

Meeting Notes
 North Central Extension and Research Activity (NCERA) 217
 Drainage Design and Management Practices to Improve Water Quality
 and
 Agricultural Drainage Management Systems Task Force (ADMS TF)

Ames, Iowa – Hilton Garden Inn – **April 14-15, 2015**

Tuesday, April 14

A pre-meeting field tour was organized by Matt Helmers that include the following sites:

- ABE department and the new facilities
- USDA-ARS drainage water quality research facility which included winter cereal rye cover crops
- Iowa CREP wetland – discussion of wetland performance by Dr. Bill Crumpton
- Saturated buffer in Story county, IA with discussion of performance by Dr. Dan Jaynes

The NCERA-217 meeting began at 1 pm. Ten presentations were given by drainage researchers and members of the NCERA-217 committee. See the list of presenters and titles in the agenda below.

Time	Topic	Speaker(s)
1 pm	Welcome.	Moderator Jeppe Kjaersgaard, MDA
1:05	An update on drainage research in North Carolina	Mohamed Youssef, NDSU
1:25	Long-term drainage research at SEPAC-- Years 16-29	Eileen Kladviko, Purdue
1:45	Managing drainage water and nutrients in South Dakota	Chris Hay, SDSU
2:05	Impacts of Cover Crops and Drainage Water Management on Nitrate Loss, Soil Moisture, and Crop Yield	Matt Helmers, ISU
2:25	The Perfect Storm: Nitrate concentrations in the Midwest in a wet year following the drought of 2012	Jeff Frey, USGS
3:05	Drainage research at ARS-Iowa	Dan Jaynes, USDA-ARS
3:25	Phosphorus Export at Drainage Network Scale: Concentrations, Loads and Transport Pathways	William Crumpton, ISU
3:45	Inter-annual variability and seasonality in surface and subsurface P Transport from Ontario soils	Merrin Macrae, Univ. of Waterloo
4:05	Phosphorus loss pathway from tile drained soils as related to chemical fertilizer and cattle manure application	TQ Zhang, Agric & Agri-Food Canda
4:25	Effect of Alternative Surface Inlet Designs on Sediment and Phosphorus Drainage Losses	Gary Feyereisen, USDA-ARS

The afternoon ended with the Business Meeting of NCERA-217, led by Chair Mohamed Youssef

Wednesday, April 15

- The NCERA 217 business meeting continued from 8-8:45 am.
- The mini-symposium was held on the topic of “Drainage Retention in the Landscape”, with the speakers below. Jane Frankenberger introduced the new NIFA-funded project on this topic, and the presenters that followed spoke on specific examples and the concept. A discussion at the end of the mini-symposium brought up questions of the potential of drainage capture and use in existing wetlands, the importance of involving permitting agencies, possible locations in the landscape, and previous research that had been done on this topic.
 - Managing Water for Increased Resiliency of Drained Agricultural Landscapes - Jane Frankenberger, Purdue
 - Drainage water retention in Manitoba - Merrin Macrae, University of Waterloo
 - Wetland reservoir subirrigation systems in Ohio: What was learned - Barry Allred, USDA-ARS
 - Drainage capture and use in the Red River Valley - Xinhua Jia, NDSU
 - Integrated water management systems in Missouri - Kelly Nelson, U. Missouri
 - Drainage capture and use in Ontario, Canada - Chin Tan, Agriculture and Agri-Food Canada
 - Coupling landscape water storage and supplemental irrigation - John Baker, USDA ARS
- In the afternoon, Paul Sweeney presented an NRCS report on the current status of drainage water management and the Ag Water Management Team. Members of the Agricultural Drainage Management Coalition Board introduced themselves and spoke of the importance they see for managing drainage. Nathan Utt gave an update on saturated buffers that are being monitored around the region by ADMC, funded by a Conservation Innovation Grant.
- Rob Sampson, NRCS National Water Management Engineer, led a discussion on the interim Saturated Buffers standard, informed by presentations by Dan Jaynes, Tyler Groh, Morgan Davis.
- One of the practices that would support drainage retention in the landscape is ponds, and Beth Clarizia (NRCS Indiana) discussed efforts to provide funding for ponds, which has been infrequent in recent years.
- Jeff Frey of USGS demonstrated several tools being made available by USGS.
- A brief discussion of the Des Moines Water Works lawsuit was provided by Dan Jaynes and John Torbert of the Iowa Drainage District Association.
- Katie Flahive of USEPA discussed recent EPA studies related incorporating to drainage water management into watershed planning, and also shared that they have begun to be able to hire again. Katie is now the USEPA representative to the Hypoxia Task Force Coordinating Committee.
- Chris Hay stated that the recorded presentations on drainage water management developed by extension agricultural engineers in several states, are available for everyone at <http://www.conservationwebinars.net/webinars/dwm-module-2-1>. This group is also developing a webinar series and possibly other educational material, and information will be sent to the ADMS mailing list.
- The **10th International Drainage Symposium** will be held in 2016. This will be the 50th anniversary of the 1st International Drainage Symposium held in 1966. Gary Sands presented an overview of the plans, and invited everyone to the planning meeting to be held in the evening. [Notes since the meeting: The International Drainage Symposium will be organized by SWCS and ASABE in

