

**Minutes of NCR-9  
Midwest Plan Service (MWPS) Annual Meeting**

**Kansas City Airport Marriott Hotel  
Monday, May 17 – Wednesday, May 19, 2004**

<b>Administrative Adviser</b>	<b>Chair</b>	<b>Secretary and ex-officio member</b>
Dr. Catherine Woteki Dean of Agriculture Iowa State University 138 Curtiss Hall Ames, IA 50011-1050	Dr. Jay Harmon Iowa State University ABE, Davidson Hall Ames, IA 50011-3080	Mr. Jack Moore MidWest Plan Service 122 Davidson Hall Iowa State University Ames, IA 50011-3080

**Members attending**

Ted Funk University of Illinois; Jay Harmon, Iowa State University; Bill Wilcke, University of Minnesota; Rick Stowell substituting for Rick Koelsch, University of Nebraska; Ken Hellevang and Tom Scherer, North Dakota State University; Don Jones substituting for Randall Reeder, The Ohio State University; Steve Pohl and Dick Nicolai, South Dakota State University; David Kammel and Brian Holmes substituting for Ron Schuler, University of Wisconsin

**Members not attending**

Dwayne Bundy, Steve Hoff, Jeff Lorimor, Stewart Melvin and Hongwei Xin, Iowa State University; Melvin Paulsen and Yuanhui Zhang, University of Illinois; Kevin Janni, University of Minnesota; David Shelton, University of Nebraska; Dirk Maier, Purdue

**Guests**

Gerald Miller, Iowa State University (representing Catherine Woteki, Administrative Advisor), William Edwards; Iowa State University (representing the North Central Farm Management Extension Committee); Pat Murphy, Kansas State University; and Jack Moore, Bill Koenig, Judy Johnson, and Susan Lucke MWPS Headquarters, Ames

**Executive Committee Meeting**

The MWPS executive committee meeting was held from 1:30 p.m. until 6:00 p.m. on Monday, May 17, 2004. The executive committee members present were Jay Harmon, chair; Steve Pohl, past chair; Bill Wilcke, member; Rick Stowell, member; and Jack Moore, ex-officio. Also present were Gerald Miller, Bill Koenig, Judy Johnson, and Susan Lucke.

Major topics of discussion were the MWPS budget, cooperation between ASAE, MWPS, and NRAES, the relationship between MWPS and NCR-9, and plans for the full committee meeting.

Jack Moore reported on the budget outlook for 2003-2004 and the plans for 2004-2005. The main points of the report were that MWPS has increased income but not enough to compensate for the loss of the member state contributions. As a result, MWPS has cut staff and plans to reduce staff work time more for the upcoming year.

Suggestions for improving the financial condition included charging more for services provided on contract. Gerald Miller pointed out that the new budget does not reflect the 2.5% tax on revolving accounts that ISU will be taking in the coming year.

Jay Harmon, Bill Koenig, and Jack Moore gave an overview of the meeting with ASAE and NRAES that was held in St. Joseph, Michigan in April 2004. A full summary of that meeting is attached. The major conclusion from the meeting is that all groups want to cooperate if possible, and ASAE is very concerned about the loss of a national resource if MWPS is unable to continue operating.

Susan Lucke was introduced as the marketing person for MWPS. She gave a summary of her activities over the last six months.

- Approximately 10,000 copies of a new catalog have been distributed.
- Flyers advertising specific books have been distributed.
- New mailing lists have been compiled.

Susan suggested we try to get a search engine on the MWPS web site to make publications easier to find. She will have MWPS members send her the names of people for her to contact to publicize MWPS more widely.

Gerald Miller suggested sending news items to ANR programs leaders to add to their newsletters.

Jay Harmon addressed the issue of NCR-9/MWPS relationship. His suggestion was that the full committee should elect an executive committee for NCR-9 and from that committee draw members for an Advisory Committee to MWPS.

The executive committee agreed that the main goals for the full committee meeting were the following:

- Have each member provide marketing contacts to MWPS.
- Establish work groups to develop materials for the upcoming year.
- Have the full committee clarify the NCR-9/MWPS relationship, including developing new ways of developing publications and getting materials ready for publication.

### **Full Committee Meeting**

Jay Harmon, chair, called the meeting to order at 8:00 a.m., Tuesday, May 18, 2004.

