

Small Beef and Dairy Feedlot Evaluation Summary

Angela Rieck-Hinz, Shawn Shouse, and John Lawrence

Iowa State University

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This paper summarizes the results of the evaluation component of the Water Quality Initiatives for Small Iowa Beef and Dairy Feedlots (Small Feedlot Plan), contact number ESD7150SHOPKI110252, between the Iowa Department of Natural Resources and Iowa State University.

The evaluation component of the Small Feedlot Plan was initiated on January 10, 2014 and concluded on January 31, 2014. A copy of the cover letter and survey instrument can be found in Appendix A. The goal of this evaluation, as stated in the work plan, is to conduct a survey of participants to assess their change in understanding of water quality and/or actions taken to reduce their impacts on water quality and monitor demand for EQIP and low-interest loans.

The contact list for the evaluation was derived from attendance at six separate field day events that included touring 10 different farms. A total of 174 people attended the six field days. The mailing list for the evaluation also included the attendance lists from six "Medium CAFO" workshops held by ISU in spring and summer of 2011, which while not a direct part of the "Small Feedlot" plan, were closely tied with outreach efforts conducted by Iowa State University Extension and Outreach for small farms (under 1,000 a.u.). The mailing list from this series of meetings totaled over 600 names. (It should be noted the attendance lists from the Medium CAFO workshops were also used in recruiting livestock producers for the six field days offered via the Small Feedlot Plan). All total, after duplications of attendees were removed from the combined list, the Small Feedlot Plan evaluation was sent to 473 people. Twenty-two surveys were returned due to incomplete addresses and 4 surveys were returned indicating the feedlot had been sold. This list included livestock producers, agency and commodity group staff, and service providers such as Ag lenders, retail dealers, feed salesmen, etc. From this master list of 473 people we also collected 175 email addresses. Attendees who provided an email address received the survey both in hard-copy format in the mail and an electronic notice to complete the survey on-line. All people receiving a hard-copy of the evaluation in the mail also were provided the opportunity to complete the hard copy or to complete the on-line version.

A total of 25 were completed via the on-line survey, in addition, 8 surveys were attempted on-line, but were not completed. Hard copies completed and returned in a business reply envelope that required no postage cost on the part of the survey participant totaled 89. Overall, 114 surveys were completed, or 24% of the total number distributed.

The breakdown of survey participants looked like this: 66 (61%) cattle feeders; 9 (8%) dairy producers; 6 (6%) educators; 16 (15%) agency staff; 14 (13%) agribusiness; and 12 (11%) other. It should be noted that ISU Extension employees were not asked to be participants in this survey. It should also be noted, based on specific comments from the surveys that some agency staff did not identify themselves as

such, but chose “other”. The “other” category was allowed to identify themselves and the responses were as such: State regulator, DNR, dairy feed sales, farmer, sales, assistant soil commissioner, DNR inspector, NRCS (2), dairy heifer grower, and hog producer. And finally, participants were encouraged to choose “all that apply” so while there were 114 total surveys, we had 123 responses to this question.

Question 1. As a result of attending medium CAFO workshops and/or small beef or dairy open lot field days, please select how your knowledge level changed: (Please check one answer for each question)

Question	No increase in knowledge	Slight increase in knowledge	Large increase in knowledge	Total Responses	Mean
1a. Impacts feedlot runoff can have on stream water quality	19 17.2% (9)	74 67.3% (51)	17 15.5% (13)	110	1.98
1b. The criteria (animal numbers and discharge criteria) that determine whether my operation is a medium CAFO and/or needs a permit	15 13.5 % (8)	63 56.7% (39)	33 29.7% (27)	111	2.16
1c. Methods to better control and manage feedlot runoff	5 4.5% (3)	64 58.2% (42)	41 37.3% (29)	110	2.33
1d. Where to find technical assistance for feedlot runoff control improvements	13 11.8% (5)	59 53.6% (42)	38 34.5% (27)	110	2.23
1e. Where to find financial resources, such as EQIP, or State Revolving Fund loan money, to install structures to manage manure	21 19.4% (12)	70 64.8% (51)	17 15.7% (9)	108	1.96

