

TABLE OF CONTENTS

THE PRESIDENT'S MESSAGE	
Volunteer in 2002	3
GAZING IN THE GRASS	
Effluent Irrigation, Part III: Logistics and Management	5
GCSAA	
Chapter Delegates Meeting	9
WISCONSIN ENTOMOLOGY REPORT	
Integrated Turfgrass Management: Coming to You Soon!	12
BADGER TURF AND GROUNDS CLUB	
The History of Golf Course Architecture, Construction and Planning	14
NOTES FROM THE NOER FACILITY	
WGCSA Loses A Good Friend	17
PERSONALITY PROFILE	
New President Emphasizes the Importance of Communication	20
MISCELLANY	
Lebanon Donates	27
WISCONSIN SOILS REPORT	
Putting Green Speed: Variables and Consequences	29
WISCONSIN PATHOLOGY REPORT	
Alternative Way of Snow Mold Control?	35
FROM ACROSS THE COUNTRY	
Environmental Complacency	39
THE EDITOR'S NOTEBOOK	
2001 Ends As Another Warm Year	43
WGCSA	
Symposium Moves Forward in 2001	46
POA TRIVIA	
.	52

ABOUT THE COVER

Jennifer L. Samerdyke put her artistic skills to work in creating a cover portrait of new WGCSA president David Brandenburg.

"January observation can be almost as simple and peaceful as snow, and almost as continuous as cold.

There is time not only to see who has done what, but to speculate why."

*- Professor Aldo Leopold
Founder UW-Madison Department
of Wildlife Ecology*

THE GRASS ROOTS

THE GRASS ROOTS is a bi-monthly publication of the Wisconsin Golf Course Superintendents Association, printed in Madison, Wisconsin by Kramer Printing. No part of THE GRASS ROOTS may be reprinted without expressed written permission by the editor.

EDITOR AND PUBLISHER

Monroe S. Miller
Blackhawk Country Club
P.O. Box 5129
Madison, WI 53705
grroots@globaldialog.com

EDITORIAL STAFF AND BUSINESS AFFAIRS

Dave Brandenburg
P.O. Box 314
Theresa, WI 53091



BOARD OF DIRECTORS

Back row: (L-R) Kendall Marquardt, Dustin Riley, Jack Tripp, Kris Pinkerton, Brian Ferrie. Front row: (L-R) Mike Lyons, Marc Davison, David Brandenburg, Randy Witt.

2001-2002 WGCSA OFFICERS AND DIRECTORS

PRESIDENT

David Brandenburg
Rolling Meadows GC
P.O. Box 314
Theresa, WI 53091
E-mail: fdclnty@dotnet.com

DIRECTORS

Brian Ferrie
Horseshoe Bay CC
5335 Horseshoe Bay Rd.
Egg Harbor, WI 54209
E-mail: hbaysoup@itol.com

VICE PRESIDENT

Marc Davison
Green Bay CC
2400 Klondike Rd.
Green Bay, WI 54311
E-mail: mdavison@usxchange.net

Kendall Marquardt
Lake Wisconsin CC
6796 Breunig Rd.
Mazomanie, WI 53560
E-mail: kmarqt@speagle.com

TREASURER

Mike Lyons
Old Hickory CC
316 Grove Street
Beaver Dam, WI 53916
E-mail: mlyons@powerweb.net

Jack Tripp
La Crosse CC
N4627 Timbercrest Dr.
Onalaska, WI 54650
E-mail: jtripp@centrytel.net

SECRETARY

Randy Witt
Oneida, G&CC
618 Night Ct.
Green Bay, WI 54313
E-mail: RHWitt@aol.com

Dustin Riley
Oconomowoc GC
247 N. Main Street # 11
Dousman, WI 53118
E-mail: ogriley@voyager.net

PAST PRESIDENT

Kris Pinkerton
Oshkosh CC
11 West Ripple Ave.
Oshkosh, WI 54902
E-mail: occkjp@vbe.com



Volunteer in 2002

By David Brandenburg, Golf Course Superintendent, Rolling Meadows Golf Course



I want to thank you for giving me the opportunity to serve the WGCSA as president. I am looking forward to leading this great association for the upcoming months.