### **Financial overview**

Through the efforts of ISU's College of Agriculture, Jay Harmon, Bill Koenig, and Jack Moore were able to meet with a staff member from ISU's Pappajohn Center for Entrepreneurship to talk about developing a business plan for MWPS. Based on the results of that meeting, MWPS worked to develop marketing expertise and a marketing plan before developing a business plan. The business plan will be the next step in the transition to being self supporting.

MWPS used salary savings from a vacant designer position to hire Susan Lucke as a part-time marketing person. This arrangement will last until the end of June 2004. Through Susan's efforts, sales at headquarters have increased but not enough to overcome the loss of Member

State contributions. Gerald Miller noted that ISU's College of Agriculture may be able to provide funding to support the marketing position through the end of 2004. Jay Harmon will discuss this with Gerald and other ISU administrators.

MWPS is actively seeking additional contracts to generate income and will be getting direct income from work done for the Wisconsin Dept. of Ag, the Hoop Housing Conference in September, and contracts with the NCFMEC and Four-State Dairy Group,

The budget for 2004-2005 assumes a 15% increase in sales income and some reduction in staff salary, which will be accomplished by reducing hours and workloads. The budget allows for printing two major publications for 2004-2005: The Horse handbook and The House Planning Handbook. Other large publications may not be printed if resources are not available. If MWPS is unable to increase cash flow, some projects may need to be delayed until sufficient money is available to complete them.

MWPS is a participant in three proposals: two with groups led by Rick Koelsch that plan to develop a national resource center for water quality issues, and one with a group led by Jay Harmon that plans to host a conference on air quality and publish educational materials resulting from the conference.

#### **Accomplishments: Projects Completed in 2003-2004**

MWPS Concrete Conference, June 2003

MWPS-4SD16, Proceedings for a Four-State Dairy Conference, June 2003

Raising Dairy Replacements, book and CD, new publication completed October 2003

CAFO Fact Sheets, text for web-based distribution, completed November 2003

CNMP materials, text and PowerPoints on CD, completed January 2004

MWPS catalog (revised), completed February 2004

Managing and Designing Bunker and Trench Silos, revised publication March 2004

Manure Characteristics, MWPS-18 Section 1, revised publication April 2004

#### **Current Projects:**

- Revise hoop housing AEDs for conference in September 2004
- Develop beef, dairy, and other species AEDs for hoop conference in September
- Complete the revision of the Horse Facilities Handbook, December 2004
- Complete the revision of the House Planning Handbook, April 2005
- Developing pesticide and fertilizer handling materials for Wisconsin Dept. of Ag
- Publish CNMP modules, possibly as a CD or on the web
- Market Farmstead Planning CD developed by Jones, Holmes, and Funk
- Complete 4SD-17, Dairy Conference proceedings for June
- Complete Farm Management Triennial Conference CD for June
- Compile a CD of all past 4 State Dairy proceedings
- Resume work on MWPS-1  
Approximately 3/4 of the chapters of MWPS-1 are complete. Reviews of the structure and load chapters are needed.

### **Overview of meeting between MWPS, ASAE, and NRAES**

Jack Moore gave an overview of the meeting that he, Jay Harmon, and Bill Koenig had with representatives from ASAE and NRAES. The meeting took place in St. Joseph, Michigan in April 2004. Jack noted that all parties were interested in cooperation, and both ASAE and NRAES expressed interest in publicizing MWPS materials where possible and using MWPS materials when appropriate.

MWPS members discussed the idea of a merger with NRAES, which was one suggestion that came from the April meeting. Moore noted that NRAES is not very interested in merging. MWPS members felt that a merger would not enhance either program and agreed that remaining separate would be a better option for now. Committee members urged MWPS staff to maintain good contacts with ASAE and NRAES and to work with them when appropriate. Moore will report the group's discussion and decision to the ASAE committee that initiated the April meeting.

As part of the discussion about working with ASAE, Bill Wilcke proposed that MWPS suggest a cooperative program with ASAE in which MWPS would develop materials that discussed and explained ASAE standards by using examples and practical applications of the standards. Bill agreed to lead a work group to discuss the feasibility of this project.

### **NCR-9/MWPS relationship**

Committee members expressed a variety of opinions about how NCR-9 and MWPS should interact in the coming years. After much discussion, Rick Stowell, Don Jones, and Ken Hellevang agreed to work as a committee to address this issue.

Gerald Miller gave an update of NCR-9 administrative issues. The new proposal starts October 1, 2004 and goes for 5 years; the mid-term review is 2007. At this time, Michigan and Missouri do not have members on the NCR-9 committee. Jerry indicated that NCR-9 is expected to continue to have a link to MWPS.

