

NCCC-9 MEETING MINUTES

MWPS: Research and Extension Educational Materials

May 15-16, 2007

Kansas City Airport Marriott Hotel

Administrative Advisor:	Chair:	Vice-Chair:	Secretary:
Gerald A. Miller	Joe Zulovich	Joe Harner	Rick Stowell
Iowa State University	University of Missouri	Kansas State University	University of Nebraska
132 Curtiss Hall	231 Ag. Engineering	147 Seaton Hall	218 L. W. Chase Hall
Ames, IA 50011-1050	Columbia, MO	Manhattan, KS 66506	Lincoln, NE 68583

Members in attendance:

Ted Funk, University of Illinois	Steve Pohl, South Dakota State University
Jay Harmon, Iowa State University	Tom Scherer, North Dakota State University
Joe Harner, Kansas State University	Rick Stowell, University of Nebraska
Brian Holmes, University of Wisconsin	Lingying Zhao, Ohio State University
Don Jones, Purdue University	Joe Zulovich, University of Missouri
Dick Nicolai, South Dakota State University	

Members absent:

Yuanhui Zhang (IL), Steve Hoff and Hongwei Xin (IA), Pat Murphy (KS), Bill Casady (MO), Kevin Janni and Bill Wilcke (MN), Rick Koelsch (NE), Ken Hellevang (ND), Randall Reeder (OH), and David Kammel (WI).

MWPS representation: Kathy Walker, Iowa State University

Administrative Advisor: Gerald Miller, Iowa State University

Chair Zulovich opened the meeting at 1 p.m. and introductions were made.

Two working groups met during the morning: Ventilation educational materials & Private water systems

MWPS Update:

Jay Harmon and Kathy Walker highlighted top-selling products. Top 3 Web sellers (# of items sold) are *Living on Acreages*, *Horse Facilities Handbook*, and *Designs for Glued Trusses*. Several old titles are still selling and are being reprinted on demand. Kathy will inform state representatives of titles that are moving and are being reprinted, so selected handbooks in state inventories can be returned for distribution for less expense.

Primary new MWPS products include *Living on Acreages* and the *House Handbook*. NRAES has introduced several new publications.

MWPS is updating and having printed the PEI – *BE Licensed* brochure. MWPS also produced the *CNMP Core Curriculum* on CD.

MWPS Finances:

Balance sheet for the first 10 months of the current fiscal year shows

Receipts of	\$175,867
<u>Expenses of</u>	<u>\$141,321</u>
Net income	\$34,546

The debt as of May 1 = \$137,393 (to ABE Dept. at ISU)

Action Items:

MWPS-1:

Book One

Section 100 has gone through editing and review and just needs final revisions.

Section 200 has been reviewed by the editor and the 1st draft has been returned.

Section 300 has been laid out and is being reviewed by the editor.

Book Two

Sections have been laid out and reviewed by the editor.

Needs from NCCC-9:

News releases

Sponsorship of publications

Linking to the mwps.org website

Freelancers using PC

Administrative Report:

Gerald Miller highlighted the mid-term report from the North Central Regional Association of Agricultural Experiment Station Directors. NCCC-9's proposal for continuance was approved through 2009. We need to submit a new proposal by December 15, 2008. In the committee response, there was some discussion about the form (e.g. extension vs. renewal) the next proposal should take, based on the improving financial state of MWPS. The committee discussed the need to also keep department heads informed about NCCC-9 activities and impacts. General items that were brought up for highlighting - beyond publications marketed through MWPS - included multi-state programming activities and eXtension collaborations.

- Future discussions should take place on the suitability of MWPS publications for delivery via eXtension.
- Jerry also gave an overview of the federal funding picture for Extension and USDA.

State Reports: - See Appendix A for the state reports. The information listed below includes action items suggested in follow-up to individual state report topics.

Joe Zulovich (MO) reported that he has started an extension program that builds on the new *Living on Acreages* handbook. He said that a fairly large association of rural residents has formed as an association and that they may be interested in educational events. A committee response was to recommend that MWPS develop a CD of graphics that would be offered for sale to instructors to use in developing presentation materials (with appropriate recognition of author/MWPS).

