

Manure Irrigation Workgroup Meeting - October 14, 2014

DRAFT MEETING NOTES

Original Agenda

October 14, 2014, 9:00am – 3:00pm

Wisconsin Department of Agriculture, Trade, and Consumer Protection

Executive Board Room, First Floor

2811 Agriculture Dr., Madison, WI 53718

Meeting Overview:

This meeting will focus on continuing the full workgroup discussion and review of the “risk/issue tables” summarizing droplet drift, odor, water quality, and air quality. We will review updated versions of the draft tables discussed at the August 26th meeting. We will also continue discussing a workgroup report outline and elements of the report drafted since the August meeting. Background information is available at the workgroup document site and the project website (fyi.uwex.edu/manureirrigation). The next two meetings are scheduled for November 10, 2014, from 11am-4pm and December 15, 2014, from 9am to 3pm.

Agenda

8:30am	Room available – coffee
9:00	Welcome, introductions, agenda overview/revisions, and review of ground-rules
9:10	Review of notes from last meeting (August 26, 2014)
9:15	Updates and Announcements <ul style="list-style-type: none">- update on QMRA/risk study- other relevant updates and announcements
9:45	Presentation/Discussion/Revision: Risk tables for 1) droplet drift, 2) odor, 3) water quality, 4) air quality, and a synthesis table.
11:00	Break
11:15	Continue discussion
12:15pm	Lunch – box lunches (provided)
12:45	Presentation/Discussion: outline and elements for workgroup report.
1:45	Break
2:00	Continue discussion of tables and report elements. Develop agenda for November meeting
3:00	Adjourn

NOTES from October 14, 2014 Meeting

1. Attending

Workgroup members attending: Mark Borchardt, Kenn Buelow, Dana Cook, Ken Genskow, Suzanne Gibbons-Burgener, Sarah Grosshuesch, Becky Larson, Shelly Mayer, Jeff Polenske, Gloria Smedema, Steve Struss, Rob Thiboldeaux, Lynn Utesch, Jim VandenBrook,

Workgroup members not attending: Pat Murphy, Andrew Craig, Carrie Laboski, Jeff Sommers

Others attending: Joe Greening (public), Joe Baeten (DNR), Tucker Burch (USGS) AJ Bussan (Wysocki), Amanda Braun (UW-Madison)

2. Review of Notes from August 26, 2014

- Draft notes from the August 26 meeting were reviewed. No changes were suggested.

3. Updates and Announcements

- Joe Baeten (DNR) reported that people continue to inquire about and express interest in using manure irrigation practices. Although Andrew Craig was not able to attend, Joe and Andrew have been revising a previous table of existing rules and regulations for the workgroup report. That should be ready for the next meeting.
- Mark Borchardt reported on the joint field and analytical work conducted by his group and Becky Larson's group. Mark's group is producing the QMRA modeling, and Becky's is working on the air dispersion modeling component. Mark reported that he has hired a statistician to work with Tucker Burch and himself to include hierarchical regression models which will provide a higher level of confidence to their analysis. Mark also reported that they have three more field trials soon, a number of samples still need to be analyzed, and they are about 50% complete with the QMRA model. They intend to have initial QMRA results by the end of January 2015. Mark announced that the research group would be meeting later in the afternoon to discuss possible future funding for additional work.
- Lynn Utesch updated the group on a Kewaunee County ordinance to ban winter spreading Dec 1 – April 15 on any land that has less than 20 feet of soil to bedrock to protect the groundwater. The town of Sturgeon Bay also approved developing an ordinance to ban manure irrigation and will be acting soon to write the ordinance. [This item led to a discussion of the number and location of manure irrigation restrictions in the state, which will also be included in the report. See the attached table for a compilation developed after the meeting with input from multiple workgroup members.]
- Becky Larson reported that she has an article coming out regarding manure irrigation which will direct people to the website and what the workgroup plans are.
- Ken Genskow reviewed and revised the agenda for the meeting. The agenda was changed to move an initial discussion of the report outline earlier in the meeting, to add time for the workgroup to watch a video from Kewaunee County provided by Lynn Utesch (See below), and to add a presentation from Kenn Buelow regarding the manure irrigation scenarios component of the report.

4. Discussion of Report Outline

The workgroup reviewed the draft report outline and discussed timing and assignments for report production and review. The group discussed the need to vet and externally review specific components of the report as they develop, along with logistics for doing so. For example, the summaries developed for each of the risk consideration sections (IV.a-e. in the outline below), topic experts across the country would be contacted to review. For the summary of existing rules, and regulations in Wisconsin (within II.b. below), both MEA and DBA would be asked to vet the draft section (existing state and local rules in Wisconsin) for omissions or inconsistencies. Workgroup members were asked to share suggestions for reviewers with Ken Genskow or Becky Larson.