This question was asked to determine knowledge. The first number in each box is the number of responses to the question, the second number is the response rate percentage, and the number in parentheses is the combined responses for both cattle feeders and dairy producers. The data shows that a greater number of people had a “large increase in knowledge” for methods to better control and manage feedlot runoff (37.3%); where to find technical assistance (34.5%) and determining whether

operation is a medium CAFO (29.7%), versus the other parameters, impacts feedlot runoff can have on water quality (15%) and where to find financial resources (16%). Specifically among those who identified themselves as a cattle feeder or a dairy producer, the greatest percentage responses for “large increase in knowledge” was for methods to control and manage feedlot runoff (26%).

There was significant impact in the “slight increase in knowledge” for runoff impact on stream water quality (67.3%), where to find technical resources (64.8%), methods to better control runoff (58.3%), determining CAFO status (56.7%) and where to find technical resources (53.6%).

It does stand to reason that people gained more knowledge from the “physical” aspects such as methods to better control runoff, then less tangible parameters such as impacts on water quality and determining whether a permit is needed. The fact that livestock owner/managers reported highest learning levels related to finding technical assistance and installing runoff control practices fits well with the umbrella project goal of improved water quality protection.

2. If you own/manage a livestock operation, considering the tools listed below, which have you already implemented or plan to implement? (If you don't own or manage a livestock operation, please choose 'does not apply').

Question	Already in place	No, but plan to implement in next year	Do not plan to implement	Does not apply	Total Responses	Mean
2a. A self assessment of my feedlot or dairy yard to evaluate if I have runoff and where the runoff goes	67 65.7% (58)	10 9.8% (10)	2 1.9% (2)	23 22.5% (0)	102	1.81
2b. A water quality testing protocol to determine if I have impact on the stream	14 14.1% (11)	19 19.1% (15)	37 37.4% (37)	29 29.3% (5)	99	2.82
2c. A nutrient management plan that helps me improve utilization of manure nutrients	50 50% (47)	15 15% (11)	9 9% (9)	26 26% (4)	100	2.11

This question was designed to measure behavioral impact or actions that have resulted (could be directly related to field day or previous actions) or will result as a part of the knowledge/awareness that

was gained. It should be noted that participants that did not identify themselves as cattle feeders/dairy producers also responded to these questions, even when asked to choose “Does Not Apply” if they didn’t own or manage a livestock operation, indicating that some of those field day attendees likely also have animal feeding operations and accounts for the greater number of responses stated on page 1, where attendees identified themselves.

A large majority of livestock owner/managers reported to already have a self-assessment (65.7%) and nutrient plan (50%) in place, and half of those who did not already said they planned to do so soon. The majority (37.4%) indicated they do not plan to adopt a water testing protocol.

3. If you own/manage a livestock operation, considering the management practices listed below that can help reduce or eliminate runoff, which have you already implemented or plan to implement? (If you don't own or manage a livestock operation please choose 'does not apply').

Question	Already in place	No, but plan to implement in next year	Do not plan to implement	Does not apply	Total Responses	Mean
3a. More frequent manure scraping of the lot or yard	70 68.6% (63)	2 1.9% (1)	69 67.6% (7)	24 23.5% (1)	102	1.84
3b. Timing scraping activities to address weather	70 69.3% (64)	3 2.9% (2)	3 2.9% (3)	25 24.7% (3)	101	1.83
3c. Managing settling basin release	53 53.5% (50)	7 7.1% (6)	1 1.0% (0)	38 38.4% (14)	99	2.24
3d. Other (please describe):	10 43.4% (9)	0	0	13 56.5% (2)	23	2.70

This question was designed to measure behavioral impact or actions that have resulted (could be directly related to field day or previous actions) or will result as a part of the knowledge/awareness that was gained. Responses to question 3d are listed below and with the exception of one response, indicate that people didn’t understand the goal of this question was to measure behavior as related to management practices versus implementation of physical structures. The response “rearranged fences to get farther from creek” could be interpreted as a response to management.