Tom Scherer (ND) reported that Ken Hellevang is involved in biomass discussions and has been getting many inquiries about corn drying. Committee response was that we need to see what is available for proactive delivery of information on this topic.

Business Meeting:

Minutes:

Don Jones moved (Holmes seconded) that we approve the 2006 meeting minutes. Motion carried.

Discussion of mission:

Preliminary discussion occurred on the mission of NCCC-9, with a range of views being expressed. More-detailed discussion took place during the business meeting.

Bio-Economy Consortium:

Jerry Miller gave an overview of this consortium. Main activities are facilitation and promotion of the use of biomass. Discussion followed on where this effort may go from here. Should a letter be sent to the consortium to propose that MWPS be the clearinghouse for biomass publications and that NCCC-9 develop the

engineering/technical content? The committee consensus was to send such a letter, including a description of MWPS and a few sample bioenergy-related publications.

Promotion of Materials:

A number of ideas were suggested including:

- Include synopses of books/chapters to encourage people to purchase product;
- Distribute order forms, with new publications highlighted, in lieu of new catalogs.

Progress Reports:

- Private Water Systems, MWPS-14: Don Jones reported that all but two chapters are out for review. Next step is to complete chapters and chapter reviews. The entire manuscript will then be sent out for review and editing, with a target of doing so by the end of the summer. Committee encouraged sponsorship (e.g. U.S. EPA).
- Dairy Housing & Equipment Handbook, MWPS-7: Brian Holmes reported that various degrees of progress have been made in revision of chapters. Chapters 4, 6 & 7 will go forward as supplements, with drafts ready for review in August '07. Plan to have reviewed chapters ready by December 07. Some funding is available to support laying out and editing the supplements. It was proposed to include a copy of the last version of MWPS-7 with the purchase of supplements, since a fairly large inventory remains on hand.
- Ventilation materials: Jay Harmon reported that Pork Information Gateway's (PIG) support for authors of relevant swine-related materials is being pursued as an avenue for getting materials developed. The group identified several fact sheets (~4 pages) that were categorized as being well-developed, started, or planned. There were some reservations voiced by the committee regarding ownership of material – mainly related to eXtension. PIG allows authors to retain ownership of authored material.

MWPS Inventory review:

Kathy Walker reported on materials deserving attention. A summary of status and suggested responses follows:

- Beef Housing Handbook is in demand, contains old material, and is hard to reprint. Joe Harner said that all MWPS-6 text is now in electronic format. Committee response was affirmative to proceed with revision. An AED on deep-bedded/monoslope buildings is likely to be in high demand.
- Swine Housing Handbook: A decision was made to not reprint. A committee recommendation was to solicit state inventories (across the board) for possible filling of requests.
- There are several swine-related handbooks with fairly large inventories. Plan is to market as sets of 4.
- Sheep Housing Handbook is seeing growing demand, especially in goat production. Revising MWPS-3 would involve a 3-year development time. A suggestion came forward to combine the effort with Dairy Practices Council's Small Ruminant Handbook.
- MWPS-18 set is out-of-date and slow moving. Recommendation was to package as sets and market with NRAES-89 Land Application of Liquid Manure (new publication).
- Ventilation materials (MWPS-32 through 34) are moving slowly. Package and market as a set. Joe Zulovich said that the text for these materials has been scanned and is available.
- Grain drying (MWPS-13, 20 and 29) handbook inventories are also high. Package as a set to move MWPS-20 and 29 along with MWPS-13, which is used in some courses.
- Market Low-temperature Grain Drying, MWSP-22, as free product to international customers.
- MWPS-23, Solar Livestock Housing, should be marketed as a free download.
- Contact Kammel about redoing Pesticide Containment Handbook, MWPS-37.
- MWPS-24, On-Site Domestic Sewage Disposal Handbook, should be made available as a free download. Recommendation was to package with Living on Acreages.