Minneapolis, likely in September 2016. Jane Frankenberger and Gary Sands will be Co-Chairs. Please contact them if you would like to be involved in the planning.]

- Next meeting of ADMS Task Force and NCERA 217: Two locations were discussed: Purdue University or North Carolina. One concern was whether industry representatives would consider NC too far outside their area, but those present said it would not be a problem, so should be considered for future meetings. The decision was to hold it in March 2016 at Purdue.
- The meeting adjourned at 4:45, and all were invited to the kick-off meeting to the new eight-state project called “Managing Water for Increased Resiliency of Drained Agricultural Landscapes” and to see the beautiful new Agricultural and Biosystems Engineering Building at Iowa State University.

Wednesday agenda:

Time	Topic	Speaker(s)
8:00	NCERA 217 business meeting 2.	Mohamed Youssef, Chair
8:45	Break and arrival by those not in NCERA-217.	
Mini-Symposium on Drainage Retention		Wed., April 15, 2015
9:00	Welcome	Jane Frankenberger
9:05	Managing Water for Increased Resiliency of Drained Agricultural Landscapes	Jane Frankenberger, Purdue
9:25	Drainage water retention in Manitoba	Merrin Macrae, University of Waterloo
9:35	Wetland reservoir subirrigation systems in Ohio: What was learned	Barry Allred, USDA-ARS
9:55	Drainage capture and use in the Red River Valley	Xinhua Jia, NDSU
10:15	Break	
10:30	Integrated water management systems in Missouri	Kelly Nelson, U. Missouri
10:50	Drainage capture and use in Ontario, Canada	Chin Tan, Agriculture and Agri-Food Canada
11:10	Coupling landscape water storage and supplemental irrigation	John Baker, USDA ARS
11:40	Discussion: <i>What do we still need to know about these systems? Where can they fit in the landscape? What are next steps?</i>	Jane Frankenberger, Moderator
Noon	Lunch (included)	
Drainage Management Implementation		
1:15 pm	NRCS Ag Water Management Team Progress Report	Paul Sweeney
1:35	Ag Drainage Management Coalition update	Charlie Schafer (Jeanne Hansen, Nathan Utt)
1:55	NRCS –Saturated Buffers Standard <ul style="list-style-type: none"> • Results from field studies • Greenhouse gas emissions from saturated buffers 	Rob Sampson Dan Jaynes Tyler Groh/Morgan Davis
2:40	Can EQIP be used to fund ponds for water storage?	Beth Clarizia
2:50	USGS update	Jeff Frey
3:00	Break	
3:15	Des Moines Water Works lawsuit discussion	Dan Jaynes, John Torbert
3:35	US EPA update	Katie Flahive

3:55	DWM Training - Recorded presentations available; discussion of future needs	Chris Hay
4:15	Planning for International Drainage Symposium 2016	Gary Sands
4:30	Additional items suggested by group	
4:50	Next meeting – where and when?	
5 pm	Adjourn	
6 pm	Kick-Off reception and meeting for new project <i>Managing Water for Increased Resiliency of Drained Agricultural Landscapes</i> at new Iowa State University Agricultural and Biosystems Engineering Building	

Attendees

First Name	Last Name	Email address	Position	Organization
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