

Midwest Soil Improvement Symposium:

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Research and Practical Insights into Using Gypsum

► Plot Tours will begin at approximately 4:30 PM

Please be ready to board a shuttle bus outside the Public Events Facility soon after the close of the last session. We will divide into two groups that will rotate between the various research areas.

The entire tour should last approximately one hour. Parking is very limited near the plots so please use the shuttle buses.

Group **1** will be led by
Dr. Birl Lowery, Professor, UW Soil Science Department and Senior Associate Dean, CALS
Dr. Darrell Norton

Group **2** will be led by
Dr. Richard Wolkowski
Dr. Meghan Buckley

Thank you for attending the Midwest Soil Improvement Symposium: Research and Practical Insights into Using Gypsum.

We hope you find the sessions interesting and worthwhile in gaining technical information that is important to your work in helping to improve agricultural soils.

Thank you to our sponsors:



Established in 1889, CALS carries out UW-Madison's mission as a land-grant public university through excellence in teaching, research and public outreach across 19 academic fields, ranging from production agriculture to natural resources to social sciences to fundamental life sciences. By encouraging collaboration and innovation among these fields, the college helps address problems and create opportunities that affect our food, our environment, our health and our energy future. www.cals.wisc.edu/



We teach, learn, lead and serve, connecting people with the University of Wisconsin, and engaging with them in transforming lives and communities. We offer timely access to University research and knowledge through educational colleagues in 72 county offices, on five 4-year campuses and within three tribal nations. We work with local, state and federal partners to offer educational programs that address the important issues of individuals, families, businesses, and communities. www.uwex.edu/ces/



The **Conservation Technology Information Center** champions, promotes and provides information on technologies and sustainable agricultural systems that conserve and enhance soil, water, air and wildlife resources and are productive and profitable. www.ctic.org



GYPSOIL is a division and tradename of Beneficial Reuse Management LLC. Its mission is to make a positive impact in our customers' soil while conserving natural resources and protecting the environment. **GYPSOIL** identifies gypsum supplies, assists in meeting regulatory compliance, helps growers understand the agronomics and application methods in using gypsum and develops cost-effective distribution and transportation networks to pave the way for the beneficial reuse of gypsum. **GYPSOIL** brand gypsum is distributed to crop growers in the Midwest, Delta and Southeast. www.Gypoil.com

► **Please take a few moments to fill out the evaluation form at the end of the symposium. Please drop completed forms in the boxes near the exit doors.**

Certified Crop Adviser Continuing Education Units are available at today's event.

It is *your* responsibility to sign in and out to receive credit.

A total of 7.5 credits are available: 6 in Soil and Water Management and .5 for Crop Management for the classroom sessions held in the auditorium. An additional credit is available in Soil and Water Management to CCAs who attend the plot tours.

You must sign in and out at table near auditorium entrance to receive credits. Sheets for the morning sessions will be displayed until 8:15 AM for sign-in and at lunch time for sign-out. Sheets for afternoon sessions will be displayed during lunch for sign-in and at 4:30 for sign-out.

Sign-in and out for the plot tours will be at bus boarding area.

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Research and Practical Insights into Using Gypsum



Tuesday, August 23, 2011

**University of Wisconsin
Arlington Ag Research Station**

ARLINGTON, WISCONSIN

Hosts and sponsors:



**COLLEGE OF
AGRICULTURAL & LIFE SCIENCES**
University of Wisconsin-Madison



Midwest Soil Improvement Symposium:

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Research and Practical Insights into Using Gypsum

7:30 AM ▶ **Registration, coffee and pastries**

8:00 AM ▶ **Welcome**

Dr. Richard Wolkowski *Senior Scientist and Extension Soil Scientist Emeritus, University of Wisconsin*

Mr. Robert Spoerri *President and Chief Executive Officer, GYPSOIL/Beneficial Reuse Management*

8:15 AM ▶ **Gypsum Effects on Soil**

Dr. Harry H. Schomberg

Ecologist, J. Phil Campbell Sr. Natural Resource Conservation Center, USDA-ARS

1420 Experiment Station Road

Watkinsville, GA 30677

(706)769-5631 ext. 222

Harry.Schomberg@ars.usda.gov

Dr. Harry H. Schomberg conducts cropping systems management research which emphasizes methods to improve soil and crop productivity, increase soil carbon, improve nutrient and water availability, and reduce potential environmental impacts. Current research includes nitrogen management in conservation tillage systems, utilization of flue gas desulfurization (FGD) gypsum as an agricultural amendment, integration of cropping and grazing systems, and use of biochar to improve productivity of piedmont and coastal plain soils.

