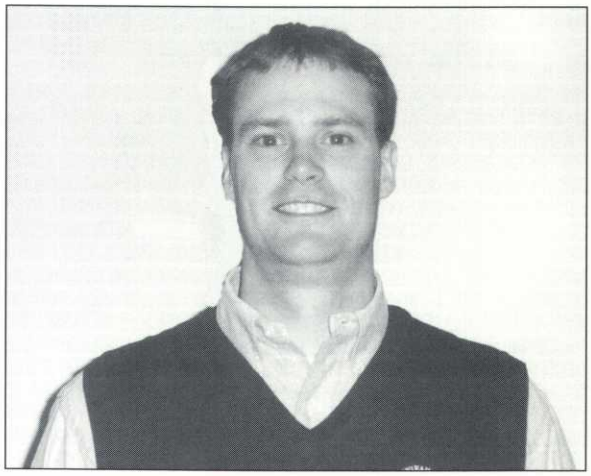
A Rising Star

By RICK TRAVER, CGCS

If you had the opportunity to read the Editor's column last month, you may have noticed quite a few congratulatory statements. One of those was directed toward Jeff Johnson, the new golf course superintendent at The Minikahda Club. Jeff is among the many young professionals that are beginning to fill the ranks of the MGCSA.



JEFF JOHNSON
Superintendent, The Minikahda Club

Jeff kicked off his career as an intern at St. Cloud Country Club, while attending the U of M Waseca. In '91 he graduated from Waseca and Scott Austin hired him as a Technician at Midland Hills Country Club. As Jeff puts it, "He was the only one who called me after the mass mailing of my resumes. Thanks Scott!" While working at Midland Hills Jeff returned to the U of M, St. Paul Campus, to work on a Bachelor's degree. The summer of 1993, Jeff went work for Chris Hague at Crooked Stick Golf Club, site of that years U.S. Women's Open Championship. In 1994 Jeff completed his Bachelor's degree and filled the Assistant Superintendent position at Midland Hills.

In 1996 he began his Minikahda Club career, as the Assistant Superintendent. There he was involved in preparations for the 1998 Curtis Cup Match. Just recently Doug Mahal left to pursue a lifelong dream, and Jeff was promoted to Superintendent. "I consider it an honor to be only the ninth Superintendent in the club's 104 year history", says Jeff.

> ***"We as superintendents have done a super job dealing with the environmental issues, but it would be nice to see some more help from the owners, club officials, members and golfers. This would help us insure that they will receive the product that they desire without so much influence from the government."*** *– Jeff Johnson*

The Minikahda Club was formed in 1898, with Willie Watson being the original course architect. In 1917 Donald Ross was hired to redesign the course. Slight changes have been made throughout the years, and this year the course will be undergoing a complete restoration. Ron Prichard specializes in classic golf course design, and has been retained to head the restoration process. The restoration will include all aspects of the golf course as well as the removal of many trees and the addition of a new irrigation system. The Minikahda Club has played host to many major events. The list includes the 1926 U.S. Open, 1927 USGA Amateur Championship, the 1957 Walker Cup, 1988 USGA Women's Amateur, the 1998 Curtis Cup, the Trans-Mississippi five times as well as many local events and others.

Jeff has been married for six years to his wife, Sue. Sue is a Third grade elementary school teacher at Highlands Elementary in Edina. They currently have no kids, but are the proud owners of one cat, Smokey and their goose dog, Pepper.

When Jeff looks at our future as an industry, he sees what a lot of us are looking at, a legislature that is becoming increasingly involved. As Jeff said, "We as superintendents have done a super job dealing with the environmental issues, but it would be nice to see some more help from the owners, club officials, members and golfers. This would help us insure that they will receive the product that they desire without so much influence from the government."

Jeff has been a member of the MGCSA Board of Directors since 2000 and has headed the Scholarship Committee for the last couple of years. It has been great working with Jeff. He has recently resigned from the board to concentrate on his new position and would like everyone to know, "I will miss being a part of the board, and I would like to thank those of you who have supported me". He also left the door open to run for the Board of Directors again once he completes The Minikahda Club's restoration and he expands his comfort zone with his new title.

MGCSA Represented at the St. Paul Curling Club

MGCSA CURLING CLUB, pictured from left, are: Dale Parske, Tom Proshek, James Bade, James Gardner, CGCS, Doug Mahal, CGCS, Tom McCann, Dale Caldwell, CGCS, and Tom Herzog. These MGCSA members play in a league at the St. Paul Curling Club.

