

Workshop Agenda

Agricultural Uses of FGD Gypsum

November 17-19, 2009

Hyatt Regency Indianapolis



TUESDAY, November 17

Session 1: Introduction

Moderator - Ken Ladwig, EPRI

1:00 – 1:30 Welcome and Opening Remarks

Matt Smith, National Program Leader, Soil Management, U.S. Department of Agriculture - Agricultural Research Service (USDA-ARS)

Betsy Smidinger, Director, Resource Conservation and Sustainability Division, Office of Resource Conservation and Recovery, U.S. Environmental Protection Agency (EPA)

Tom Adams, Executive Director, American Coal Ash Association (ACAA)

Ken Ladwig, Senior Research Manager, Electric Power Research Institute (EPRI)

Session II: Background to Properties of FGD Gypsum That Give It Value

Moderator - Ken Ladwig, EPRI

1:30 – 2:10 Characterization of FGD Gypsum for Beneficial Use in Soil Applications

Libby Dayton, School of Environment and Natural Resources, The Ohio State University

2:10 – 2:50 Properties of FGD Gypsum that Provide Value for Agricultural Land Application

Darrell Norton, National Soil Erosion Research Lab, USDA-ARS

Break 2:50 – 3:20



Session III: Developing a Framework for Land Application Uses of FGD Gypsum

Moderator - Allen Torbert, USDA-ARS

3:20 – 4:00 The Coal Combustion Products Partnership's (C²P²) Role in Sustainability

Tom Adams, ACAA

4:00 – 4:40 Assessing the Framework of Risk Assessment in Relation to FGD Gypsum as an Agricultural Amendment

Eton Codling, USDA-ARS, Beltsville, Maryland

4:40 – 5:20 Beneficial Use of FGD Gypsum: Lessons from Previous Risk Assessments

Libby Dayton, School of Environment and Natural Resources, The Ohio State University



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WEDNESDAY, November 18

Session IV: New and Expanding Uses of FGD Gypsum

Moderator - Tom Adams, ACAA

- 8:00 – 8:35** **Chemical and Nutritional Properties of FGD Gypsum Improve Production of Corn, Soybeans and Other Crops**
David Kost, School of Environment and Natural Resources, The Ohio State University
- 8:35 – 9:10** **Phosphorus Removal from Animal Waste Using Gypsum**
Gary Felton, Environmental Science and Technology Department, University of Maryland
- 9:10 – 9:45** **Increased Awareness of No-Tillage Farmers of the Benefits of Applying Gypsum to Their Soils**
Darrell Norton, National Soil Erosion Research Lab, USDA-ARS

Break 9:45 – 10:15 


- 10:15 – 10:50** **Addition of FGD Gypsum During Composting to Conserve Nitrogen and Create a Soilless Growth Mix**
Sougata Bardhan, School of Environment and Natural Resources, The Ohio State University
- 10:50 – 11:25** **Use of Gypsum to Improve Infiltration in California Agriculture and to Enhance Almond Production**
Blake Sanden, University of California Cooperative Extension, Kern County
- 11:25 – 12:00** **Gypsum Use: The Broad Picture**
Roy Stephen, Arise Research & Discovery, Inc.

Lunch 12:00 – 1:00 

Session V: From the Source to the End User: Relationships That Create Win-Win Situations

Moderator - Lamar Larrimore, Southern Company

- 1:00 – 1:35** **FGD Gypsum as a Soil Amendment: Experiences from Utility to the Field**
Chad Ellis, Duke Energy
- 1:35 – 2:10** **We Energies Gypsum Utilization Program**
Bruce Ramme, Environmental Land Quality, We Energies
- 2:10 – 2:45** **Off-heard Questions About Gypsum in a State Extension Office**
Dick Wolkowski, Department of Soil Science, University of Wisconsin

Break 2:45 – 3:15 

- 3:15 – 4:45** **Panel Discussion and Audience Questions: Why I Do or Don't Use Gypsum on My Farm**
Lead by Robert Mullen, Extension Specialist, The Ohio State University
- 4:45 – 5:00** **Review of "FGD in Agriculture" Network Activities**
Warren Dick, School of Environment and Natural Resources, The Ohio State University
- 5:00 – 6:30** **Reception and Network Poster Session with Refreshments and Appetizers (see next page)**

Wednesday Evening Reception and Network Poster Session, featuring...

