

NCCC-9 MEETING MINUTES

MWPS: Research and Extension Educational Materials

May 21-22, 2008

Hotel Fort Des Moines, Des Moines IA

Administrative Advisor:	Chair:	Vice-Chair:	Secretary:
Gerald A. Miller Iowa State University 132 Curtiss Hall Ames, IA 50011-1050	Joe Harner Kansas State University 147 Seaton Hall Manhattan, KS 66506	Rick Stowell University of Nebraska 218 L. W. Chase Hall Lincoln, NE 68583	Tom Scherer NDSU Box 5626 Fargo, ND 58015

Members in attendance:

Yuanhui Zhang, 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

Representing MWPS: Kathy Walker, Iowa State University
Administrative Advisor: Gerald Miller, Iowa State University

Members absent:

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

Meeting – May 21

Committee chair Joe Harner opened the meeting at 1:30 p.m. and gave a quick overview of agenda items, goals and minutes from last year. He explained the three options the committee had to consider. Those options are:

1. Rewrite the objectives and goals of the current NCCC9 activities to continue the traditional committee format for an additional 5 years. Renewal must be completed by November 15, 2008.
2. Allow NCCC9 to expire and end the activities of MWPS.
3. Identify a new focus for the committee and revamp NCCC9 activities in that direction. This would involve redevelopment of goals, objectives, mission statement, etc. These documents must be submitted by November 15, 2008.

Joe asked everyone to think about these options before discussion later in the day. He then gave a presentation about the history of MWPS and how the mission of the committee had changed since it was created in the 1920's. He showed how the mission had changed over the years based on the management style of the MWPS manager. There were three, John Peterson, Glenn Church and Jack Moore. Over the years there has been a gradual decline in the number of agricultural engineers that participate in MWPS committee activities. However, many non-committee members contribute to publication development and use MWPS services. Joe Zulovich observed that the change in expertise of personnel in Agricultural Engineering departments at most universities affected who participated in MWPS and developed new

information as part of committee activities. Tenure requirements also had an impact. These people have split appointments, usually research and Extension, and a very focused area of expertise.

MWPS Update:

Jay Harmon and Kathy Walker gave an update on the MWPS activities at Iowa State. A summary is provided in Appendix A. Jay commented that MWPS can do the editing and graphics but will not be responsible for the content – that is the authors' responsibility.

Following the MWPS update, Joe Harner distributed a folder containing material from the committee's page on the National Information Management and Support System (NIMSS) website (<http://nimss.umd.edu/>).

Administrative Report, Dr. Gerald Miller:

Jerry provided an update on the new farm bill. At meeting time, President Bush had vetoed the bill but congress has overridden the veto. Some sections were left out of the bill and consequently, on June 18 the bill was again voted on by congress and approved. Within the new farm bill is a restructuring plan for USDA Science. CSREES will be changed to the National Institute for Food and Agriculture (NIFA). The director will be a scientist, appointed by the president, that reports directly to the secretary of agriculture. As for funding programs, the National Research Initiative (NRI) and IFAFS will be combined and named the Agriculture and Food Research Initiative (AFRI). The plan is to allocate 60% of funds to basic research and 40% to applied projects. An important point is that Hatch and Smith-Lever will remain formula funds. Jerry distributed several handouts showing the details of the important points of the reorganization.

Joe Harner asked Jerry to compare NCCC9 with other NC committees (all are listed on the NIMSS website). Jerry responded that NCCC9 is the only committee that is primarily Extension and it focuses on publications. Other NCCC's focus on a particular subject or research topic.

Discussion on Committee Options for the Future

Joe Harner started the discussion by stating that the committee had to find a way to arrive at one of the options. The discussion lasted a long time and covered a wide range of issues such as; the need for the committee, lack of administrative support at some universities, if the committee's mission is inline with CSREES priorities, the need for engineering based publications and what audience will use them, consultants doing the design work for large animal operations, lack of basic research information and the need to obtain grants for both publications and Extension/research activities.

Don Jones asked if NCCC9 should be separate from MWPS. The group came to the consensus that the two are inseparable and mutually beneficial. Joe Harner mentioned that the publications are a product or outcome but not an objective of a project. Rick Stowell said it was important to have a meeting where engineers exchange ideas identify publication projects so that each state can benefit. Don Jones made the motion to adapt a combination of option 1 and option 3. That is to maintain the relationship with MWPS but that the committee should narrow its focus and become more directed toward current needs. The majority of the committee voted to accept this method of proceeding and voted to submit a 5-year proposal for committee renewal.