General recommendation was to bundle materials where it is advantageous.

What must, should, could NCCC-9 do?

- NCCC-9 must demonstrate impact; can accomplish this via various means. We need to develop a new impact statement and submit it (NCRA 207) this year. Brian Holmes will lead review of draft impact statement (w/Stowell).
- MWPS must generate more publication receipts than expenses.
- NCCC-9 should diversify its membership to address regional needs.
- Members should determine what regional publications / development activities (NC or grant-funded) exist and encourage incorporation of those materials and collaborations. Executive Committee will look into NC committees that produce relevant materials.

Renewal of NCCC-9:

Don Jones proposed and the committee concurred that we pursue a 1-year extension in 2008. That way, we would request the 5-year renewal in a financial position that is in or near the black and with a more open perspective in terms of goals and objectives.

We will need to discuss potential new operating models to support material development (w/wo MWPS staff).

Accomplishments:

A brief discussion took place regarding the forms in which accomplishments could take place. A preliminary listing for our committee to consider included:

- New materials
- New major development efforts
- Regional educational program impacts
- New regional interactions/relationships

Potential new regional publications:

Several state pubs are possible regional candidates.

Don Jones summarized ways to get a publication developed:

- 1) Get a good topic
- 2) Work with good people – follow-through and selection of authors
- 3) Put together a good outline
- 4) Have leader do less writing and more development of graphics (not plans), coordination and editing.
- 5) Establish deadlines and follow-up on them.

Main value of MWPS in development process is great job of enhancing graphics.

Short-Range Outputs:

MWPS-14: done by September 07

MWPS-7: at least 3 primary supplements done by December 07

Ventilation fact sheets: Three categories of materials were identified; those that will have:

- Reviewed and revised drafts done by December 07
- Drafts developed by December 07
- Outlines developed by next meeting

Longer-Range Outputs:

CAFO siting (community perspective) has great need presently

- Siting from air quality perspective (Rick, Dick & Jay)
- Siting from water quality perspective (Brian, Heartland group)
- Siting for alleviating traffic and logistical concerns

Provide a checklist approach that dispels myths and that references sources of information in areas of valid concern.

ISU cost-comparison booklet for beef feedlots (Jay)

Alternative energy options

- Solar for animal housing, residences/water heating (Zulovich)
- Corn- and pellet-burning (Hellevang)
- Small wind systems

Follow-up on letter to Energy Consortium (Murphy, Hellevang, Zulovich/Stowell)

Interact with 6-State Dairy Consortium (Holmes)

Status reports from working groups should be provided on a regular basis, coinciding with Exec. Committee conference calls.

Include description of need along with proposed publications.

Election of Secretary:

Two candidates were nominated and Tom Scherer was elected as Secretary. Officers for FY08 are:

- Joe Harner, Chair
- Rick Stowell, Chair-elect
- Tom Scherer, Secretary
- Joe Zulovich, Past-chair

Dates for 2008 Meeting:

Target Tuesday & Wednesday, May 13-14, 2008 for next year.

Ted Funk moved that the Executive Committee determine the location for next year's meeting (Pohl seconded). There was interest in going to another location (Omaha, Indianapolis, Minneapolis, etc.). Motion approved.

Brian Holmes moved (Pohl seconded) to adjourn. Motion passed. Meeting adjourned at 11:30 a.m.

Submitted by:



Richard Stowell
NCCC-9 Secretary, 2007

Approved:

Signed Joe Zulovich

Joe Zulovich
NCCC-9 Chair, 2007

Signed Gerald A. Miller

Gerald A. Miller
NCCC-9 Administrative Advisor 2007

Appendix A

State Reports

Illinois: Station reporting: University of Illinois at Urbana-Champaign
Scientists reporting: Ted Funk, Yuanhui Zhang

Use of MWPS materials in Illinois Extension programming -- highlights

Horse Handbook. Especially in and near the large urban centers of Illinois, there is increasing demand by horse owners for information on horse facilities and horse manure management. University of Illinois Extension put on a series of workshops in the state and relied heavily on the content material in the Horse Handbook, advertising the book at meetings and via various media including news releases.