FGD Gypsum Research in North Dakota

*Tom DeSutter, Department of Soil Science,
North Dakota State University*

Network Activities in Indiana

*Brenda Hoffman, National Soil Erosion Research Lab,
USDA-ARS*

Use of FGD Gypsum on a Bermuda Grass Pasture in Alabama

Dexter Watts, National Soil Dynamics Laboratory, USDA-ARS

Cotton in Alabama

*Charles Mitchell, Extension Agronomist-Soils,
Auburn University*

Use of FGD Gypsum in Arkansas Soils

Leo Espinoza, Division of Agriculture, University of Arkansas

Soil Physical Properties as Influenced by FGD Gypsum in Wisconsin

*Birl Lowery, Department of Soil Science,
University of Wisconsin*

Forages in New Mexico

*Dan Smeal, Agricultural Science Center,
New Mexico State University*

FGD Gypsum for Forages in Ohio

*Liming Chen, School of Environment and Natural Resources,
The Ohio State University*

Releasing Soil Resources Using Gypsum

Ron Chamberlain, Beneficial Reuse Management

Effects of FGD Gypsum on Structure and Hydrology of Ohio Soils

*Brian Slater and Rebecca Tirado-Corbala, School of
Environment and Natural Resources, The Ohio State University*

THURSDAY, November 19

Session V (continued): From the Source to the End User: Relationships that Create Win-Win Situations

Moderator - Birl Lowery, University of Wisconsin

- 8:00 – 8:35** **Crop Consultants and Utilities Working Together to Enhance Crop Production by Land Applying FGD Gypsum**
Cliff Ramsier, Ag Spectrum Company
- 8:35 – 9:10** **A Consultant's Perspective on Use of FGD Gypsum as an Agricultural Amendment**
Ken Curtis, Clean Green Soil Amendments
- 9:10 – 9:45** **Environment and Production Management Guides for Land Application Uses of FGD Gypsum**
Warren Dick, School of Environment and Natural Resources, The Ohio State University

Break 9:45 – 10:15



Session VI: Mercury and Water Quality Issues Related to Beneficial Land Application Uses

Moderator - John Sager, EPA

- 10:15 – 10:50** **Mercury Release to the Air and Water from FGD Gypsum Amended Soils**
*Mae Gustin, Department of Natural Resources and Environmental Science,
University of Nevada-Reno*
- 10:50 – 11:25** **Gypsum Effects on Earthworm Populations and Chemistry at Several Network Sites**
David Kost, School of Environment and Natural Resources, The Ohio State University
- 11:25 – 12:00** **Report on Work Being Conducted by USDA-ARS in Alabama and Georgia**
Allen Torbert, National Soil Dynamics Laboratory, USDA-ARS

Closing

Workshop Wrap-Up: Where Do We Go From Here?

Warren Dick, School of Environment and Natural Resources, The Ohio State University

Workshop Registration Agricultural Uses of FGD Gypsum

Hyatt Regency Indianapolis, One S. Capital Ave., Indianapolis, IN 46204
800-233-1234 (Rooms start at \$120/night)

Attendee Information

Last Name _____ First Name _____
Badge Name _____
Job Title _____
Organization _____
Address Line 1 _____
Address Line 2 _____
City _____ State _____ Zip _____
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Payment Information

Amount \$175 through September 30, 2009 and \$200 thereafter.

For answers to questions or to register by phone, please contact Annely Noble at 720-870-7897. She may also be reached by email at info@acaa-usa.org

To register online, please go to www.fgdproducts.org

To register by fax, please transmit this form including card details to 720-870-7889

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Check Date: _____ Check Number _____



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