Meeting – May 22

Committee chair, Joe Harner began the meeting by calling for state reports. Committee members gave verbal reports of significant items pertaining to NCCC9 and MWPS. See Appendix B for the written versions of the state reports.

Following state reports there was discussion about how the committee can help formulate research/Extension priorities when the requests for proposals are developed at CSREES. Gerald Miller said these could be sent directly to national program leaders and do not need to be solicited. They must be sent at the right time so the program leader can incorporate into their recommendations. General timeline is to have them developed by June 1 because request for proposals are sent out in the fall. Joe Harner said that developing educational publications is a three-legged stool supported by opportunities (grants, private industry, partnerships, etc.), current educational materials and identifying needs. Rick Stowell said that when needs are identified and categorized then it is time to assemble a team to develop the educational materials. Joe Zulovich asked whether the committee could help with online courses. Don Jones said that some educational publications must address high profile subjects, for example, energy use, conservation and generation.

To begin the process of developing the Request for Continuation of NCCC9, Joe Harner and Joe Zulovich presented the committee with a draft version of the mission and objectives. There was much discussion and change of wording but eventually the committee accepted the basic points of the objectives, which may require more work. Jay Harmon, Rick Stowell and Brian Holmes volunteered to be on a subcommittee to write the continuation proposal. Joe Zulovich gave the committee a handout about livestock issues an example of an emerging need that could be used to focus the committee. It included topics for procedures and activities, expected outcome and an educational plan (blank in the example – yet to developed). By identifying emerging issues, the committee could then submit them to the national program leaders for inclusion in future RFP's. Jerry reminded the committee to address recommendations made during the midterm review when preparing the proposal.

Committee Accomplishments:

Horse Facilities Handbook, MWPS-60. This handbook was used as the basis for materials to support a series of workshops in Illinois.

Illinois Manure Management Plans tool IMMP was published for Illinois in 2005 and expanded to an interactive web tool in 2006-07. Several of the IMMP “planning steps” are referenced in the Illinois NRCS field guide for writing Comprehensive Nutrient Management Plans.

Distributed a listing of MWPS publications to all Extension and Experiment Station offices in North Dakota and to all Extension specialists on campus.

Revised a news story developed by MWPS entitled “Maintaining grain quality in storage” and sent it out through the NDSU news packet.

Dairy Freestall Housing and Equipment, MWPS-7, was used as a text in a University of Wisconsin Livestock Housing class with about thirty-seven students enrolled. This publication is also used widely by UW County Extension faculty as a reference in their work while advising dairy producers.

Sprinkler Irrigation Systems, MWPS-30, was used by the instructor as a reference in a University of Wisconsin irrigation class.

Manure Characteristics, MWPS-18-S1, and Manure Storages, MWPS-18 Section 2, are used quite extensively as references by the instructor for the University of Wisconsin class titled Sediment and Bionutrient Engineering and Management.

MWPS documents were used when the curriculum for the University of Wisconsin class Sediment and Bio-nutrient Control Systems course was modified. This is an Ag. Waste management class that covers waste characteristics and the design of management systems.

Wiring Handbook for Rural Facilities, MWPS 28, has been used as a text in the University of Wisconsin Farm Energy and Wiring short course (enrollment 20-30). It has also been used as supporting text for UW stray voltage training courses.

The following books were placed on the MWPS website to download for free:

- Solar Livestock Housing Handbook: MWPS-23
- On-site Domestic Sewage Disposal Handbook: MWPS-24
- Swine Housing & Equipment Handbook: MWPS-8

Books printed On-Demand since June 07:

- Beef Cattle Handbook 30 copies
- Structures and Environment 145 copies
- Beef Housing & Equip Handbook 137 copies

New books added to catalog:

- The Pond Guidebook: NRAES-178 --- December Sold 67 copies
- Housing Plans for Calves & Heifers: NRAES-201 April Sold 11 copies
- Agricultural Ventilation Fans: IL-07 (from the University of Illinois)
- Agricultural Ventilation Fans Supplement: IL-08 (from the University of Illinois)
- Mitigating Air Emissions from Animal Feeding Operations (Iowa State University). MWPS will sell whatever inventory is left after the conference and reprint if necessary. Still needs to be placed on the web.