A condensed version of the outline is included below.

Title: Considerations for the Use of Manure Irrigation Practices

Authorship: Wisconsin Manure Irrigation Workgroup

Outline:

0. Executive Summary
- I. Introduction and background
 - a. Workgroup goals and objectives
 - b. Benefits and concerns associated with Manure Irrigation
 - c. Workgroup process and activities; advisory relationship to Drift/QMRA project
- II. Manure and manure application – a brief primer in material, management options, and equipment used [other existing sources will be referenced for some of this information]
 - a. What is manure and how is it managed (manure content, possible additives, basic handling, and characteristics of manure/liquid material potentially used in manure irrigation)
 - b. Existing rules, regulations, and practices related to Manure Irrigation (Wisconsin [state/local] and elsewhere)
- III. Risk, public policy, and the precautionary principle
 - a. Risk/workgroup considerations
 - b. Precautionary Principle – workgroup discussion and application in WI
- IV. Considerations for Practice/risks (for each: issue, current practice/regulations, unknowns/uncertainties/open questions, table identifying practices as best, acceptable, and not recommended)
 - a. Droplet Drift
 - b. Odor
 - c. Water Quality
 - d. Air Quality
 - e. Airborne pathogens and other contaminants
- V. Scenarios to illustrate potential usage of manure irrigation in different settings (e.g., for different size dairy operations with 0%, 40%, and 80% of manure volume applied through irrigation. Addressing timing, spatial distribution, road use, etc).
- VI. Workgroup Response and Recommendation
 - a. Responses to expressed benefits and expressed concerns
 - b. Recommendations (most likely in the form of a synthesis table and commentary) [note: dissenting opinions will be incorporated into this section]

Target Timeline for completion:

- DEC 1. Working DRAFT #1 – First draft of document except for the final section (VI) and section IV.e. (pathogens). Distribute to MIW prior to Dec 15 meeting.
- FEB 1. Working DRAFT #2 – Revisions to Draft #1 plus results from QMRA/Drift research (for IV.e.) and draft of final section.
- APRIL 2015 - FINAL

5. Video presentation of Kewaunee County citizen concerns about manure management and manure irrigation

The workgroup watched a short video shared by Lynn Utesch that demonstrated concerns by citizens in Kewaunee County related to manure management and well water contamination, including concerns related to manure irrigation. After watching the video, the workgroup discussed their reactions to the video and the connections to workgroup issues. The video is available for viewing through this Vimeo website link: <http://vimeo.com/104680116>.

6. Discussion of Revised Risk tables and a synthesis table

- Becky Larson updated the workgroup about the droplet drift, odor, and synthesis tables. She is working on the final editing for the droplet drift and odor tables and will be sending them out for review very soon. Becky anticipates receiving reviewer comments before the November 10 workgroup discussion and having tables ready for the December 1 draft report.
- Anyone with suggestions on experts to review specific tables please contact Becky or Ken. Chuck McGinley was suggested as a potential reviewer for odor.
- The discussion was then moved on to nozzles and the size of the droplets. Becky distributed a study completed by the drift task force that was done in the 90's in regards to droplet size which proves that larger the particle size, the least amount of drift will occur. A concern was brought up as to whether or not there would be clogging as a result of the size of the nozzle but Kenn Buelow assured the group that clogging would not be an issue.
- A question was raised about how to define each term that is being presented in the tables and the consensus from the group is to make sure these definitions are clear enough for someone who doesn't know anything about manure irrigation spreading to understand them.
- The draft description of odor issues indicates that the odor from manure irrigation has the potential to increase the frequency of nuisance odor by increasing the number of applications to a specific field (from 1 or 2 per year to 3 or 4 per year). This point and associated language was discussed by the group and will be revisited during the next meeting.
- There were only minor changes made to the synthesis table. The workgroup recognized the need to develop a "conceptual model" (schematic/diagram) to help the workgroup understand the inter-connections and trade-offs associated with the synthesis table. A sub-group drafted a preliminary model (see below, item 8).

7. Presentation on background assumptions for Scenario development (outline section V.)

Kenn Buelow presented a set of assumptions and analysis regarding manure management issues on a dairy operation with manure irrigation and without manure irrigation. The presentation expanded discussions at previous meetings and provided details for comparison on volume trucked, volume hosed, volume irrigated, truck loads, road miles, fuel (trucks, tractors, generators, pumps), and energy use. The presentation also included graphs and timelines highlighting potential windows for application using different methods. Discussion followed with suggestions for additional information.