I write this message as I sit at the airport on my way home from the chapter delegates meeting at GCSAA

headquarters. This was my second trip to Lawrence, a trip I encourage every member to make. None of us fully appreciate all GCSAA has to offer its chapters and members. There are a lot of resources and information that members only have to ask for to receive.

The message foremost on my mind is volunteerism and member involvement. Chapters around the country are seeing less interest in their associations and meetings as our lives are filled with many challenges and activities. But we need to keep in mind both the WGCSA and GCSAA exist and prosper because members donate their time and knowledge. I want to encourage each of you to give time to your chapter.

As golf course employees we should volunteer to give back to the game and industry that supports our careers and families. Without member involvement our industry would be lessened in many areas. Top of the list would be the research we support and information we provide through meetings and publications. Meetings and seminars provide formal education while the networking provides a direct sharing of information. Only through your involvement are education and promotion of the game of golf possible. Helping out with the association is enjoyable and builds relationships that last forever.

The biggest way to volunteer is to run for a WGCSA board position. Of course not everybody wants that challenge, but members can volunteer for a WGCSA or a GCSAA committee post. These committees help run the association and guide its future without a large time commitment. Other very important ways to contribute are to write an article for the Grass Roots

about a new program at your course or volunteer to speak at a monthly meeting. Participation can be as simple as hosting or attending events and meetings. Even better, bring a potential new member or a member who does not participate to a meeting. Last but not least, small things like responding to questionnaires, Noernet posts or surveys allow the association to disseminate information and are important.

Ten years ago I wrote President Bruce Worzella to volunteer my time where needed. I have enjoyed my commitment to WGCSA and look forward to now serving as president myself. We all have different employment and family situations and contribute in different ways, but this is our association and we need to work together to be successful. This is your invitation to be involved and make a difference in the future of your association. ♣

*Golf Course
Construction,
Renovation
and Restoration*

GOLFCREATIONS

Marengo, IL 815.923.1868



Leafminers



Thrips



Lepidoptera

wasted



Beneficials



Ornamentals



Workers

conserved

Running your business means walking a fine line. You have to eliminate insect pests, but you have to do it without harming beneficial insects, plants or your workers. The answer? Conserve* SC turf and ornamental insect control. Nothing's better at controlling tough insect pests. And since it's derived from a naturally occurring organism, Conserve also controls your worries about plant damage and beneficials. Conserve. It's not a synthetic. It's not a biological. It's business insurance.

 Dow AgroSciences
Conserve* SC
 Turf and Ornamental
 Insect Control



www.dowagro.com/turf 1-800-255-3726
 Always read and follow label directions.
 *Trademark of Dow AgroSciences LLC

 **United**
 Horticultural Supply
 PROFESSIONAL TURF PRODUCTS
Shawn Hilliard
 800/362-8049 Fax 608/846-1115

Effluent Irrigation, Part III: Logistics and Management

By Dr. John Stier, Departments of Horticulture, University of Wisconsin-Madison

The previous two installments of the series on effluent irrigation defined effluent water, its increasing use for golf course irrigation, and described agronomic issues associated with effluent water. Depending on the circumstances, several or all of the following characteristics are likely to be associated with an effluent irrigation source:

- Bacterial pathogens (human)
 - Solids
 - High pH
 - Bicarbonates and carbonates
 - Salts and sodium
 - Heavy metals/toxic ions
 - Dissolved nutrients (N and P)
- Special efforts may be required to deal with effluent irrigation.

These include agronomic, financial, legal, and sometimes simply logistical considerations.

Agronomic considerations

High pH can cause deficiencies of iron, manganese, and zinc. Conventional soil-applied fertilizers may be unlikely to correct the deficiencies, but they can usually be overcome by using chelated and foliar applications. Addition of sulphurous or phosphoric acids, injected into the irrigation system at the pump, are useful to control moderate levels of bicarbonate (HCO_3^-) and carbonate (CO_3^{2-}). If left unchecked, these ions form lime in the soil, allowing sodium to adsorb

onto the soil peds which causes loss of soil structure. The acid reduces water pH and keeps calcium and magnesium solubilized in the soil solution by interacting with the bicarbonate and carbonate ions.