Ken Hellevang moved that we elect officers to fill traditional roles even though we are working through a transitional time. Ken proposed we elect a chair, past chair, vice chair, and secretary. Don Jones seconded, Motion passed.

The nominating committee proposed the following as officers for the NCR-9 Committee for 2004-2005 (1-year appointments):

Chair—Ted Funk

Vice Chair—Brian Holmes

At-Large—Pat Murphy and Rick Stowell

Past chair—Jay Harmon

This slate was elected unanimously. Jay Harmon will continue to serve as the liaison to the MWPS office at ISU. Temporarily, MWPS staff will provide secretarial support.

### **Marketing report**

Susan Lucke described the marketing plan that she has been working on. She would like to have the committee provide her with additional mailing lists. She suggested putting a search feature on web site to help customers find publications. Susan passed out two sheets to the committee. The first explained the marketing plan, and the second was a sheet that committee

members could fill out and give to headquarters with information about how to reach additional contacts.

Susan stressed that additional NCR contacts would be helpful. As part of the marketing strategy, we will make news releases for all publications available for download from the MWPS web site. Committee members should try to add people to the e-mail news release list from outside the MS group. Try to think of companies that would buy large quantities to use as gifts or incentives to their customers.

### **Publishing priorities**

- Hoop publications
- Dairy conference proceedings
- House publication
- Horse publication
- CD-Farmstead planning
- Dairy conference proceedings on CD
- CNMP CD
- Wisconsin fertilizer and pesticide handling materials
- MWPS-1
- Ventilation publication
- LPES materials
- Example template that committee members can use to write MWPS into proposals

### **Other activities and responsibilities**

Monthly updates will continue to come from the chair of the NCR-9 committee.

The full committee will meet by conference call on November 1, 2004, at 10:00am CST to remind members what they committed to at the annual meeting and to discuss what is being done to complete these issues.

The following agreed to head up author committees for ongoing and proposed projects:

House Planning Handbook	Ken Hellevang, David Kammel, Ted Funk
Pond Management and Small Farms	Don Jones
Ventilation	Steve Pohl
Composting	Steve Pohl
Biofilter	Dick Nicolai & Rick Stowell
Dairy Housing	Brian Holmes and David Kammel
ASAE Standards and MWPS materials	Bill Wilcke
MWPS-1	Bill Koenig

Schedule of news releases for the next year

June	Pat Murphy—Beef Bunker Brian Holmes—MWPS-2
July	Ken Hellevang—Grain
August	Dick Nicolai—Farm Safety
September	Steve Pohl— Ventilation
October	Bill Koenig/Jay Harmon—Horse

November House Planning — To be determined  
December William Edwards—Farm Management  
January Tom Scherer—Irrigation  
February Jack Moore/Rick Koelsch/Diane Huntrods—LPES  
March Steve Pohl—Concrete  
April Don Jones—Outdoor Air

Rick Stowell's committee will report on the relationship between NCR-9 and MWPS.

The annual meeting for 2005 will be May 24-26 at the Kansas City Airport Marriott.

Meeting Adjourned at 12:00 Wednesday, May 19, 2004

Approved:

*Signed Jay Harmon*

Jay Harmon  
NCR-9 Chair, 2004

*Signed Catherine E. Woteki*

Catherine E. Woteki  
NCR-9 Administrative Advisor 2004

## Abbreviated State Reports of the NCR-59 Committee

### Illinois

**Ted Funk**  
**Agricultural Engineering**  
**University of Illinois**  
**(217) 333-9313**  
**funkt@express.cites.uiuc.edu**

#### **MWPS materials for training and regulatory compliance:**

- LPES curriculum for state Certified Livestock Manager Training. As of two years ago (fall 2002) we have changed our state mandated producer training to include the LPES manual. Every producer going through the training must have a copy of the manual, as the workshop and the state exam are taken from those materials. We trained 785 producers in calendar year 2003, the seventh year of the program. We estimate a total audience (three year certification cycle) of about 3,000 producers. Besides the CLM training, we also have used the LPES manual materials in college and community college classroom instruction.
- Our state references MWPS-36, Concrete Manure Storages Handbook, in the regulation for new manure storage construction. Many producers and contractors refer to that publication during construction planning.