House Handbook. This revised publication has become the text for the University of Illinois undergraduate course, Technical Systems Management 371, Residential Housing. In addition, Extension promotes the Handbook at first-time homebuyer programs, refers to it when contacting homeowners and remodelers, and often references and recommends the Handbook in homeowner workshops.

Rectangular Concrete Manure Storages Handbook, MWPS-36. This publication is referenced in Illinois state statutes, and is used by consultants and regulators for livestock facility planning and construction.

LPES Curriculum. The Curriculum remains the reference manual required by Extension's training program for livestock producers, a program which is mandated by IL state regulation for livestock producers and others managing facilities over 300 animal units. Total audience: about 2,000 producers, consultants, and agency representatives.

Illinois Manure Management Plans tool **IMMP.** Published for Illinois by MWPS in 2005, the hard copy tool was expanded to an interactive web tool in 2006-07. Several of the IMMP "planning steps" are referenced specifically by IL NRCS field guide for writing Comprehensive Nutrient Management Plans. MWPS gave Illinois permission to use several of the tables in **MWPS-18 Section 1, Manure Characteristics**, in IMMP as beginning reference values that producers use to start building their manure management plans. Total audience: about 1,500 producers managing small, medium and large livestock facilities in Illinois.

Impacts

High-quality regionally-recognized resources – Horse Handbook, the House Handbook, Rectangular Concrete Manure Storages Handbook, LPES Curriculum, and the data from Manure Characteristics – are made readily available to Illinois clientele.

Specific impacts: the **Horse Handbook** assisted horse owners in providing better animal welfare, safer (in terms of fire protection and day-to-day physical safety) facilities for horses and users, and by better manure management reduced environmental impacts on water quality. The **House Handbook** provides planning data and checklists to homeowners and students to assist with selecting, planning, building, and remodeling homes, making them safer, more affordable, more convenient, and more environmentally friendly. By having ready access to **LPES Curriculum** and data from **MWPS-18 Section 1**, Illinois livestock producers have better tools for writing and maintaining manure management plans through IMMP hard-copy and web versions.

Work planned for 2007

We will assist in the revisions of MWPS-7, the Dairy Free Stall Housing Handbook. IMMP will be continually upgraded on the web and manure management plan impacts will be measured. Illinois will assist with the various energy publications planned by the committee.

Indiana.

NCCC-9 Annual Report
Purdue University

Jan Frankenberger, Natalie Carroll and I worked with Tom Scherer (ND) and Russell Persyn (SD) this past year to revise the 1979 edition of MWPS-14, Private Water Systems. A significant amount of work was accomplished, and a near final draft will be completed by the time of the 2007 annual meeting in K.C. The author group expects to deliver the completed text and graphics to MWPS for editing and graphics rendering by the end of summer, 2007.

Keith Johnson and Ron Lemenager (Purdue) and I have developed an outline of a cornbelt cow-calf handbook. We will be evaluating the KY cow-calf production handbook as well as the beef production handbook sold by MWPS to refine what is covered, and to confirm that there is a need and a market for such a book.

Al Heber at Purdue is working with a total of 13 CAFO sites to conduct a monitoring program over the next two years of air emissions. The purpose is to characterize those emissions so that national emission standards can be established for livestock production.

Indiana is moving forward with developing a mandatory certification program for individuals involved with the transport and application of both commercial fertilizer and manure from animal production facilities. This next year is to be spent developing the program with the program begun in 2008. The state legislature has given the State Chemist's office to conduct such a program, but has not yet approved a method of funding it. A similar, but voluntary, certification program is also being developed by the Indiana State Dept. of Agriculture for those workers and managers who are involved with the on-farm collection, storage and land application of manure. It is not clear yet if or how these two programs will be integrated.