All Livestock and Poultry Environmental Stewardship (LPES) material was moved to the eXtension website

North Dakota Education opportunities that use MWPS publications (Extension meetings, conferences, classroom):

- Display of MWPS publications at the Big Iron Farm show held in Fargo
- MWPS-28 Wiring Handbook for Rural Facilities is being used as a textbook in an ASM class.
- MWPS-50 Living on Acreages is part of an educational program in the northeastern part of the state dealing with rural living.

Committee Impacts:

House Handbook, MWPS-16. This publication continues to be the text for the University of Illinois undergraduate course, Technical Systems Management 371, Residential Housing. Extension advertises

the Handbook at first-time homebuyer programs, and refers to it when contacting homeowners and remodelers. The Handbook was referenced during the 2007 series of home energy conservation and indoor air quality workshops that were partially funded by the HUD Healthy Homes project.

Wiring Handbook for Rural Facilities, MWPS-28. The updated Wiring Handbook continues to be a principle reference for Extension staff taking individual calls on rural wiring issues. The Handbook was advertised as a desk reference at a county zoning informational meeting, where officials and landowners were contemplating expanding the local electrical inspection requirements for new buildings in non-incorporated areas of the county.

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

Illinois uses 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.

Manure Characteristics (MWPS-18-S1) and Manure Storages (MWPS-18 Section 2) are used quite extensively as references by the instructor for the North Dakota class Sediment and Bionutrient Engineering and Management.

Indiana (Purdue University) Education opportunities that use MWPS publications (Extension meetings, conferences, classroom) include a series of Factsheets for Indiana County Extension educators, based on MWPS-50 (Living on Acreages: What you need to know) was developed in response to a request from county extension staff. They are available at: <http://www.ydae.purdue.edu/Lifestyle%20Farming/>.

Business Meeting:

Election of a secretary was discussed. No candidates were identified so no election was held at the meeting. Rick Stowell will ask Lingying Zhao to be secretary next year. If she accepts, he will nominate her to the committee via email. The balloting will also be done by email. In case Lingying cannot accept, Steve Pohl volunteered serve as temporary secretary for FY09.

A meeting date for next year was discussed. If possible, it would be good to meet before or after a conference, like this year. April is not a good month to meet. The 4-state dairy conference will be held the 2nd week of May 2009 and this may pose problems for several people. It was agreed to meet during the 3rd week of May 2009 at a location to be determined later. Don Jones asked what items would be on the agenda next year. He would like to discuss developing a publication on cow/calf operations and the Beef Housing Handbook.

Energy topics, especially as they pertain to agriculture and rural living, as being important topics to discuss and develop publications. Brian Holmes suggested resubmitting the energy proposal from two years ago to the Extension directors. Possible publication committee members would include Chad Martin from Purdue, Ted Funk, Bill Casady, Ken Hellevang and Carl Pedersen from NDSU, Doug Rienemann and Scott Sanford from Wisconsin. Rick Stowell will contact these people about developing a regional group to write a publication on energy. A proposal to eXtension on energy was discussed. Gerald Miller explained that the Extension directors had allocated certain topics to regions of the country and that energy was given to the northeast region but the focus is primarily biofuels. The

following energy topics (publication potential) were suggested by Don Jones; methane digestion, wind power, solar, biomass burning, geothermal, energy conservation and audits, applicator training for biomaterials, process wastewater. Brian Holmes noted that the NRCS had developed a very good publication on anaerobic digestion TN 210-8, an analysis of energy production costs from manure anaerobic digestion systems in livestock production facilities October 2007.

The FY09 Executive committee members are:

Joe Harner, past-chair
Richard Stowell, chair
Tom Scherer, chair-elect
Steve Pohl, secretary (temporary)

At 12:06 PM, the meeting was adjourned.

Submitted:	Approved:	Approved:
<u>Signed</u>	<u>Signed</u>	<u>Signed</u>
Tom Scherer	Joe Harner	Gerald A. Miller
NCCC9 Secretary, 2008	NCCC9 Chair, 2008	NCCC-9 Administrative Advisor

Appendix A State Reports

Illinois Report

Institution: University of Illinois at Urbana-Champaign
Reporters: Ted Funk, Yuanhui Zhang

Use of MWPS materials in Illinois Extension and outreach programming -- highlights

Horse Facilities Handbook, MWPS-60. 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 Facilities Handbook, advertising the book at meetings and via various media including news releases.