#### **Market development**

- Horse Handbook revision. To satisfy the growing audience of horse owners in the state, and especially the Chicago and suburban counties, University of Illinois Extension is increasing programming for horse facilities and horse manure management. We estimate a potential sales market for several hundred copies per year of the revised MWPS-15 Horse Handbook, once it is released.
- House Planning Handbook revision. University of Illinois Extension continues to build on its residential housing program, and would benefit from having the revised MWPS-16 House Planning Handbook for sale. We have several field staff holding workshops for first-time homebuyers, realtors, and contractors, all representing a very large market for the new release.
- Species targeted catalog sheets at meetings. We put together a series of species-targeted catalog sheets for commodity meetings and CLM training workshops, to assist with selection of recommended MWPS materials.
- MWPS Web site links. We link to MWPS web site for the CLM training site at [www.livestocktraining.com](http://www.livestocktraining.com)

### Indiana

**Don Jones**  
**Professor of Agricultural Engineering**  
**Purdue University**

**(765) 494-1178**  
**jonesd@purdue.edu**

Activities:

- Completion of 12 room, 720-hd environmental building that will allow the study of techniques for lowering the environmental footprint of modern swine production through ration modification and various management techniques. In house instrumentation will allow monitoring air quality inside rooms and exhausted from ventilation fans. The underfloor liquid manure system is set up to allow draining to a large mixing sump for sampling and either returned to the original room or moved to long-term storage. The first animals will be placed in the building in late May, 2004.
- Completion of “*Best Environmental Management Practices*” series of Best Management Practices pamphlets with Michigan State University. A series of 12 tri-fold shirt pocket publications were jointly developed by Michigan and Indiana for use by confined livestock and poultry producers. Approximately 3000 of the publication sets have been distributed to producers in each state. The titles include: See attached for titles.
- Completion of major revision of MWPS 2, in cooperation with U of IL (Ted Funk) and U of WI (Brian Holmes). The new version is 160 pages in length.
- Jones, D. D., H. Zhang, J. Lorimor, B. Von Bermuth, R. Sheffield, S. Muktar, D. Schmidt, D. Rashash, D. Hansen. 2003. Model Certification Training Program for Operators of Confined Feeding Operations. Over 250 pages text, including nearly 200 study guide questions and over 500 PPT slides.
- 31 page white paper on “innovative methods for disposal of animal mortalities” for Joint KSU/Texas A&M/Purdue project.
- Several farmstead-related off line and online publications

**Iowa**

**Jay D. Harmon, Ph.D., P.E.**  
**Associate Professor & Extension Ag Engineer**  
**Iowa State University**  
**515-294-0554**  
**jharmon@iastate.edu**

The Agricultural and Biosystems Engineering Department has been going through many changes in the past year. Five faculty that are all in key areas will retire on June 30, 2004. These include Jim Baker, Dwaine Bundy, Jeff Lorimor, Stewart Melvin and Graeme Quick. New faculty that have been hired include: Amy Kaleita, soil and water teaching and research; Matt Helmers, soil and water extension and research, Robert Burns, manure management extension and research; Jacek Koziel, air quality teaching and research; and Lie Tang, power



and machinery teaching and research. Jim Baker's position in water quality has not been given approval to begin a search.

Another major change in the department is the merging of the Industry Education and Technology department into the ABE department. This program will be coupled with the Agricultural Systems Technology program. This will provide us with an opportunity to give technology students the option of pursuing graduate degrees. Current enrollment is approximately 140 in Ag Engineering, 140 in AST and 230 in IEDT. There will be many growing pains but it is anticipated to be a positive move.

The department continues to have strong programs in air and water quality issues. Two of the recent accomplishments include NRI grants. Steve Hoff has received an NRI grant to study dispersion modeling further while Wendy Powers received one to study emissions in the new laboratory she is developing. This lab includes eight animal chambers and will measure ammonia, hydrogen sulfide and other compounds using SPME technology, coupled with ventilation measurement, to provide accurate emission rate determination.

### **Kansas – No Report**

### **Michigan – No Report**

### **Minnesota**

**Bill Wilcke**  
**Biosystems/Agricultural Engr**  
**University of Minnesota**  
**612-625-8205**  
**wilck001@umn.edu**

- University of Minnesota Extension personnel are adjusting to a major Extension reorganization. The former county Extension offices were eliminated and replaced by 18 Regional Extension Centers that are staffed by Regional Extension Educators and are funded from state and federal sources (not county sources). Regional Educators have multi-county responsibilities, but the extent of their geographic coverage depends on their area of expertise and the number and location of other Educators who share their expertise. Counties that want to have Extension employees who are located in their county and serve that individual county can contract with the University of Minnesota Extension Service for customized positions for a set price per FTE.
- As part of the Extension reorganization, all Extension faculty are expected to participate in development of business plans for their Extension programs that generate revenue for travel, educational materials, and where possible, salaries. In the Biosystems and Agricultural Engineering Department, there are no allocated funds for Extension travel. Limited non-recurring funds for professional development are available for Extension faculty for use by December 30, 2004.