DRIVE FOR THE "U" PROGRAM

The Drive for the U is a program designed for in-kind donations to the University of Minnesota Turfgrass Research Center. All donations are tax deductible and will help to build the research center into a top notch facility. Contact: Paul Eckholm, CGCS, Heritage Links Golf Club. epeckholm@msn.com

Company/Person	Commitment	Value
Glenn Rehbein Companies	Site Survey	OPEN
Turf Supply Company	Product	OPEN
Hartman	Construction Services	OPEN
Paul Eckholm, CGCS	Rotary Mower	$200
Plaisted Companies	Materials	OPEN
Eureka Sands	Materials	OPEN
GreenImage	Sprayer	$1,000
DTN Weather Services	Satellite System	$1,500
Rick Fredericksen, CGCS	Vacuum	$800
Rob Panuska	18 Cups	$325
Century Rain Aid	6 Irrigation Heads	$950
Miltona Turf Products	Turf Maintenance Tools	$325
Paul Eckholm, CGCS	Reel Maintenance	OPEN
Hydrologic	Irrigation Materials	$2,000
Gill Miller Inc.	Design Services	$3,500
E-Z-Go Golf Cars	Workhorse	$5,000
E-Z-Go Golf Cars	Workhorse	$3,500
Bonestroo & Assoc.	Design, Construction, Services	OPEN
Twin City Seed	Bentgrass Seed	$400
Simplot Partners	Fertilizer Products	$5,000
North Star Turf	Two Mowing Units	$33,819
North Star Turf	Top Dresser	$7,495
MTI Distributing, Inc.	Three Mowing Units	$48,423

Iprodione Fungicide PRO 2SE

A Fungicide for the Prevention and Control of Key Turfgrass Diseases.

Economical, cost-effective brown patch and dollar spot control for cool and warm season grasses.

Brown Patch
Dollar Spot

- Large Patch
- Fusarium Blight
- Corticum Red Thread
- Leaf Spots
- Necrotic Ring Spot**
- Gray Snow Mold*
- Fusarium Patch*
- Pink Snow Mold*

**For improved control, use Iprodione in tank mix with Thiophanate Methyl or re-treat at shorter intervals.*
***Not registered in California.*

Works preventatively and curatively against ten turf diseases, including excellent brown patch and dollar spot control.

Longer residual control means significant savings in time and money by extending the intervals between spraying. Iprodione PRO 2SE is competitively priced.

Safe to use on all cool and warm season grasses at any stage of growth.

Locally systemic action enhances uptake and even distribution of active ingredient. Two-way protection prevents diseases from occurring and eliminates diseases present at an early stage of development.

See Iprodione label for more details.

NORTH STAR TURF

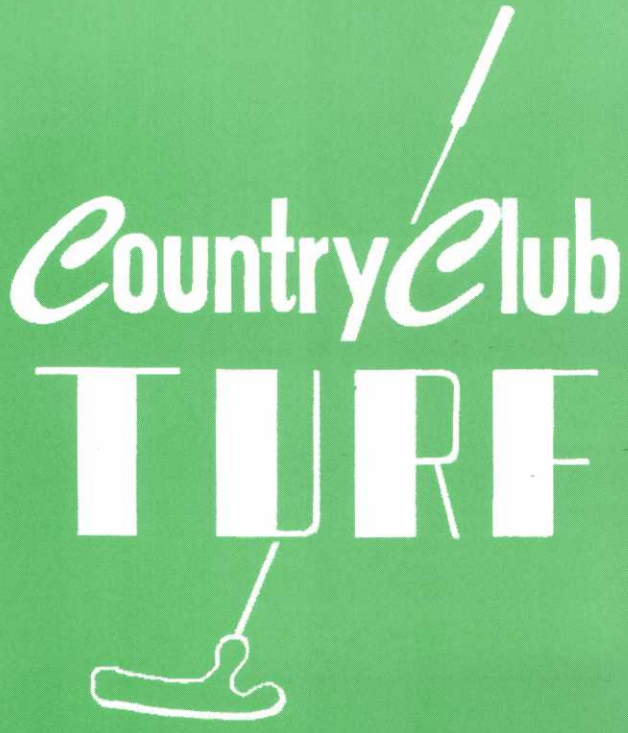
3080 Centerville Road
St. Paul, Minnesota 55117
651.484.8411 • Fax: 651.484.8257
800.592.9513

PENNCROSS SOD

from Country Club Turf

Grown by Golf Course Professionals
for Golf Course Professionals

Supplying over 200 Golf Courses Since 1987



24317 Durant St. N.E., East Bethel, MN 55005

(763) 444-6753

"A Quality Grown Reputation"

On the Road With the USGA

By **BOB BRAME,** *USGA Agronomist*

There have been a few diseases spotted during recent visits, but so far courses in the lower portion of the North Central Region seem to be coming out of the winter in reasonably good condition. Mole activity has kicked in and now is the time to begin aggressive trapping if these furry tunnelers are a problem at your golf course.