9:00 AM ▶ **Using Gypsum to Improve Crop Performance**

Dr. Warren A. Dick

Professor, School of Environment and Natural Resources, The Ohio State University

101A Hayden Hall, 1680 Madison Avenue

Wooster, OH 44691

(330) 263-3788

Dick.5@osu.edu

Dr. Warren A. Dick's areas of expertise include microbial ecology, no tillage, coal combustion products, solid waste management, soil microbiology and soil biochemistry. He leads the Soil and Environmental Biochemistry and Microbial Ecology Laboratory and is a member of the Agricultural Flue Gas Desulfurization National Network. He has authored many peer-reviewed research papers on the use of FGD gypsum in crop production.

9:45 AM ▶ **Gypsum's Impact on Soil and Water Quality**

Dr. Dexter B. Watts

Research Soils Scientist, National Soil Dynamics Laboratory, USDA-ARS

411 S. Donahue Drive

Auburn, AL 36832

(334) 887-8596 ext. 223

Dexter.Watts@ars.usda.gov

Dr. Dexter B. Watts has authored numerous publications about a variety of research areas, including the impacts to soil from applications of gypsum. His projects include: conservation systems research for improving environmental quality and producer profitability; using agricultural and industrial byproducts to improve crop production systems and environmental quality. He is the community leader for the American Society of Agronomy's byproduct gypsum committee.

10:30 AM ▶ **BREAK**

10:45 AM ▶ **Wisconsin Research Update**

Speaker #1: **Dr. Richard Wolkowski**
Senior Scientist and Extension Soil Scientist Emeritus, Department of Soil Science

University of Wisconsin-Madison

1525 Obervatory Drive, 139C King Hall

Madison, WI 53706

RPWolkow@wisc.edu

Dr. Richard Wolkowski taught introductory soil science and soil and water management classes in the UW's Farm and Industry Short Course for 23 years. He also served as state specialist in the area of soil and water management and the land application of by-product materials before his retirement in June 2011. His extensive research program has included several non-traditional soil amendments. He is currently studying the effects of FGD gypsum application on the yield and nutrient content of crops, soil physical properties, and soil soluble phosphorus levels.

Speaker #2: **Dr. Meghan Buckley**

Assistant Professor, College of Natural Resources University of Wisconsin-Stevens Point

800 Reserve Street

Stevens Point, WI 54481

(715) 346-4180

Meghan.Buckley@uwsp.edu

Dr. Meghan Buckley's work with the soil and waste resources program at the UW-Stevens Point began in 2008 after she earned a Ph.D. from Kansas State University in the management of soil water resources. Her interest in the agricultural aspects of soil science came from growing up on a dairy farm in upstate New York. Dr. Buckley's work at the UW-Stevens Point has been diverse, including a carbon sequestration study on restored wetlands and a study on the effects of application of byproduct gypsum to agricultural land for the reduction of phosphorus losses in runoff.

11:30 AM ▶ **Gypsum User Panel 1—Alfalfa Growers** Moderated by **John Volk**, *John Volk Associates, Chicago, IL*

Scott Stoffel

West Bend, WI

Scott Stoffel operates a 170-cow dairy operation with his family and grows alfalfa, corn, soybeans, wheat and other crops. He has applied gypsum to his fields for the past two growing seasons.

Tom Greil

Waterford, WI

Tom Greil sold his dairy herd in 2009 and is now a full-time crop farmer. He has used gypsum on alfalfa since 2007 and recently started using it on no-till row crops as well.

Larry Strupp

Slinger, WI

Larry Strupp also calls himself a full-time crop farmer, having sold his dairy cows this past summer. He raises corn, soybeans and hay. He has used gypsum on alfalfa fields for the past three years and has also applied it to corn-soybean rotation fields going into soybeans.

Dan Craig

Vernon, WI

Dan Craig operates a 1,000-acre corn, soybean and alfalfa operation with his father, Randy. The Craigs, who are no-tillers, apply gypsum to approximately 90 percent of their acres. Dan Craig became a consultant for GYPSOIL after he first applied gypsum to alfalfa acres in 2009 and saw immediate results in crop color, tonnage and quality.

12:15 PM ▶ **LUNCH (on site)**

1:00 PM ▶ **Gypsum Use in Agriculture: Impact on the Environment**

Speaker #1: **John Andersen**

President, Greenleaf Advisors, LLC

300 N. LaSalle Street, Suite 5400

Chicago, IL 60654

(312) 846-7871

JAndersen@greenleafadvisors.net

John Andersen founded Greenleaf Advisors to advance integrated solutions for a healthier and more sustainable society by building strong relationships between leaders in science, business, capital, and policy. John's previous experience includes leading a national land business and directing Great Lakes conservation for The Nature Conservancy, a leader in land and water resources protection. John teaches Sustainable Value Creation at DePaul University.