House Handbook, MWPS-16. This publication continues to be the text for the University of Illinois undergraduate course, Technical Systems Management 371, Residential Housing. Extension advertises the Handbook at first-time homebuyer programs, and refers to it when contacting homeowners and remodelers. The Handbook was referenced during the 2007 series of home energy conservation and indoor air quality workshops that were partially funded by the HUD Healthy Homes project.

Wiring Handbook for Rural Facilities, MWPS-28. The updated Wiring Handbook continues to be a principle reference for Extension staff taking individual calls on rural wiring issues. The Handbook was advertised as a desk reference at a county zoning informational meeting, where officials and landowners were contemplating expanding the local electrical inspection requirements for new buildings in non-incorporated areas of the county.

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

LPES Curriculum. The Curriculum remains the study 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. The Curriculum is sold in hard copy and on CD, and handled by the College's Ag Services office. Total audience for the three-year certification cycle: about 2,000 producers, consultants, and agency representatives. Audience reached in 2007 (a low-cycle year): 266.

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. Specifically IL NRCS field guide for writing Comprehensive Nutrient Management Plans references several of the IMMP "planning steps". 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 – the Horse Facilities Handbook, the House Handbook, Rectangular Concrete Manure Storages Handbook, LPES Curriculum, Wiring Handbook, and the data from Manure Characteristics – are made readily available to Illinois clientele.

Specific impacts: the Horse Facilities 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. Information from the Wiring Handbook provided builders and remodelers with information needed to construct safer, more efficient electrical systems. 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 2008

We are finalizing a chapter in the revision of MWPS-7, the Dairy Free Stall Housing Handbook. IMMP is being upgraded on the web and manure management plan impacts will be measured. Horse workshops will continue to provide an outlet for the Horse Facilities Handbook.

Indiana Report

Institution: Purdue University

Reporter: Don Jones

Impact of Committee Activities:

1. Education opportunities that use MWPS publications (Extension meetings, conferences, classroom)
 - a. ASM 333, Farmstead Planning, typically 30-35 students, uses both MWPS 1 (Structures and Environment Handbook) and MWPS-2 (Farmstead Planning Handbook)
 - b. A series of Factsheets for Indiana County Extension educators, based on MWPS-50 (Living on Acreages: What you need to know) was developed in response to a request from county extension staff. They are available at:
<http://www.ydae.purdue.edu/Lifestyle%20Farming/>.
2. Revision of older publications
 - a. Co-authored revision of MWPS-14 (Private Water Systems) – currently undergoing final editing at MWPS HQ
3. Development of new publications
 - a. Co-author in effort to develop a MWPS handbook dealing with Cow-Calf Production in the Midwest. Publication expected in late 2009

Publications (list of publications developed – referred journals, circulars, etc. that cite MWPS materials.)

The series above dealing with Living on Acreages refers directly to this book. Two publications dealing with farm ponds (based loosely on a chapter in MWPS-14) are being developed at Purdue. One publication will be general in nature and the other covers typical questions and answers for farmers and homeowners. Publication of both is expected in fall of 2008.

Iowa Report

Institution: Iowa State University
Reporting: Jay Harmon

Summary of MWPS Activities and Accomplishments as a result of 2007 NCCC-9 meeting:

The following books were placed on the MWPS website to download for free:

- Solar Livestock Housing Handbook: MWPS-23
- On-site Domestic Sewage Disposal Handbook: MWPS-24
- Swine Housing & Equipment Handbook: MWPS-8

The inventory of the following books was reduced:

- Sprinkler Irrigation Systems: MWPS-30 --- 1155 books were recycled
- Home & Yard: MWPS-21 --- 2444 books
- Natural Ventilation: MWPS-33 --- 3220 books
- Solar Livestock: MWPS-23 --- 120 books

The following Package Deals put together to further reduce inventory:

- Grain Handling Package (4 books), 100 packs sold
- Manure Package (3 books), 50 packs sold
- Swine Housing Package (4 books), 30 packs
- Ventilation Package (3 books), 35 packs sold

Books printed On-Demand since June 07:

- Beef Cattle Handbook 30 copies
- Structures and Environment 145 copies
- Beef Housing & Equip Handbook 137 copies

Created an updated list of prices for MWPS books

New books added to catalog:

- The Pond Guidebook: NRAES-178 --- December Sold 67 copies
- Housing Plans for Calves & Heifers: NRAES-201 April Sold 11 copies
- Agricultural Ventilation Fans: IL-07 (from the University of Illinois)

- Agricultural Ventilation Fans Supplement: IL-08 (from the University of Illinois)
- Mitigating Air Emissions from Animal Feeding Operations (Iowa State University). MWPS will sell whatever inventory is left after the conference and reprint if necessary. Still needs to be placed on the web.