If the soil has already turned sodic and soil structure loss has occurred or is imminent, gypsum (calcium sulfate, CaSO_4) can be applied to the turf. Since gypsum can cause phytotoxicity, rates to putting greens are typically limited to 0.5 to 1.0 lb per thousand square feet on greens, and 300-500 lb per acre for fairways. The finer the grade (above 90 is best) the quicker the gypsum will dissolve into the turf. Generally, the process may

COLUMBIA ParCar

Call for a free demonstration!
And to learn of our special WI course offers at
no cost or obligation!



Eagle Sponsor
of the Golf
Course Owners
of Wisconsin.

- Gas & Electric Golf Cars & Utility Vehicles
- New, Used and Reconditioned
- Full Sales and Service
- Additional Cars for Special Events
- Lease Financing Available

SALES & SERVICE

Madison, WI
(608) 249-6600

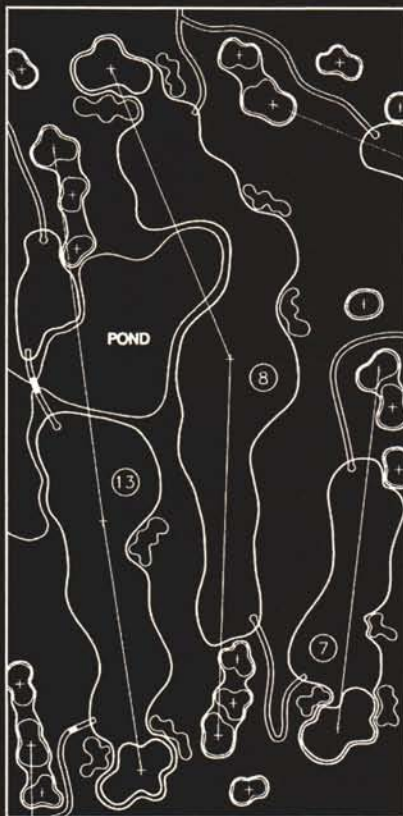
Reedsburg, WI
(608) 524-8888

(800) 222-4653



Proudly Manufactured By
Wisconsin Craftsmen

HERFORD·NORBY

GOLF COURSE
ARCHITECTURE

(952)942-0266 (952)942-0197 Fax

take years. Gypsum can eventually restore soil structure because the excess calcium dislodges sodium ions from the soil peds. The sodium bonds with the sulfate from the gypsum to form water-soluble sodium sulfate (NaSO_4) which can be leached from the soil. Currently the Wisconsin Dept. of Agriculture, Trade and Consumer Protection does not allow the sale of gypsum for use on turf in Wisconsin because there is not currently a problem with sodium in our soils.

Heavy metal accumulation such as chlorine can usually be minimized by removing and spreading clippings in non-affected areas to dilute the heavy metals by applying them across a large area. Nutrients such as N and P should be monitored and fertility adjusted (reduced) to take advantage of the N and P in the effluent.

Since much golf turf, especially putting greens, essentially "live on the edge" it is important to minimize the potential negative impacts of effluent water. Effluent containing low to medium total suspended solids (TSS) can physically clog macropores over time and greatly reduce drainage. Thus, only tertiary effluent should be used: avoid secondary effluent (often illegal; primary effluent won't be available due to legal restrictions because of human pathogen concerns). Greens irrigated with effluent may require regular aeration, spiking, and/or slicing to minimize crusting and algal growth.

Potential problems with effluent water can be minimized by diluting the effluent with high-quality (potable) water. This will, of course, require two water sources and two irrigation lines to "feed" the potable water into the effluent line. In Wisconsin, sufficient rainfall will usually leach excess salts below the root zone. During extended drought or in areas of the country where rainfall is minimal the salts will need to occasionally be leached below the root zone with potable water before salts

accumulate sufficiently to cause a problem (see part II of Effluent Irrigation in the Sept/Oct issue for more information). Sand-based root zones and good internal drainage (tiling) allow more rapid leaching of salts than do native soils. In certain cases replacement of salt-affected grasses with salt-tolerant grasses may be warranted.

Logistical

There are logistical considerations when effluent water is used for irrigation. Metal irrigation components may corrode: chlorine can affect brass and galvanized pipes and fittings; ammonia (NH_3) can corrode copper pipe even when only 1.5 ppm N. Solids in the effluent water can clog nozzles, so large nozzles may have to be used and the water should be filtered before it reaches the nozzles.

