Kinhead, National's sales manager, holding the trophy.

Grundman Has New Responsibilities At NK Medalist

Mark Grundman has been assigned new sales management and marketing administration responsibilities for NK Medalist Turf.

He will manage the sales territory of Minnesota, North and South Dakota, Iowa and northern Wisconsin, and will assist in handling sales and marketing administration at NK's Minneapolis headquarters office.

Prior to his promotion, Grundmann was a turf specialist for the NK Medalist Turf Division for over 11 years. His territory included Wisconsin, Indiana, Illinois and half of Missouri.



Mark Grundman

MEMBERSHIP REPORT

NEW MEMBERS—APRIL 22, 1991

Jim Koenigs	Skyline Golf Course	Class	A
Brian Korthals	Worthington Country Club		BII
Vance Warner	Breezy Point Resort		C

RECLASSIFICATION—APRIL 22, 1991

Brooks Ellingson	Albion Ridges Golf Course	Class	B to A
Tom Kasner	Albany Golf Club		B to A

Mike Olson, Membership Chairman

PRODUCT WARNING

* * *

3 DuPont Fungicides Recalled

DuPont has issued an immediate recall of all *Benlate 50DF*, *Benlate 1991 DF* and *Tersan 1991 DF* brand fungicides. These products should **not** be used or sold. Superintendents with any of these products should return them to the place of purchase for full credit.

DuPont believes the products may have been contaminated with low levels of atrazine and could therefore injure turfgrass or other plants. The company plans to keep the products off the market until it can verify their purity. Superintendents can contact DuPont at 800/441-7515 if they have questions.

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Introducing **TRACENTA**, colonial bentgrass for fairways.

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Dense tillering habit and low crowns make **TRACENTA** more tolerant to cart and foot traffic and provide an excellent lie for addressing the ball.

TRACENTA produces rhizomes allowing for faster re-growth from below to repair divot damage.

TRACENTA takes less water and fertility than other fairway grasses and when fully grown retards the establishment and spread of creeping bentgrass and annual bluegrass from greens to fairways.

Mow **TRACENTA** as low as 3/8 inch.

Seeded alone at 50 to 60 pounds per acre. Overseeding old fairways at 25-30 pounds per acre.

Alternate methods of use include mixtures with other grasses:

with bentgrass - up to 50% **TRACENTA**,

with Kentucky bluegrass and or perennial ryegrass - 5-20% **TRACENTA**.

New tees 1½ to 2 pounds per 1,000 square feet; re-seeding at ½ pound per 1,000 square feet.

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Now you have another choice for an improved putting surface.

CARMEN produces a putting surface with less of a tendency toward grain and thatch. These characteristics provide the superintendent with less maintenance problems and most importantly offer his customer - the golfer, a truer putting surface.

It is tolerant to heat in mid-South and hardy in Canada.

CARMEN is adapted to humid and low moisture conditions.

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CARMEN is distinctive due to its upright multi-leaved tillers.

Color and leaf width are similar to Penncross making **CARMEN** ideal for seeding into old Penncross and for blending on newly constructed greens.

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