Speaker #2: **Dr. Darrell Norton**

Soil Scientist, National Soil Erosion Research Lab, USDA-ARS

275 South Russell Street, Room 106A

West Lafayette, IN 47907

(765) 494-8682

Darrell.Norton@ars.usda.gov

Dr. Darrell Norton is the author of numerous scientific publications and leads several research projects. Current projects include: FGD Gypsum in Agriculture Network; Impact of Soil Resource Management on Soil Biochemical and Chemical Processes; Conservation Effects Assessment for the St. Joseph River Watershed; and Soil Hydrology and Management Effects on Erosion and Water Quality.

1:45 PM ▶ **How Gypsum is Produced**

Robert Paulson

Senior Environmental Consultant, We Energies

333 Everett Street

Milwaukee, WI 53203

(414) 221-3948

Robert.Paulson@we-energies.com

Bob Paulson is a member of the utility's Land Quality Team tasked with developing beneficial use alternatives for more than one million tons/year of coal combustion products. He has been integrally involved in facilitating We Energy's work to supply FGD gypsum into Wisconsin and Northern Illinois agriculture applications.

2:00 PM ▶ **Applying Gypsum: When, How and How Much**

Ron Chamberlain

Director of Gypsum Products,

Gypsoil Division of Beneficial Reuse Management

5545 W Raymond Street, Suite M

Indianapolis, IN 46241

(317) 402-8293

Ron@gypsoil.com

Ron Chamberlain has a degree in agriculture from Purdue University and has spent more than 40 years in the agricultural industry both in Europe and in the US. With his extensive experience working with crops and soils, Ron developed the belief that soil structure was a major contributor to crop success or failure and identified the benefits that gypsum could bring to establishing proper soil structure. He founded GYPSOIL in 2002 to help bring these benefits to farmers in the Midwest. In June 2009, Beneficial Reuse Management acquired GYPSOIL.

▶ **We Energies GYPSOIL Raffle**

2:30 PM ▶ **BREAK**

2:45 PM ▶ **Risk Assessment for Beneficial Use of FGD-Gypsum in Agriculture**

Dr. Rufus L. Chaney,

Research Agronomist, Environmental Management

and Byproduct Utilization Laboratory

10300 Baltimore Avenue, Bldg 007 BARC-WEST Room 013

Beltsville, MD 20705-2350

(301) 504-8324 ext 447

Rufus.Chaney@ars.usda.gov

Dr. Rufus L. Chaney's research includes studying plant and soil factors affecting bioavailability of heavy metals in crops, ecological revitalization risk evaluation for beneficial use of FGD gypsum, biomat testing for runoff water quality improvement among many other projects. He has written numerous papers on the bioavailability of soil metals and various other compounds to plants.

3:15 PM ▶ **Gypsum User Panel 2—Row Crop Growers** Moderated by **Karen Bernick**, *Karen Bernick Marketing Communications, Long Grove, IA*

Nick Miller

Oconomowoc, WI

Nick Miller farms with his dad, Robert and his brother, Luke. They operate a 3,500-acre cash grain operation using no-till and started using gypsum in 2009 to improve soil tilth and reduce compaction and crusting, especially in heavily traveled sections of fields. He and Luke also operate Miller Bros Grass Farm, a grass-fed beef and pasture-raised poultry and pork enterprise.

Jack Maloney

Brownsburg, IN

Jack Maloney operates Little Ireland Farms, a fourth-generation farm near the western outskirts of Indianapolis. The 2,600-acre no-till operation raises corn, soybeans and seed soybeans and has produced non-GMO crops, Vistive™ soybeans and waxy corn in the past. He has been using gypsum to improve soil quality for approximately ten years.

Rodney Rulon

Arcadia, IN

Rodney Rulon is a partner at Rulon Enterprises, a 5,000-acre family farm with operations in Hamilton and Tipton counties in central Indiana. He operates with his cousins, Ken and Roy. The farm is a no-till operation that has used gypsum for several years in problem fields to increase water infiltration, reduce ponding and improve crop rooting. Last year, they expanded gypsum use, applying it to approximately 3,000 acres using variable rate technology.

4:15 PM ▶ **Parting Thoughts, Questions**

4:30 PM ▶ **Plot Tours** *Optional tour of the UW gypsum plots. Additional information on back page.*