Books currently in production:

Residential Onsite Wastewater Treatment Systems (CIDWIT) 2nd Edition. To be released June 2008. Terminology updates and some drawing revisions. Bruce Lesikar was a big help! While waiting for updates to be finalized the inventory was depleted which created a rush to get both old and new versions out before exams. Small printing runs were done at ISU printing services.

Private Water Systems: MWPS-14, Fifth Edition. Release planned for Fall 2008. Thanks to Don Jones and his group for a quick release of the manuscript of the new edition. Jack Moore has edited text. Figures have been drawn by Tish and have been reviewed. The edits of the drawings have been given to Tish and she's in the process of laying out the pages. A cover compilation has been supplied. Projected layout completion is mid June.

Structures and Environment Handbook, Book #1, Planning, Design, Construction, and Utilities. *Projected* released fall 2008. All chapters are ready for a final review. Concern about codes being up-to-date since this project has been in the works for at least 5 years. Will be asking Dwaine Bundy if he will review material for codes. Drawings will be updated from MWPS-14 water systems revisions.

Structures and Environment Handbook, Book #2: Product Handling and Livestock Facilities. *Projected* release winter 2008. All chapters have layouts, but not all renumbered. Some drawings still need to be done.

Dairy Freestall: Housing and Equipment, 2 out of 9 chapters submitted to MWPS. 3 chapters have no commitments, 2 chapters in draft stage, 3 chapters have been reviewed, and 2 chapters have been completed and turned in to MWPS. No projected completion date has been set.

Future Projects:

Onsite Wastewater Installers Manual, release June 2009 (from the same committee that did the CIDWIT manual).

Tasks that have been completed:

All MWPS publications were moved out of the current storage unit and into a facilities off-campus. MWPS books published in the last 5 years were included on the UNL extension website, March 2008 Thanks to Rick Koelsch and the folks at University of Nebraska Extension

All LPES material was moved to the eXtension website. The current LPES website will be dropped after 1 year. The current site is being moved so extension has control over it. The EPA commented that the current site was fragmented. MWPS does not have enough personnel to maintain the LPES site. We will still sell the remainder of LPES inventory. We are still working on how to direct the user from the old LEPS to the new site.

Minnesota Report and Statement

Institution: University of Minnesota

Reporter: Bill Wilcke

Here are a few news items from the Minnesota Department of Bioproducts and Biosystems Engineering:

- We are continuing to work on the mergers of the College of Agriculture, Food and Environmental Sciences (COAFES) with the College of Natural Resources (CNR) to form the College of Food, Agricultural and Natural Resource Sciences (CFANS) and the Department of Bio-based Products (BP) and the Department of Biosystems and Agricultural Engineering (BAE) to form the Department of Bioproducts and Biosystems Engineering (BBE).
- Shri Ramaswamy, the BBE Department Head, is undergoing a two-year review.
- John Shutske will be leaving the BBE Department to take a new job as Ag and Natural Resources Program Leader at the University of Wisconsin in Madison starting about July 15, 2008.
- Harlan Peterson, an Extension person in the merged BBE Department who has conducted short courses for personnel in the lumber industry, will be retiring this year.
- Phil Goodrich has announced that he will complete his phased retirement from UMN this year.
- As part of an internal compact process at the University of Minnesota, CFANS received permission to fill two bioenergy/bioproducts positions (biocatalysts and bioprocess engineering) and both of those positions will be in BBE. Searches are underway right now and Kevin Janni is chair of one of the search committees.
- Two BBE members received Richard C. Newman awards for faculty working in natural resources. Harlan Peterson received an award for Community Impact and William Tze received an award for on-campus Art of Teaching.
- Michele Schermann, Research Fellow in BBE who works with John Shutske, received the CFANS Diversity and Inclusion award recognizing her outstanding contributions and significant accomplishments and innovation in achieving and sustaining diversity and inclusion efforts in the broader area of Agricultural Safety and Health.
- Michael Schmitt, former Associate Dean for Extension in CFANS, has moved up to Associate Dean and Director for all of Extension at the University of Minnesota. CFANS is just wrapping up a search for Michael's replacement in CFANS Administration. One of the new person's responsibilities will be to combine the Ag, Food, and Environment (AFE) and Natural Resources and Environment (NRE) capacity areas in UMN Extension.
- The University of Minnesota Extension Service has officially changed its name to University of Minnesota Extension.