A large majority of livestock managers reported already scraping pens frequently (68.6%) and with regard to timing scraping activities to address weather 69.3% already do so. A large majority of beef

managers report to also be managing settling basin releases while dairy managers were more evenly split between those who already implement this practice and those who plan to do so in the future (specific responses from cattle feeders versus dairy producers not shown in this table).

Settling basins
Filter grass strips
Clean water management, diversion
Zero Discharge
Total containment
Rearranged fences to get farther from creek.
Earthen retention lagoon
New covered mono-slope building to control runoff.
Put a dike in to keep manure out of stream
Establishing grass settling area

4. If you own/manage a livestock operation, considering the manure structures listed below that can help reduce or eliminate runoff, which have you already implemented or plan to implement? (If you don't own or manage a livestock operation please choose 'does not apply').

Question	Already in place	No, put plan to implement in next year	Do not plan to implement	Does not apply	Total Responses	Mean
4a. Settling basin:	64 61.5% (60)	4 3.8% (2)	10 9.6% (9)	26 25% (2)	104	1.98
4b. Clean water diversion	48 47.5% (45)	11 10.9% (9)	11 10.9% (10)	31 30.7% (7)	101	2.25
4c. Treatment area	38 38.8% (35)	10 10.2% (7)	18 18.4% (18)	32 32.6% (10)	98	2.45
4d. Other (please describe):	7 29.2% (5)	2 8.3% (1)	1 4.2% (1)	14 58.3% (3)	24	2.92

This question was designed to measure behavioral impact or actions that have resulted (could be directly related to field day or previous actions) or will result as a part of the knowledge/awareness that was gained. The responses to question 4d are shown below. These responses are more indicative of

responses related to structures, with the exception of “keep head count of animals as low as possible....” which is a management response.

While a majority of livestock owners/managers report to already have these practices in place, an additional 10% indicated intentions to implement clean water diversions and treatment areas in the coming year. It should be noted producers do recognize that putting animals under roof is a viable option to reducing or eliminating runoff.

put under roof
Roofed slat barn--problems solved!
Corn field, grass buffers, water-ways
Total containment
We control all liquid runoff
Keep head count of outdoor animals down as low as possible without giving up outdoor facility completely.
Roof over feedlot
Grass filter
One new mono-slope building in 2013 and one will be built in 2014
Small irrigation to empty settling basin.

It should be noted that the response rate for question 2-4 was lower due to the fact some participants who were not feedlot owners or managers choose to skip these questions.

5. What is the most valuable idea you learned at the workshop or field day you attended?

There were 63 individual responses submitted to this question and the responses varied widely as would be expected with an open-ended question. After reviewing all responses and using domain analyses for common terms, the responses could be generally summarized as:

- 1) Increased awareness regarding management, or structural practices that could be implemented to better manage feedlots to protect water quality. There were a total of 24 responses (38%). Of particular note was the number of comments related to low-pressure flood irrigation of feedlot effluent. This is a relatively new concept in Iowa as prior to this project most feedlot owners were under the impression it was too expensive to pump liquids for distribution on the crop fields.
- 2) Increased awareness of regulatory requirements and compliance enforcement for open feedlots and dairies under the 1,000 a.u. permit threshold for large CAFOs. There were a total of 12 responses (19%).
- 3) Increased awareness of availability of technical and financial resources. There were a total of 5 responses (8%).

Other comments shared included concerns about how complicated the rules are and how the rules seem to change over time.

A complete list of the responses to question 5 is included in the Appendix B.