Human health concerns dictate a special design for irrigation heads and pipes. In many states, heads from effluent water sources have to be spaced a minimum of 75 feet from irrigated or public areas or wells. A vegetative buffer (typically 50-100 ft) is usually required between the edge of the irrigation pattern and dwellings. These unwatered spaces in between may be subject to drought. All pipes, fittings, spigots, and quick-couple connections must be belowground.

Pipes carrying effluent water must be noticeably distinguishable from lines carrying potable water. Generally pipe carrying effluent water is colored purple. Most states that have laws regulating effluent irrigation require 10 feet horizontal and 1 foot vertical spacing between domestic and effluent pipes. Backflow prevention is required and leakage of pipes/fittings is regulated.

Supply can be one of the biggest logistical concerns. Typically users of effluent water are required to accept a minimum amount of effluent every day, whether its needed for irrigation or not. This forces many courses to add special holding ponds to accept

the effluent until it can be used. Individual states typically have special requirements for such ponds, including an impermeable liner, specific slopes, and other criteria.

In many locations golf courses must post signs such as the following to notify staff and the public that effluent water is being used: "Warning: Course irrigated with reclaimed water". Such a sign can send a negative impact and reduce play unless the superintendent and course management properly explain the situation to players. Often irrigation must be restricted to daylight hours and the surface must be dry before entry. The potential for disruption of play is obvious.

Financial

Dealing with the many agronomic and logistical considerations of effluent irrigation will certainly increase costs. Occasionally these costs will be offset by the lower cost of the water (typically < 80%) compared to potable water from municipal sources. Some additional costs include:

- Permits for effluent water use
- Monitoring
- Filters for pumps
- Retention pond construction and maintenance
- Corrosion to golf course vehicles

Wisconsin's regulations for the use of effluent water are not well spelled out. Currently there are only a handful of courses that use or have even inquired about using effluent water. The Department of Natural Resources water quality division evaluates each request on a case-by-case basis and establishes guidelines as appropriate. As public demand for potable water increases and potable water becomes more valuable, it is likely a matter of time before the DNR is forced to outline specific requirements across the board for use of effluent irrigation.

Sampling for water quality

If you are concerned about water

quality whether or not you use effluent irrigation then follow these simple steps to have your water tested.

- Collect a water sample (at least 8 oz) in a clean, triple-rinsed plastic container with a plastic cap. Be sure not to leave ANY soap residue in the container as it will destroy the integrity of the sample and provide false results.
- Seal the container immediately after collection to prevent exposure to the air. Prolonged

exposure to air may affect the water pH, bicarbonate and carbonate levels.

- Label each bottle with a permanent marker, indicating time, date, and location of where the sample was collected.
- Deliver to a state-approved water quality testing lab within 24 hours of collection. If situations prevent rapid delivery, refrigerate the sample (in the dark) and get it to the lab as soon as possible. ♣

Frustrated with Poa?



Strike Back with TRIMMIT® 2SC Plant Growth Regulator.

When you have an ax to grind with *Poa annua* in your greens, tees and fairways, strike back with TRIMMIT® plant growth regulator. TRIMMIT in a turf management program will effectively reduce *Poa annua*.

As the best *Poa* management tool available to golf course superintendents, TRIMMIT:

- Slows grass growth for up to two months after application
- Reduces mowing up to 50 percent
- Minimizes clippings
- Enhances turf color and quality
- Reduces the potential for scalping



The next time you're frustrated with *Poa*, come down hard with TRIMMIT—and strike it rich in your management program.

For more information, contact your authorized Zeneca Agent, or call Zeneca Professional Products Toll Free at 1-888-617-7690. Labels and MSDSs available 24 hours a day, seven days a week via Fax on Demand. Please call 1-800-640-2362.

www.zenecaprofprod.com
Contact:
Jim.Shone@agna.zeneca.com

Trimmit® 2SC
plant growth regulator for turf

ZENECA Professional Products

Always read and follow label directions carefully. TRIMMIT® is a registered trademark of a Zeneca company. © 2000 Zeneca Ag Products Inc. Zeneca Professional Products is a business of Zeneca Ag Products Inc.