Statement about NCCC-9:

Although there is a strong feeling that Biological and Agricultural engineers in the North Central states need a regional committee, such as NCCC-9, to cooperate on intrastate activities and there is strong support within the Department for MWPS and the functions that MWPS has provided, the emphasis at UMN is on bringing in external grants and it is hard for individual faculty members to carve out time to work on regional activities.

North Dakota Report

Institution: North Dakota State University

Reporter: Tom Scherer

Objectives:

- 1) Develop science-based educational materials useful to engineers, livestock and crop producers, allied business, veterinarians, extension educators and environmental staff.
 - a) Contributed chapters 5, 6 and 7 to the revision of MWPS 14, Private Water Systems.
- 2) Foster multidisciplinary activities on a regional and multiregional basis that involves partners from other disciplines, such as agricultural economics, farm business management, animal science, agronomy, and others as appropriate, in more active participation in MWPS publishing activities.
 - a) Distributed a listing of MWPS publications to all Extension and Experiment station offices in the state and to all Extension specialists on campus.
 - b) Revised a news story developed by MWPS entitled "Maintaining grain quality in storage" and sent it out through the NDSU news packet. Dirk Maier also distributed this news release.

Impact of Committee Activities:

1. Education opportunities that use MWPS publications (Extension meetings, conferences, classroom)
 - a. Display of MWPS publications at the Big Iron Farm show held in Fargo
 - b. MWPS-28 Wiring Handbook for Rural Facilities is being used as a textbook in an ASM class.
 - c. MWPS-50 Living on Acreages is part of an educational program in the northeastern part of the state dealing with rural living.

Publications

Although not directly related to MWPS, NDSU has been developing publications to address energy concerns in the state and region. These publications: AE-1359 No-cost, Low-cost Home Energy-saving Tips, AE-1368 Insulating to reduce heating costs, AE-1373 Determining insulation and air infiltration levels using an infrared thermometer, AE-1366 Farmstead Energy Audit and AE-1375 Corn and Biomass Stoves have been printed and could be used for future MWPS books. More titles will be developed in the next year.

Wisconsin Report

Institution: University of Wisconsin: Madison

Reporter: Brian Holmes

Dairy Freestall Housing and Equipment (MWPS-7) was used as a text in a Livestock Housing class with about thirty-seven students enrolled. This publication is also used widely by UW County Extension faculty as a reference in their work while advising dairy producers.

Many of the chapters of Dairy Freestall Housing and Equipment (MWPS-7) are being revised. Two chapters have been delivered to MWPS staff. Other chapters are in various stages of review and revision.

Sprinkler Irrigation Systems (MWPS-30) was used by the instructor as a reference in an irrigation class.

Manure Characteristics (MWPS-18-S1) continues to be used by UW faculty making nutrient management recommendations and by various state agencies involved in regulating manure management.

Manure Characteristics (MWPS-18-S1) and Manure Storages (MWPS-18 Section 2) are used quite extensively as references by the instructor for the class Sediment and Bionutrient Engineering and Management.

MWPS documents were used when the curriculum for BSE 472 - Sediment and Bio-nutrient Control Systems course was modified. This is an Ag. Waste management class that covers waste characteristics and the design of management systems.

The following publications are not required for the Farm Machinery Short Course, however, they are mentioned and they are shown to the students to review:

Grain Drying, Handling, and Storage (MWPS-13)

Conservation Tillage Systems (MWPS-45)

Designing Facilities for Pesticide and Fertilizer Containment (MWPS-37)

The following NRAES publications are also used in a similar manner:

NRAES 5 Silage and Hay Preservation

NRAES 59 Forage Moisture Determination

NRAES 78 On-farm Agrichemical Handling Facilities

NRAES 19 Boom Sprayers

MWPS publications are used when putting together the State FFA contest as problem solving references.

Wiring Handbook for Rural Facilities (MWPS 28) has been used as a text in the Farm Energy and Wiring short course (enrollment 20-30). It has also been used as supporting text for UW stray voltage training courses.

A number of the MWPS books are used for reference materials in extension work on energy conservation. Examples include Grain Drying, Ventilation series, Irrigation, etc.