6. Please check how many people you have talked to about practices or ideas you heard about or saw at the workshops or field days:

#	Answer	Response	%
1	0	5	5%
2	1-5	68	63%
3	6-10	18	17%
4	Greater than 10	17	16%
	Total	108	100%

When this question was further analyzed to see how each sector responded, it was evident that cattle feeders and dairy producers are talking about the field days and/or the workshops.

	Cattle Feeder	Dairy Producer	Educator	Agency Staff	Agribusiness	Other	Total
0	1	1	0	0	1	1	4
1-5	48	4	3	7	8	5	67
6-10	10	2	2	3	3	3	18
Greater than 10	5	1	1	6	2	3	17

It should be noted that number of responses in the table for question 6 do not match up with the number of responses in the second table. It is not sure why the data is not consistent.

7. If asked by a friend, neighbor or client, would you be willing to discuss changes made on your farm, or changes you have helped others make to protect water quality on the farm? Why or why not?

There were a total of 94 responses to this question, 85 (90.4%) of which were a positive response to the question (yes). Of those 85 positive responses, 59 replied with the single word “yes” and did not explain why. Those who offered an explanation when responding yes, made comments like “this is a prudent business practice”, “because it helps improve water quality”, “it is the right thing to do”.

8. What other resources would be helpful?

Responses to question 8 are listed below. It should be noted that handout materials were made available at every field day and workshop. Unfortunately, we did not demonstrate the water quality testing kit at every field day.

on site evaluations
handouts
?

Maybe some new workshops with the DNR inspecting all medium and large Concentrated Animal Feeding Operations. It would be good to demonstrate the stream assessments that have helped identify impaired watersheds.

Extension newsletters or knowing when new programs come out.

I'm concerned about the rules changing. Like to be kept up to date and know that management practices that were acceptable 2 years ago are still OK. Appreciate the newsletter on manure management we have emailed to us from IMMAG. Because of our time limitations, would like to see a video library of various solutions to feedlot

runoff instead of meetings.

time and money

The on farm workshops are the best learning events.

Legal fees, so when it does come time to fight, we can afford it.

Roof over the feedlot

Still more funding

Cheaper feeders!

The resources presented and given at the CAFO meeting at Welton, IA, was right on course for what is going on in the "Midwest Feedlotville" right now.

I would like to see more field days to see other useful working facilities.

Tours, different situations have different needs and results

Funding to install new and better designed cattle feeding facilities.

Visit local NRCS office

Nobody really understands the paperwork involved in some of this.

Clear size of feedlot

Updates on changing DNR and EPA rules and regulations.

Another field day in Central Carroll County.

More financial assistances

New requirements, rule updates.

9. Are more events (field days or workshops) needed to demonstrate water quality protection practices on small farms?

#	Answer	Response	%
1	Yes	79	89%
2	No	10	11%
	Total	89	100%

This seems to be a consistent theme throughout the survey responses as attendees to the workshops and field days like to see what management practices and structural practices work on other farms. Field day venues provide a "safe" environment for learning and asking questions and also give attendees

the opportunity to visit with the farmer-host and ask questions about what works, what does not work and what they might do differently. Interestingly enough, the 10 “no” responses came from cattle feeders and dairy producers (8 and 2 respectively).

10. Have you: (please answer yes or no for each question)

Question	Yes	No	Total Responses	Mean
10a. read publication PM 3018, Small Open Beef Feedlots in Iowa- a producer guide?	42 61.8% (29)	26 38.2% (13)	68	1.38
10b. read publication PM 3019, Small Open Lot Dairies in Iowa- a producer guide	26 25% (13)	78 75% (58)	104	1.75
10c. read the DNR publication Testing the Waters?	24 23.1% (11)	80 76.9% (59)	104	1.77
10d. watched the DNR video Clean Water in our Hands?	19 18.6% (7)	83 81.4% (62)	102	1.81
10e. checked out and used a water quality test kit available at selected ISU Extension Offices?	14 13.6% (8)	89 86.4% (62)	103	1.86
10f. visited the Water Quality Initiatives for Small Open Feedlot and dairy Operations web page?	32 31% (16)	71 69% (54)	103	1.69

Again, the number in parentheses indicates the combined responses for cattle feeders and dairy producers. It would seem that we had a higher success rate in distributing copies of PM 3018 as the numbers show a larger percentage (62%) of respondents have read this publication. It is rather disappointing to see such a large number of “no” responses given the amount of work that was put into awareness for Small Feedlot education plan.