Recent Turf Advisory Service (TAS) visits have focused on when recently planted greens can be opened for play. It is important to keep in mind that a putting surface will look ready for play well before it can actually handle traffic. Generally speaking, turf density must first be closed at the initial grow-in height of 1/4 to 1/2 inch (depending upon the cultivar). Once good density exists at the grow-in level, mowing height reduction can be initiated. Topdressing should be initiated ahead of mowing height reduction to help protect the plant as the cut is lowered. The key to maintaining good density as the height is lowered is patience; that is, very slight reductions in the bench setting, several mowings, and repeat the cycle. Once a new putting surface has reached the maintenance level, sufficient additional growth is needed to achieve some organic matter or a thin pad development between the leaf tissue and root zone. Without the pad to provide resilience, traffic wear can quickly thin density and yield poor playability. Bottom line, if your course planted one or more new greens last fall, be patient and allow sufficient maturation to occur before cutting the ribbon. If it turns out to be a hot and stressful summer the patience will pay dividends.

Another discussion topic over the last few weeks has been the inconsistent turf growth. The cool nighttime temperatures have held down soil temperatures, and as a result, growth has been less than desired, especially at those courses that have already received significant traffic and need the growth to recover from wear. This simply will not occur until soil temperatures increase and allow more consistent growth. In the meantime, do not allow concentrated traffic wear and hold off fertilization. Trying to push growth with fertilizer will not change the soil temperature limitation and it could result in an explosion of growth at some point down the road. Growth inconsistencies in the spring, especially the early spring, should remind us that we are playing on Mother Nature's home court. She's in control, whether it's convenient for our agenda or not.

The calendar continues to fill with TAS visit requests. Nevertheless, there is still time to get your request in and realize the early payment discount (payment received by May 15, 2002). Give us a call or return the green postcard enclosed with our January mailing.

We are always available via e-mail and/or phone to interact on the maintenance needs and objectives at your course.

Contact us at anytime by calling 859-356-3272 or by e-mail at bobbrame@usga.org.

"DISCOVERING DONALD ROSS"

Wins 2001 USGA International Book Award

Far Hills, N.J. - Bradley S. Klein, architecture editor at Golfweek, has been named the recipient of the 2001 United States Golf Association International Book Award. His book, "Discovering Donald Ross: The Architect and His Golf Courses," documents, with previously unknown detail, the career of the fabled Scottish-born golf course architect.

Born in New York City in 1954, Klein is a graduate of the State University of New York at Binghamton (1976) and earned his doctorate in political science from Massachusetts-Amherst in 1984. He has also published a collection of essays, "Rough Meditations," (1997).

"Discovering Donald Ross" was published by Sleeping Bear Press of Chelsea, Mich. It was selected from more than 50 submissions by a distinguished panel of three judges: Myra Gelband, former senior editor of Sports Illustrated; Craig Ammerman of the USGA Executive Committee and Museum and Library Committee; and Dr. Bill Mallon, former PGA Tour player and sports historian.

"It's a real honor to be part of golf's literary tradition," Klein said. "It shows that the golf world is still a place for serious scholarship."

Klein and his wife, Jane Nadel-Klein, and daughter, Cory Nadel, reside in Bloomfield, Conn. He holds memberships at Wampanoag Country Club in West Hartford, Conn., and at Royal Dornoch, Donald Ross' home course in Scotland. Klein serves on the board of the Donald Ross Society as well. He got his start in golf as a caddie on his native Long Island. For several summers, beginning in 1976, he caddied on the PGA Tour, carrying the bag of Bernhard Langer when the German started playing on the U.S. Tour.

His essays have appeared in numerous golf publications, including *Golf Digest, Links Magazine* and *Sports Illustrated.* He is also a design consultant and a frequent lecturer in the golf industry.

Previous USGA Book Award winners include: Stephen Lowe, "Sir Walter and Mr. Jones," (2000); David Owen, "The Making of the Masters," (1999); Lawrence Donegan, "Maybe It Should Have Been a Three-Iron," (1998); Davis Love III, "Every Shot I Take," (1997); Rhonda Glenn, "The Illustrated History of Women's Golf," (1992); Bobby Burnet, "The St. Andrews Opens," (1991); Robert Trent Jones Sr. and Larry Dennis, "Golf's Magnificent Challenge," (1990); Phil Pilley, "Golfing Art," (1989); Al Barkow, "Gettin' to the Dance Floor," (1987). No award was given in 1988 or from 1993-96.

(Editor's Note: For more information on the USGA International Book Award, contact Doug Stark of the USGA Library at library@usga.org.)

THOUGHT TO BE THE FIRST VEHICLE THAT USES WATER IN ALL OF ITS HYDRAULIC SYSTEMS

Purdue Students Builds Industrial Lawn Mower

WEST LAFAYETTE, INDIANA – A group of Purdue University undergraduates built an industrial riding lawn mower that's a cut above the rest.

