

**Minutes**  
**SERA-IEG-17 Annual Meeting**

**“Minimizing Agricultural Phosphorus Runoff Losses for Protection of the Water Resources”**

**June 25 – 27, 2003**  
**Twin Falls, Idaho**

**Wednesday, June 25, 2003 – Day 1**

8:20 AM, Philip Moore, 2002-2003 Chair, brought the 2003 annual meeting to order.

Over 60 people were in attendance. Participants represented university research and extension, ARS, NRCS, EPA, state regulatory agencies, water management districts and private industry. Scientists from the USA, Canada, Ireland and United Kingdom were in attendance.

***Agriculture in the Pacific North West***

The theme of the first morning session was to introduce the participants to agriculture, water management and phosphorus management issues in the North West:

**Dale Westerman** gave an overview of diversity of agriculture in the Pacific Northwest

**Norman Semanko** discussed issues related to water management in the Northwest

**Bob Stevens** gave an overview of the current phosphorus management issues for irrigated agricultural systems in the Northwest.

**Sonny Guhidar** discussed TMDL's and related issues for the Northwest

**Dave Ferguson** presented a summary of a Lower Boise River Effluent Trading Demonstration Project that was initiated in 1997. The pollutant of concern in the Lower Boise River watershed is phosphorus. A trading framework, which includes procedures, has been prepared to authorize trading within the project area. Both point and non-point sources can create marketable credits.

***Field Trip***

Afternoon – Field Trip: Coordinated and Hosted by April Leytem and Ben Turner. Visited ARS research facilities and farms. Discussed on-going research and efforts to reduce phosphorus losses from irrigated agricultural systems. Visited aqua-culture research facility and was given an overview of on-going research efforts to reduce phosphorus exports/losses from aqua-culture operations.

*Evening* – Barbeque at Centennial Park.

**Thursday June 26 – Day 2:**

Oral Paper Session focused on various manure management issues:

**Philip Moore** discussed on-going, long-term research in Arkansas to evaluate the benefits of using alum to amend poultry litter.

**Victor Raboy** gave a review of low phytate grains and legumes. He discussed the overall potential for reducing phytate P in feed and the current status of the genetics, breeding, evaluation and use of Low Phytate/High Available P crops.

**David Nash** discussed current ideas and approached for using tracing techniques for the source of contaminants in water supplies as the first step in taking effective remedial action. Living organisms, like their wastes and decomposition products, are chemically unique. Thus, in this approach organic compounds are used to track the source of many water borne pollutants, including P. Compounds can be detected using a number of techniques including Gas Chromatography and Gas Chromatography-Mass Spectrometry. Data were presented which suggest that lipids can be used to identify pollutant sources, including feces and pasture species, in overland flow.

**Peter Kleinman** presented a summary of current research efforts in Pennsylvania to evaluate the interaction of hydrology, manure and soil P in determining soluble P losses in surface runoff. Their work suggests that in examining hill-slope processes, the effect of flow-path length on hydrology overwhelms estimates of mass P transport. At the watershed scales, fluvial processes interact with hill-slope processes to influence the amounts and forms of P exported from watersheds under storm and base flow conditions.

**Ralph Wraith** discussed scaling issues in P-runoff studies based on a Phosphorus Mobility study in Alberta Canada. He gave an overview of how well soil test P levels compared to dissolved inorganic P in surface runoff that was generated from both field and laboratory simulations.

**Roberta Parry** gave an update regarding the status of the implementation of EPA's New CAFO Rule.

***Workgroups:***

Workgroup Breakout: Afternoon – June 26: Time was given for the Workgroups to meet and conduct current business.

***Poster Session:***

Early Evening – June 26: Poster Session. A total of 7 posters were presented, representing a broad range of current research efforts on P management.

### **Friday, June 27 – Day 3**

#### **Reports from SERA-17 Workgroups:**

##### ***Transport Workgroup –***

Chairperson: April Leytem & Peter Kleinman.

Plans include the development of a few BMP fact sheets on transport (surface irrigation, one on PAM & erosion). In addition, the group plan to prepare a "state of the science" report to feed into the modeling effort; there will be sections on: overland flow (surface runoff, erosion), subsurface transport, preferential flow, channel flow, scaling effects on processes. Both irrigated and rain-fed systems will be included.

##### ***Soil/Manure Testing Workgroup –***

Chairperson: Dan Sullivan

###### **Current Soil/Manure Testing Work Group Objectives:**

1. Develop and evaluate soil and manure testing methods.
2. Update SERA-17 soil/manure testing methods manual based on emerging research.

Future plans included the development of a collaborative SERA workgroup manure P testing project. For the 2004 meetings two issues for will include:

1. Standardization of water soluble P test for manure and other amendments. Current SERA17 method in the lab manual (P. Moore et al) was developed for litter. Do we have enough data to recommend a test for other kinds of manure, or do we need additional method comparison data?
2. Discussion about P availability coefficients for manure and other amendments. What do we know about PACs for different materials? Can we move toward a consensus to recommend to states for modification of state P Indexes?

##### ***Aquatics Workgroup –***

Chairperson - Dorcas Franklin

### ***Modeling Workgroup –***

Chairperson - David Radcliffe

Modeling group objective: Assess the state of the art in modeling P and identify ways to improve current models.

Progress is being made on a P modeling publication. An initial deadline of July 1, 2004 was set for receiving for the draft chapters. For the 2004 meetings, the group will give an update on progress (or lack thereof) on the P modeling publication and discussion the use of modeling in the Arkansas vs. OK case.

### ***BMP's Workgroup –***

Chairperson - Forbes Walker

Since the 2002 SERA 17 meeting in Colorado and the 2003 meeting in Idaho, members of the group drafted approximately 30 two to four page BMP fact-sheets. In the year since Idaho, most of the fact sheets have been reviewed by at least two other SERA 17 members. Currently we have approximately 15 completely reviewed and revised fact sheets. The others are still awaiting reviews before the final revisions can be made.

NRCS had suggested that there may be some limited funds available to assist with final editing of the fact-sheets and produce a limited print run of all 30 fact-sheets (approximately 150). All the fact-sheets would have been made available in a pdf, or similar, format suitable for posting on the SERA 17 website. As of June 2004, no funding has been made available although efforts are continuing to secure it.

### ***Final Session: P management in Canada & Europe***

**Sheliah Nolan** discussed on-going research in Alberta, Canada to relate soil and runoff P losses at the field scales. The study includes 8-field scale sites under continuous cropping and the sites range in size from 2 to 330 ha and include fields with and without animal manure. As expected, total P and dissolved inorganic P levels in surface runoff were lower in the non-manured sites as compared to sites receiving manure.

**Phil Haygarth** gave an excellent overview of some of the current P research activities in Europe.

### **SERA-17 Business Meeting:**

2003-2004 Chair: Greg Mullins, Virginia Tech

Election of Secretary & Chair Elect: Peter Kleinman, USDA-ARS

Meeting Location 2004 – North Carolina

Meeting Possibilities in 2005 – Calgary, Canada.

COST Workgroup in UK – Suggested that SERA-17 develop a formal link between these two groups.

Light discussion regarding the location and frequency SERA 17 meetings.

SERA-17 project proposal is up for its 5-year renewal. Philip Moore will work with current and past chairs to develop and submit a new proposal for the next 5-year period.