Summary

The evaluation component of the Small Feedlot Plan demonstrates success of the four primary objectives of this educational effort. For objective 1, educate producers to better understand the pollution potential of open feedlots, 67.3% had a slight increase in knowledge and 15.55 had a large increase in knowledge. For objective 2, train producers to accurately assess the water pollution potential of their feedlots, 67% already do an assessment, and 10% plan to do so. Objective 3, assist producers to identify and evaluate appropriate runoff control alternatives, while the majority have practices in place, 10.9% plan to install a clean water diversion and 10.2% plan to install a treatment area. And objective 4, provide technical assistance to producers to implement solutions that improve the environmental performance of their feedlots, this is an on-going programming priority for the Small Feedlot team at Iowa State University one-on-one work continues with producers every day.

Results of this survey indicate livestock producers, as well as others, value their field days and demonstrations of management and structural practices. Results of this survey also indicate that livestock producers were not engaged in the availability of the printed material developed as a result of this educational program. There could be several reasons for this: 1) lack of awareness of availability of materials; 2) less time to read materials; or 3) desire to have material in alternative format such as videos or apps. Due to the highly variable nature of each individual feedlot situation, such as topography, proximity to streams, land base available, access to technical and financial resources; the primary education effort for these small feedlots will likely continue on a case by case basis as producers seek out information and technical assistance.

Appendix A.

Cover Letter and Evaluation Instrument

IOWA STATE UNIVERSITY

Extension and Outreach

Agronomy Extension

January 10, 2014

2104Agronomy Hall

Ames, IA 50010-1010

515-294-9590

<http://www.agronext.iastate.edu/>

Dear field day or workshop participant,

You are being asked to participate in this survey because our records indicate you attended one or more of the following workshops or field days sponsored by Iowa State University Extension and Outreach:

Medium CAFO Workshop, March 29, 2011, Spencer, IA
Medium CAFO Workshop, March 30, 2011, Sioux Center, IA
Medium CAFO Workshop, March 31, 2011, Arcadia, IA
Medium CAFO Workshop, June 27, 2011, Calmar, IA
Medium CAFO Workshop, June 28, 2011, Dyersville, IA
Medium CAFO Workshop, June 29, 2011, Welton, IA
Medium CAFO Workshop, June 30, 2011, Charles City, IA
Bettin Small Dairy and Open Lot Manure Management Field Day, July 13, 2011, Odeboldt, IA
ISU Armstrong Research Farm Settling Basin & Manure Pumping Field Day, August 26, 2011, Lewis, IA
Small Beef Feedlot Manure Control Tour, August 7, 2012, Mogler, Mogler, Twedt feedlots Larchwood, IA
Ziegmann Brothers Feedlot Manure Management Field Day, October 29, 2012, Wall Lake, IA
Naeve Feedlot Manure Management Field Day, October 31, 2012, Andover, IA
Galles Feedlot Low-cost Pumping and Flood Irrigation Field Day, August 27, 2013, Marcus, IA
Small Dairy & Beef Manure Tour, Overman Feedlot and Brunsman Dairies, November 19, 2013, New Vienna IA

The goals of these workshops and field days were: 1) to raise awareness of the environmental impact small and medium size beef and dairy open lot operations may have on the environment; 2) help producers understand regulations affecting these types of operations; and 3) to demonstrate structural or management practices that can help manage manure from open lots.