The students created what is thought to be the first vehicle that uses water in all of its hydraulic systems, including power steering, power brakes and transmission.

Recent advances in water hydraulic systems have allowed them to perform as well as petroleum hydraulic systems. Because water offers several environmental and economic advantages over petroleum hydraulic fluid, the students teamed up to demonstrate that such a vehicle is now possible.

Recent graduates Jason Brown of Pendleton, Ind.; Dan Sellers of Bourbon, Ind.; and Dan Pitstick of Rensselaer, Ind., worked through their final semester at Purdue to build the machine. Nathan Schoonover, of Evansville, Ind, who graduated in December, also worked on the project.

Although the mower was redesigned to prove a point, it does have a practical purpose. Mowers leak some hydraulic fluid, and on golf courses that fluid can kill grass on greens that often cost tens of thousands of dollars to construct and maintain.

Jacobsen, a division of Textron Inc. of Racine, Wis., donated the Greens King IV mower, which is a 31-horsepower, front-wheel drive mower with three sets of gang mowers that are raised and lowered hydraulically.

Gary Krutz, professor of agricultural and biological engineering and the students' advisor, says water hydraulic systems only would be practical in vehicles that use high-pressure systems, such as heavy equipment used in construction, agriculture, forestry and mining. (Automobiles have hydraulic brake and steering systems, but these are not typically highly pressurized.)

Using water in hydraulic systems currently costs twice as much as using petroleum products, but that could change as more applications are found for water hydraulics.

"If all of the research and development were done, all of the major companies would be using water instead of hydraulic fluid," Krutz says. "Because the industry is in its infancy, mass production hasn't lowered the cost. But once you start mass producing the necessary parts from ceramic, fiber-reinforced plastic or stainless steel, the prices will drop."

Graduate students Louis Cassens (right) and Michael Thomas put a revolutionary lawn mower through a trial run recently near Purdue's Food Science Building. The mower uses ordinary water in place of hydraulic fluid. Research at Purdue on water hydraulic systems currently focuses on hydrostatic bearings. Hydrostatic bearings would be used in cars or industrial or agricultural equipment. "These would work well with cars in the future that use fuel cells, because you would be able to use the water in the fuel cell and in the gear box," Krutz says.

The water used in the mower isn't straight from the tap; ordinary city water contains too many minerals and impurities and could cause build-up and corrosion. Instead, the system uses distilled water that has been de-ionized to remove any electrical charges that could cause corrosion.

Corrosion also is the reason parts for water hydraulics systems have to be made of stainless steel, plastic or ceramics. But the more expensive parts would be worth it because using water in hydraulic systems makes machinery more energy efficient, saving money.

The boost in energy efficiency is due to water's lower viscosity. Viscosity is the measure of how fast a liquid flows.

Although the mower was redesigned to prove a point, it does have a practical purpose. Mowers leak some hydraulic fluid, and on golf courses that fluid can kill grass on greens that often cost tens of thousands of dollars to construct and maintain.

Water flows up to 1,000 times faster than hydraulic fluid at normal air temperatures. Once the machine is warmed up, water is still less viscous.

Improved viscosity means less energy is required to push the hydraulic fluid through the system, making it more efficient. An engine that uses direct gearing is 95 percent efficient; one that uses hydraulic systems is 60 percent efficient. (Hydraulic systems are used in place of gears because they offer variable speed and can be placed in different locations around the vehicle.)

By using water instead of heavier petroleum fluid, Krutz estimates the efficiency could be boosted at least 10 percent.

"That doesn't sound like much, but that would mean a savings of 500 million gallons of gasoline in the United States each year," he says. "I'm also willing to predict that the lower friction will result in less wear for the equipment."

Replacing hydraulic fluids with water won't be without problems, however. Because tighter fittings and higher quality parts are needed to prevent leaks and corrosion, water systems are more costly. Also, the reduced viscosity of water means that turbulence within the system could reduce efficiency if the parts aren't engineered properly.

Krutz predicts that costs could drop quickly if even one manufacturer decided to focus on water hydraulic systems. "All we need is for one major lawn mower company to decide to use this technology in a premium machine, and the cost would drop significantly," he says.

Stainless steel and ceramics are among the expensive materials most needed for water hydraulic systems, and as the cost of these materials drop, replacing petroleum hydraulic fluid comes closer to becoming cost effective.

"Do you remember how you used to have to replace the muffler on your car every three years?" Krutz asks. "Steel producers figured out how to make stainless steel cheaper, and the auto manufacturers began using it to make mufflers. Now mufflers last as long as most people own a car.

"This price reduction in stainless steel is also making water hydraulic systems affordable, but steel materials still require a lot of engineering work to eliminate turbulence in the system."