- The UMN Biosystems and Agricultural Engineering Department has not been able to hire any new faculty for a number of years. After July 1, we will probably not have any faculty at the assistant professor rank. The good news about that, of course, is that all of our faculty will have successfully moved through the promotion and tenure process. The bad news is, we're getting old!
- UMN is putting a lot of pressure on departments to increase student credit hours since tuition is being used to replace funds that used to come directly from the state. Some UMN Biosystems and Agricultural Engineering Department faculty think that dropping "Agricultural" from the undergraduate engineering program name would help with student recruiting.
- Minnesota sponsored a poultry ventilation workshop last fall. MWPS-32 was provided to workshop participants. About 50 people attended. Jay Harmon, ISU, Eileen Wheeler, Penn State, Kevin Janni, UMN, and Larry Jacobson, UMN, did most of the teaching for the two-day event. The SDSU ventilation demonstration unit (developed for the four-state swine ventilation workshops) and three other hands-on labs were used during afternoon sessions on the first day.
- Some UMN personnel have been involved in a project dealing with the design of Vegetative Treatment Areas (VTA) for runoff from open feedlots (primarily beef). Rick Koelsch, Nebraska, is taking the lead. MWPS is involved in developing a manual.
- One UMN ag engineer reports that about 95% of the material for an Animal Science course that he teaches comes from MWPS and/or NRAES. This same instructor requires that students in his Ag Waste Engineering class purchase MWPS-18.

The UMN Department of Biosystems and Agricultural Engineering, in collaboration with the Minnesota Department of Transportation and the Minnesota Pollution Control Agency, offers an Erosion/Sediment Control and Management Certification Program. The fee-based program includes inspector/installer, site management, and design courses. Over 1800 people have been certified since the program began in

### **Missouri – No Official Designated Representative**

### **Nebraska – No Report**

### **North Dakota**

**Ken Hellevang**  
**Ext Ag & Biosystems Engr**  
**North Dakota State University**  
**701-231-7243**

**Kenneth.Hellevang@ndsu.nodak.edu**

Interview for an Extension Director and accepting applications for Department Head (June 1). Department and RRV ASAE Section hosted the Intersectional ASAE Meeting in September with 48 technical presentations.

**MWPS Activities:**

Changed the ordering process in August so all MWPS inquiries at our web site were directed to mwpsdq.org. Our Extension ABEN web site MWPS site had the following hits during Jan-Jul 2003: home 824, livestock 788, grain 758, construction 365, waste 311, safety 303, business 239, greenhouse 218, fruit & vegetable 207, conference proceedings 198, forage 166, ventilation 153, soil & water conservation 148, and forestry 126. Pursued contact opportunities with: Agricultural Communications Departments in states beyond the NCR, National Association of Agricultural Educators, post high school agricultural programs, National Association of County Agricultural Agents, and Extension Engineers. Sent MWPS catalog to all extension and research field offices and agricultural educators in ND. Distributed news release provided by MWPS.

**Teaching:**

Student Enrollment ABEN 90, ASM 60, ABEN Grad 12  
John Deere Dealership Management program  
Employment: 15 ABEN average = \$50,000 (\$39,000-57,000)  
11 ASM average = \$42,000 (\$38,000-42,600)

**Research:**

Production Practices for High-Yielding Irrigated Wheat, Potato Planting Configurations  
Food Uses of Flaxseed, Intelligent Quality Sensors for Safe Food Products  
Intelligent Systems for Characterization of Selected Crops and Food Products  
Dry Edible Bean Harvest, Handling, Drying & Storage to Maintain Quality

**Extension:**

The Extension ABEN site, <http://www.ag.ndsu.nodak.edu/abeng/> served 1.2 million requests in 2003 from 139,875 distinct hosts. The most popular part of the site is the plans section with the top plan downloaded 35,548 times.