The goal of this survey is to determine how your knowledge changed or what practices may have been implemented as a result of attending one of the events listed above. This survey is completely voluntary and confidential and should take about 10-15 minutes. You may skip questions you are not comfortable answering and withdraw from participating at any time. Your responses will not be linked directly to your name. All data will be combined with other surveys and all responses will be used in summary form only. There is no risk involved in responding to this survey.

Please return the survey in the enclosed envelope by **January 31, 2014**. Postage is not necessary. If you prefer, you can complete the survey on-line at this link: <http://www.aep.iastate.edu/feedlot>. If you complete the on-line survey there is no need to return the paper copy.

Thanks in advance for your completion of this survey.



Angie Rieck-Hinz
Extension Program Specialist
515-294-9590



Shawn Shouse
Extension Agricultural Engineer
712-769-2600

1. As a result of attending medium CAFO workshops and/or small beef or dairy field days, please select how your knowledge level changed: (Please check one box for each question)		No increase in knowledge	Slight increase in knowledge	Large increase in knowledge
1a.	Impacts that feedlot runoff can have on stream water quality:			
1b.	The criteria (animal numbers and discharge criteria) that determine whether my operation is a medium CAFO and/or needs a permit:			
1c.	Methods to better control and manage feedlot runoff:			
1d.	Where to find technical assistance for feedlot runoff control improvements:			
1e.	Where to find financial resources, such as EQIP or State Revolving Fund loan money, to install structures to manage manure:			

2. If you <u>own/manage</u> a livestock operation, considering the tools listed below, which have you already implemented or plan to implement? (If you don't own/mange a livestock operation please choose 'does not apply')		Already in place	No, but plan to in next year	Do not plan to implement	Does n apply
2a.	A self assessment of my feedlot or dairy yard to evaluate if I have runoff and where the runoff goes				
2b.	A water quality testing protocol to determine if I have impact on the stream				
2c.	A nutrient management plan that helps me improve utilization of manure nutrients				

3. If you <u>own/manage</u> a livestock operation, considering the management practices listed below that can help reduce or eliminate runoff, which have you already implemented or plan to implement? (If you don't own/mange a livestock operation please choose 'does not apply')		Already in place	No, but plan to in next year	Do not plan to implement	Does n apply
3a.	More frequent manure scraping of the lot or yard				
3b.	Timing scraping activities to address weather				
3c.	Managing settling basin release				
3d.	Other(please describe):				

4. If you <u>own/manage</u> a livestock operation, considering the manure structures listed below that can help reduce or eliminate runoff, which have you already implemented or plan to implement? (If you don't own/mange a livestock operation please choose 'does not apply')		Already in place	No, but plan to in next year	Do not plan to implement	Does n apply
4a.	Setting basin				
4b.	Clean water diversion				
4c.	Treatment area				
4d.	Other(please describe):				

5. What is the most valuable idea you learned at the workshop or field day you attended?

6. Please check how many people you have talked to about practices or ideas you heard or saw at workshops or field days:

___ 0 ___ 1-5 ___ 6-10 ___ greater than 10

7. If asked by a friend, neighbor, or client, would you be willing to discuss changes made on your farm, or changes you have helped others make to protect water quality? ___ Yes ___ No Why or why not???

8. What other resources would be helpful?

9. Are more events (field days or workshops) needed to demonstrate water quality protection practices on small farms? ___ Yes ___ No

10. Have you: (please answer yes or no for each question)

	Yes	No
10a. Read publication PM 3018, <i>Small Open Beef Feedlots in Iowa- a producer guide?</i>		
10b. Read publication PM 3019, <i>Small Open Lot Dairies in Iowa- a producer guide?</i>		
10c. Read the DNR publication <i>Testing the Waters?</i>		
10d. Watched the DNR video " <i>Clean Water in our Hands</i> "?		
10e. Checked out and used a water quality test kit available at selected ISU Extension offices		
10f. Visited the <i>Water Quality Initiatives for Small Open Feedlot and Dairy Operations</i> Web page?		