8. Sub-workgroup activities: scenarios and conceptual model

The workgroup divided into two sub-groups. One group discussed the scenarios and the additional suggestions from the workgroup. The scenarios group outlined the need for further analysis of different sized farms and reviewed approaches for developing and presenting the information with tables, graphs, maps, and other illustrations. The other group drafted a conceptual model to help with future discussions. The full group reconvened to share key points and identify assignments prior to the next workgroup meeting.

9. Revisit outline and writing assignments

The workgroup reviewed the outline discussed previously in the meeting. The workgroup agreed to use the November 10th meeting as a writing session to begin compiling the draft report. Those not involved in writing are welcome but not expected to attend. Key assignments are included below.

10. Actions

Assignments:

- **Becky Larson:**
 - Revise and distribute for review tables on drift and odor (input from **Steve S** on both)
 - Draft Section II.a (manure primer) for report
 - Contact **Sarah K and Pat M, and Carrie L** for input on water quality table
 - Contact Rob T and Steve S for input on air quality table.
- **Jim Vanedbrook and Lynn Utesch** : send information about local ordinances to Ken Genskow and Joe Baeten [done]
- **Kenn Buelow:** coordinate input from **Jeff P and Jeff S** for scenario development
- **Ken Genskow:**
 - Have graphic artist further develop draft conceptual model/illustration
 - Find student/others to work with Kenn and Scenario group to develop illustrations
 - Assist scenario group
 - Draft Report Sections I. and III.
 - Assist Becky with Tables
- **Andrew Craig and Joe Baeten:** Draft Report Section IIb (for Wisconsin and other states)
- **All workgroup members:** assist and support with assignments as requested by others

Future meeting dates:

- **Monday, November 10, 2014, 11am-4pm** at DATCP (Board Room) – this meeting will be primarily for those with writing assignments for the draft workgroup report. Others are welcome but not expected to attend.
- **Monday, December 15, 2014, 9am-3pm** at DATCP (Board Room) – this meeting is for all workgroup members. And will focus primarily on workgroup review and discussion of the draft report. The report section on “Workgroup Response and Recommendations” will be outlined and drafted AFTER this December 15 meeting, based on meeting discussion. We

will schedule an additional meeting if further discussion is needed to produce a draft after the December 15 discussion.

- **January 2015 meeting date has not been set.**

Attachments:

- Table of Wisconsin local governments restricting manure irrigation

Additional Resources:

- Copies of the several local ordinances listed on the table are available to workgroup members at the workgroup site
- PBS Frontline aired an episode on Antibiotic resistance the day of the workgroup meeting. It is relevant to ongoing workgroup discussions and includes interview regarding the Pennsylvania study discussed at previous workgroup meetings, among other items. Here is the link:
<http://www.pbs.org/wgbh/pages/frontline/trouble-with-antibiotics/>

Authority Adopting	Date	Restriction	Notes
Adams County	12/3/2013	Moratorium	Allows for application to Adams County for a license to use manure irrigation
Town of Harmony-Rock Co		Prohibited	http://townofharmony.com/municipal-code
Town of Johnstown-Rock Co	8/8/2011	Prohibited	
Town of Saratoga-Wood Co	12/19/2012	Prohibited	
Town of Lincoln-Kewaunee Co	5/6/2014	Prohibited	
Town of Marshfield-Fond du Lac Co	7/9/2012	Prohibited	Alley flush systems prohibited. http://townmarshfield.com/ordinances.php
Town of Oakfield			Restrictions on liquid manure http://www.townofoakfield.org/ordinances
Rusk County		Considering	Looking into regulation
Town of Rosendale-Fond du Lac Co	7/17/2012	Prohibited	
Town of Bradford-Rock Co	1/7/2011	CUP	
City of Algoma-Kewaunee Co	7/7/2014	Prohibited	spreading, spraying, storing of liquid manure
Wood County	Pending		Link to Wisconsin Rapids Tribune story from July 2014 http://www.wisconsinrapidstribune.com/story/news/local/2014/07/16/wood-county-committee-endorses-manure-spraying-ban/12757259/
Town of Fulton- Rock Co	Pending	CUP	proposed in draft ordinance
Town of Sturgeon Bay	Pending		Link to story in Green Bay Press Gazette http://www.greenbaypressgazette.com/story/news/local/door-county/news/2014/10/07/town-passes-doors-first-manure-spray-restrictions/16875637/