Program Topics: Post Harvest Engineering; Structures & Environment Engineering—Moisture & Mold Problems in Buildings; GIS/CPS—Geospatial Knowledge and Skills Program, Geospatial Education for Water Quality, Hand-Held Computers in Extension Education; Machine Systems—Biodiesel Fuel & Spray Equipment and pesticide Application; Safety—Agricultural Safety & Agrability; Land Use Data; Water Quality—Groundwater Protection Strategy, Water Quality Web sites; Irrigation—Developing Irrigation Pump Intakes for Shallow Water Sources, Using Surge Valves, Irrigation Technology, Misting for Scab Research, Irrigation Conservation Practices.

**Ohio**

**Randall Reeder**

**Associate Professor**  
**The Ohio State University**  
**reeder.1@osu.edu**  
**614 292 6648**

In Ohio all sales are directed to MWPS headquarters.  
We have “localized” appropriate news releases from HQ and forwarded to OSU Extension, both directly to County Extension offices and for distribution through ag media.

Randall Reeder wrote a news release for the Conservation Tillage CD-ROM and the book (MWPS-45). At the Midwest Conservation Tillage Conference held in June 2003, at Wooster, Ohio the first 40 who registered received the CD free.

### **Proposed activities**

One of our faculty, Alfred Soboyejo, is recognized as an authority on structural engineering, especially in the areas of wind loads and fatigue. He is a native of Nigeria and his company built many of the biggest buildings there in the 1970's and 80's. He is now a US citizen.

He reviewed a couple of chapters for **MWPS-1**. He sees a strong need in Africa for MWPS-1 as a resource for He suggests we contact agencies, starting with World Bank and USAID, to propose distribution of at least 1000 copies of the book across Africa., to universities, consulting engineers, US Information Services offices, and appropriate gov't agencies. Also consider including other MWPS books/CDs in a package.

### **Indoor Environment and Air Quality of Animal Buildings**

This is a proposed new MWPS “book”, up to 100 or more pages, either as a single publication or a number of smaller bulletins/fact sheets. Potential sponsors: NIOSH, and possibly the Great Lakes Center for Agricultural Safety and Health

Lingying Zhao would be the “lead author,” with others contributing chapters or overall content.

#### **Description:**

Animals spend their lifetime in confined animal production facilities. Producers spend significant portion of their time in animal buildings, too. Indoor environment and air quality directly affect animal and human worker comfort and health.

Unfortunately, understanding of indoor environment and air quality, especially their spatial and temporal variations, have been limited among farmers and the professionals who work with them, such as county agents and veterinarians.

Development of indoor particle image velocimetry, Computational Fluid Dynamics Modeling, and pollutant measurement techniques has enabled quantification of indoor environment and air quality spatial and temporal distributions.

A **book (or bulletins)** to systematically analyze and demonstrate indoor environment and air quality spatial and temporal distribution of typical animal facilities will be a very helpful tool for producers to understand their facility, manage the ventilation systems, adopt technologies to correct problems, and in turn protect health of animals and themselves

### **South Dakota**

**Dick Nicolai**  
**Agricultural & Biosystems Engineering**  
**South Dakota State University**  
**605-688-5663**  
**nicolaid@sdstate.edu**

**Past Year Activities:**

- Ventilation Workshop – Twenty workshops on managing your unseen employee; the ventilation system were conducted in six states (IA, MN, NE, KS, MS, and SD). Two MWPS ventilation handbooks (Mechanical and Natural Ventilation) were included with the handout materials. Participants included producers, managers, veterinaries, and feed company personal.
- Air Quality Workshop – Three workshops on odor and gas emissions from livestock facilities were conducted for county extension educators, producers, local county feedlot regulators, and county commissioners. The MWPS air quality handbook was used as a handout for some of the workshops.
- Carcass Compost Workshop – A workshop on proper procedures for carcass disposal was offered in conjunction with local county educators. Increase interest in this method is being driven by concern for bio-security and lack of available rendering services.
- Biofilter Workshop – Two presentations were given to pork producers on the construction and management of biofilters.

**Future Activities:**

- The next generation of ventilation workshops controller functions and proper setting procedures are being prepared along with new instructional material.
- Research on natural windbreaks for odor reduction are being evaluated and rated for inclusion in the OFFSET odor predication model. Also the dispersion part of OFFSET is being revised for South Dakota weather conditions.
- Optimum configuration for a vertical biofilter is being investigated. This will be a stand alone design configuration.
- Research and education material will be developed this fall on the proper procedure of using hydrogen peroxide and/or ferrous chloride as an additive to reduce hydrogen sulfide thus allowing for manure pit entering.

**Wisconsin – No Report**