11. Your profession: (check all that apply)

___ Cattle Feeder ___ Dairy Producer ___ Educator ___ Agency ___ Agribusiness ___ Other (please specify) _____

12. Please share any additional comments:

Thank you.
The information you have provided will help ISU Extension's response in program planning.
We appreciate your participation.

Appendix B.

Responses to Question 5.

the timing of manure applications influences runoff
spreading of manure with correct spreader
mine is in great shape!
Settling basin design.
I am a consultant and not a farmer. I left however being more confused than enlightened. It would be good to have another meeting and spend more time on when a farmer needs a manure or nutrient management plan and what forms such as a construction permit, construction design statement or master matrix are needed and when. Also, a farmer needs to do if he has potential karst at the site of the proposed facility. A review of requirements of combined operations would be helpful to farmers. Handouts giving step by step process would help clear up misunderstandings or a lack of knowledge.
The criteria to determine whether an operation needs an NPDES Permit.
Utilization of existing practices that can be altered to better implement manure management
I learned that Brunsmann believes it is better to surface apply manure on frozen ground than to disturb the soil when not frozen. I do not agree.
Not all practices to reduce feedlot runoff are expensive.
That it takes a lot of planning to implement best management practices into place.
Financial programs available
How important it is that we are proactive in water quality management vs regulatory agencies demanding results.
How to identify whether we have runoff from our feedlot into a water of the US.
Better understanding of IDNR approach to medium CAFOs and regulation of runoff so that I can provide better advice to livestock producers.
technical help
Getting equal dispersion across the entire the basin without channeling.
No one thing works for everybody. There are good options to control runoff.
That the DNR is to some extent the puppet of the EPA and the two organizations have different rules which makes it extremely hard for me as a producer to know which rules I must follow.
Keeping manure out of running waterways.
How to handle waste water.
To determine if I was out of compliance.
What's working for farmer and what didn't work.
Pumping runoff water to a cornfield.
Using grass filter strips
Can pump brown water off without much cost.
It reassured me what had been gathering info the past 2 years was accurate as I pursued building and funding a confinement barn.
VFA's and Med CAFO
Keep lot small enough so don't have to permit.
Different systems others use to control runoff.
Being a registered CAFO would help you if you had a manure release into a stream.
How to dewater after settling.
The big is traced different than small even though sometimes small is worse.
DNR rules applicable to my operation.
To be proactive.
This was 2 1/2 years ago !
Options available for small and medium size feeding operations.
Low pressure irrigation strategies.
Seeing how people are managing their systems and making them work.
Field applications of lagoon water.
Different methods of controlling feedlot runoff.
The site specific controls and detail of construction and operation at site.
Contact with ISU, DNR, NRCS staff (ineligible word) can help with regulations, tools to deal with AFO issues.
I liked the manure spreader calibration and to see the different systems that could be used.
That the state is going to looking more at medium size CAFOs.
Meet people involved in DNR regulations
That there is no right answer, and you can get inconsistent answers.
NRCS and others are really open to looking at all solutions.
The EPA and DNR are constantly changing the rules!!!
DNR policies
I don't remember. I attended this workshop 2 1/2 years ago . I believe it was a good workshop, but the specifics have escaped me.
Do it right and make sure you follow the law.
Need to get it done.

Increased awareness

How the water dissipated running down corn rows.

How to do a settling basin.

What can be expected from a DNR visit and information on EPA fly-overs.

Intake and tile to move containment basin away from road ditch.

Fear the EPA

We thought we were in compliance with concrete settling basins, but realized we were not at the zero discharge rate 100 % of the time.

The rules concerning runoff and how head counts apply to status.

Low cost pumping of settling basin.

What is required by NRCS

Small irrigations to empty water from settling area.