Iowa. Jay Harmon reported that Iowa State University facilitated the 4-state Odor Modeling Workshop in Sioux City. Steve Hoff is now working with vegetative buffers. Tom Glanville has a new grant on mortality management. Robert Burns leads efforts in alternative technologies. Matt Helmers is leading new programs in drainage tiling. ISU is also redeveloping a safety program.

Kansas. No Report.

Missouri. Joe Zulovich reported that he has started an extension program that builds on the new *Living on Acreages* handbook. He said that a fairly large association of rural residents has formed as an association and that they may be interested in educational events.

Minnesota: Bill Wilcke polled people about using MWPS publications and received the following feedback:
Classroom teaching

MWPS 18 (Original, Sections 1, 2, & 3) & parts of MWPS 19 are used as textbook in Agricultural Waste Management Engineering course.

Numerous MWPS materials used as reference materials in Principles of Farm Animal Environment.

Nebraska. Rick Stowell reported that he collaborates in planning and conducting the 4-state ventilation workshops. He outlined how a discussion at an NCR-9 meeting 3-4 years ago on the growing need for multi-state collaboration on air quality has blossomed into a USDA NRI-grant-funded, national extension/education project. He noted that state publications have been developed on beef cattle feedlot design and vegetative treatment systems (VTS). Chris Henry and Rick Koelsch have been using the VTS fact sheets in educational programs for limited-resource producers who need to improve the handling of open lot runoff. Each of these materials has potential for development into a regional [MWPS] publication, with the VTS publication being especially timely.

North Dakota. Tom Scherer reported that he is collaborating with Don Jones on the Private Water Systems handbook. The new Wiring Handbook has been added as a reference in an ASM course. Ken Hellevang is involved in biomass discussions and has been getting many inquiries about corn drying.

NDSU has hired a bioprocessing engineer and is looking for another. NDSU will be hiring two animal manure management specialists and an energy efficiency specialist.

Ohio. Lingying Zhao reported that Jon Raush and she used LPES curriculum and MWPS-18-3 in air quality in-service training and program curriculum. She is working on a series of air quality fact sheets. She collaborates with Al Heber on a study of ammonia emissions from poultry facilities.

New faculty members are sought in bioprocessing.

South Dakota.

Report to NCCC-9
South Dakota State University
May 15, 2007

Dick Nicolai noted that a biofilter design publication was developed and has been put on the Pork Information Gateway website. He has also developed a publication to describe the use of the SD Odor Footprint Tool (setback-estimation aid). These publications were used at workshops and for regional development. A research project involved biofilter design and development which will include information on dust reduction, vertical biofilter performance, and moisture sensor development. A biofilter design spreadsheet is currently being developed and will be included with this material. Additional material is being developed for the Odor footprint model with UNL at Lincoln, NE and U of M at MN which includes spreadsheet design and utilizes local dispersion data from our automatic weather stations. Also research on the effectiveness of shelterbelts on odor and gas reduction in collaboration with UNL involves measuring downstream effects and incorporating this information in the South Dakota Odor Footprint model. Additional research in partnership with Univ. of Missouri includes electrostatic dust removal in swine buildings and monitoring an anaerobic digester for odor reduction.

Steve Pohl reported that research continues within a multi-discipline effort on vegetative treatment systems for beef feeding operations having less than 1,000 animal units. Three sites are currently being monitored with the fourth unit coming on line this summer. A multi-state (Kansas, Nebraska, South Dakota, Illinois, and Minnesota) effort in conjunction with the Iowa Cattlemen's and Cattlemen's associations in participating states are developing research projects on CAFO's using vegetative treatment technologies. South Dakota State University is working on two projects in SD and two in Minnesota with the University of Minnesota. Filtration of air in breeding and gestation and boar studs is currently being developed in partnership to prevent the infiltration of air borne PRRS from entering the building. This is a multi-state and multi-disciplinary effort. Work continues on conducting the basic and advanced ventilation workshops in the 4-state (IA, NE, MN, and SD) region. Two advanced workshop were held with on at the Al Leman conference in St. Paul, MN and one sponsored by the SD Pork Producers. A multi-state (KS, MO, SD and MN) effort to research a cross-ventilated dairy barn was conducted last summer and has resulted in several publications.