ZPP-TRI-002

WATERTRONICS®

Evolution Series



Super Sport - Turf

The “Evolution Series” pumping system is a proven concept from Watertronics that utilizes a VFD driven jockey/pressure maintenance pump and Electronic Butterfly Valve controlled main pump(s). This control system allows for VFD control of the pump that most benefits from it. Conventional VFD stations share one drive between all main pumps which can cause “across-line” start/stop surges.

Benefits and features of an Evolution Pump Station include:

- VFD driven jockey pump which efficiently performs dual duties of pressure maintenance, while serving as the primary supplier of incidental daytime syringing and hand watering up to 150 GPM.
- Additional pumps are individually pressure regulated with Watertronics’ Electronic Butterfly Valve, ensuring surge-free starts and stops.
- Lower horsepower and smaller electrical in-rush of the VFD regulated jockey pump normally will not incur utility “time-of-day” penalties.
- Available with Watervision™ remote monitoring software and Pumplink™ irrigation control software interface.



Vertical Turbine



Horizontal Centrifugal

The “Evolution Series” control system is available on all Watertronics’ Vertical Turbine, Horizontal Centrifugal, Super Sport Turf, and BlackMax™ Submerged pumping systems. Call a Watertronics’ representative today and find out why our “Evolution Series” may be the best choice for your irrigation pumping system needs.



Chapter Delegates Meeting

By **David Brandenburg**, Golf Course Superintendent, Rolling Meadows Golf Course

The ninth annual GCSAA chapter delegates meeting was held on December 1 and 2 at the GCSAA headquarters in Lawrence, Kansas. Ninety-nine of the 102 chapters were represented for the two days of meetings on our associations' activities.

First on the agenda was the dedication ceremony for the life-size Old Tom Morris statue in front of the headquarters building. The statue is part of GCSAA 75th anniversary celebration and was to be unveiled at the 75th ceremony that was cancelled due to the tragic events of September 11th.

Steven Mona, Chief Executive Officer, gave a State of the Association address. Although investment and advertising revenue has been reduced in the current recession, GCSAA will tighten its belt and has savings in reserve to allow programs to continue uninterrupted. The association is in good financial shape. Currently GCSAA has 21,750 members in 61 countries and had

12,000 participants in its educational seminars.

Quite a bit of time was dedicated to how the current economy has affected courses around the country and how to cope with budgetary constraints at courses and local chapters. GCSAA produced a free packet entitled "How to Help Your Course Weather an Economic Downturn" and is trying to add some discussion on the current economy to the 2002 conference and show agenda in Orlando.

Current goals of the association include enhancing career opportunities while promoting the industry through public and governmental relations. Also, GCSAA wants to be an authoritative one-stop source of information and services to chapters and members.

The PDI program continues advancing as we approach the July 1, 2003 start date. It looks like the program should enhance local educational opportunities without adding to the workload of chapter adminis-

*Custom Verti-Drain with MST
Schedule today
– Scott Good –
(800) 743-2419*

Serving the Midwest since 1989

TEXTRON
TURF CARE AND SPECIALTY PRODUCTS

CUSHMAN JACOBSEN RANSOMES RYAN

www.ttcsp.textron.com
AS-Sportsturf-0599 © 1999 Textron Turf Care And Specialty Products.
All rights reserved. Printed in the U.S.A.



First On The Field.

Textron Turf Care And Specialty Products

The number-one brands in the business are now the top team in turf. Textron Turf Care And Specialty Products may seem to be a new player in the sports turf market, but our brands are seasoned veterans. Individually, Cushman®, Jacobsen®, Ransomes® and Ryan® have been all-star performers for years. Together, they're the most experienced lineup around. From mowers, aerators and infield rakes to utility vehicles, seeders and sprayers, we have the products, service and professional support you need. Put a winner on the field. Come in or call today.



EQUIPMENT CORP.

WISCONSIN TURF EQUIPMENT CORP.

TWO LOCATIONS

1917 W. COURT ST.
JANESVILLE, WI. 53547
608-752-8766

21520 W. GREENFIELD AVE.
NEW BERLIN, WI. 53151
414-544-6421