Wisconsin.

Wisconsin Annual Report for NCCC-9

The Ag wiring handbook is used as a 'text' for a number of programs, including the MREC conference, short course, and stray voltage training. Other materials being utilized extensively include:

MWPS-30, Sprinkler Irrigation Systems: Used to develop irrigation audit tool (Excel Spreadsheet) and presentations for grower meetings. The sprinkler irrigation manual is recommended to growers as a resource and was used as reference for the BSE 216 class.

MWPS-22, Low Temperature & Solar Grain Drying Handbook: Used to develop energy conservation presentation for grain drying and recommend as a resource book.

MWPS-13, Grain Drying, Handling and Storage Handbook: Used to develop energy conservation presentation for grain drying and recommend as a resource book.

MWPS-AED20, Managing Dry Grain in Storage: Used to develop grain management presentation and recommend as a resource book.

MWPS-7, Dairy Freestall Housing and Equipment: Used as resource for dairy modernization work. Dairy handbook used as a reference in Livestock Housing short course class. Dairy handbook was donated to the Citizens Network for Foreign Affairs in Belarus. CNFA has a farmer to farmer volunteer program working with dairy farms and dairy professionals to stimulate the dairy industry.

Horse Housing handbook promoted in a Horse Management class at the Animal Sciences department UW Madison.

Brian Holmes indicated that several MREC <www.mrec.org> publications could be adapted for regional use, including:

- Stray voltage detection
- Electrical planning for dairy expansion
- Fencers and trainers
- Farming safely with electricity
- Equipotential planes
- Power quality on the farm

Other publications in an Energy Conservation in Agriculture Series <<http://learningstore.uwex.edu/>> may have regional application, including:

- Dairy Related Bulletins
- Energy-Efficiency Agricultural Lighting
- Heating water on Dairy farms
- Refrigeration Systems
- Vacuum Systems
- Variable Speed Milk pumps
- Ventilation and Cooling Systems for Animal Housing
- Well Water Precoolers
- Greenhouse Related Bulletins
- Greenhouse Unit Heaters: Types, Placement and Efficiency

Other materials in draft form include:

- Engine Block Heaters
- Refrigeration System Maintenance
- Long Day Lighting for Dairy Cows
- High Efficiency Single Phase motors

IMPACTS

Minnesota.

- MWPS 18 (Original, Sections 1, 2, & 3) & parts of MWPS 19 are used as textbook in Agricultural Waste Management Engineering course.

Nebraska.

- A discussion at an NCCC-9 meeting 3-4 years ago on the growing need for multi-state collaboration on air quality resulted in a USDA NRI-grant-funded, national extension/education project.

Wisconsin.

- MWPS-30, Sprinkler Irrigation Systems is used in Wisconsin to develop an irrigation audit tool (Excel Spreadsheet) and presentations for grower meetings.
- MWPS-22, Low Temperature & Solar Grain Drying Handbook is used in Wisconsin to develop energy conservation presentation for grain drying and recommend as a resource book.
- MWPS-13, Grain Drying, Handling and Storage Handbook is used in Wisconsin to develop energy conservation presentation for grain drying and recommend as a resource book.
- MWPS-AED20, Managing Dry Grain in Storage is used in Wisconsin to develop grain management presentation and recommend as a resource book.
- MWPS-7, Dairy Freestall Housing and Equipment is used in Wisconsin as resource for dairy modernization work.

ACCOMPLISHMENTS

Illinois:

- Illinois livestock producers are referred to **MWPS-18 Section 1** for writing and maintaining manure management plans through the Illinois Manure Management Program.

Iowa.

- Iowa State University facilitated the 4-state Odor Modeling Workshop in Sioux City.

North Dakota.

- The new Wiring Handbook has been added as a reference in an ASM course.

Ohio.

- Ohio State University faculty are using LPES curriculum and MWPS-18-3 in air quality in-service training and program curriculum.