Voluntary Environmental Improvement Programs: Comparing CNMP and EMS on Western Iowa Livestock Farms

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Introduction

Two separate programs to assist producers in voluntarily implementing practices to protect water quality were undertaken in western Iowa. This report is a summary of the follow up study conducted approximately a year after the programs were concluded with the participants that completed either the Livestock Environmental Management System Pilot Project (LEMS) or Western Iowa Livestock External Stewardship Pilot Project (WILESPP). The goal of this study is to identify the outcomes of two different educational approaches regarding voluntary environmental programs.

The Western Iowa Livestock External Stewardship Pilot Project (WILESPP) was undertaken to test whether the livestock industry, working together with state and federal agencies and producers, could design, implement, measure, and document voluntary environmental stewardship. The goal of this project was to develop and implement a Comprehensive Nutrient Management Plan (CNMP) for each participant. This pilot project emphasized the need for consultation, cooperation, communication and planning among meat processors, livestock producers, government officials, and extension.

Iowa was one of 10 states involved in the Livestock Environmental Management System Pilot Project (LEMS) and worked with beef feedlot producers. The pilot involved teaching producers from an environmental perspective how to assess their operation, set priorities and objectives, and develop an action plan to achieve their objectives. This extension education program involved four two-hour workshops, a producer guidebook, and an on-site visit by the project coordinator.

Each project took approximately a year to develop and a year to implement. This survey of participants that completed the projects was taken a year after implementation was completed. The programs differ fundamentally in that the CNMP is a prescriptive process completed for the producer by consultants while the EMS is an educational process in which the producer develops his or her own plan. This summary looks at the accomplishments and attitudes of the participants.

Background

Western Iowa Livestock External Stewardship Pilot Project

The basic premise of the WILESPP is to utilize manure nutrients in an environmentally sound and sustainable system. The centerpiece of the WILESPP, a CNMP, is a “prescriptive” form of nutrient plan developed between USDA-NRCS and USEPA. While the planning model is not necessarily a new model, it became known to livestock producers with the publication of the new USEPA CAFO Rule in 2001.

The pilot project involved 19 volunteer producers (23 operations) representing contract hog producers, independent hog producers, and cattle producers. The CNMP for each participant was a site-specific, comprehensive nutrient management plan supported by field staff from meat

processors, Iowa NRCS, Iowa DNR, and Iowa State University Extension. Each producer and the support staff began the 8-step process involving:

- establishing the production profile,
- taking soil samples and analysis and manure samples and analysis
- GPS/GIS mapping of the production site and manure application fields
- completing an Iowa State University survey of the operating management and technical status of the operation
- updating the Conservation Plan through NRCS District Conservationist on each manure application field
- participating in an On-Farm Assessment and Environmental Report by trained 3rd party assessors
- developing the CNMP incorporating all the operational data gathered (minimum CNMP plan is one complete crop rotation)
- finishing the process by annually updating the plan with crop yields, manure and commercial fertilizer applications, and timing.

One organizational meeting was held at the beginning of this pilot, with all participating producers and support staff present. The pilot project objectives were laid out by NRCS, EPA, Industry and Extension. Individual goals were set for each producer, and action assignments were identified for the field support staff. During this meeting all producers who had previously volunteered were afforded the choice to "un"volunteer. All chose to continue with the pilot as it was set up.

After one year a mid-term meeting was held to share information learned to date, raise issues and answer questions about the process to date, and offer expectations for the final 12 months. The bulk of the CNMP's were created and were at various stages of implementing the plans by this time. Some conservation treatments and practices were scheduled over time to complete with the last to be implemented in 2008. The pilot project was wrapped up after the two-year trial with a complete summary published in October of 2004.

Livestock Environmental Management System

The LEMS project involves teaching producers to develop an Environmental Management System (EMS) for their operation. An EMS is a business model based on ISO 14001 standards to manage a business for profit while taking environmental regulations and stewardship into account. The Iowa State University EMS program for beef feedlot producers was a hands-on educational program to help producers identify priorities to address on their farm and formulate an action plan to address them and document the results. Iowa beef producers were invited by Iowa State University Extension Livestock Field Specialists to attend information and training sessions on EMS. Producers represented feedlots with 200-8000 head capacity. Thirty-eight producers representing 35 operations attended the first of four 2-hour workshops in March and April, 2003.

Producers received an EMS Guidebook developed by the University of Nebraska. The first day of the program introduced producers to the essential components of EMS and to changes in environmental regulations impacting feedlots. They also used worksheets to identify significant environmental aspects of their operation and their own stewardship goals. Before the second day

of the workshop, producers had completed an environmental policy statement and a third-party feedlot assessment. Producers also had used their policy statement and completed assessment to identify priorities issues on their farm. On the second day of the workshop producers shared their policy statements and assessment findings. They then developed action plans to address their priorities with timelines, measurable objectives, and documentation requirements. Producers also established standard operating procedures and emergency action plans with responsibilities assigned according to priorities identified during the assessment.

The Project Coordinator visited each farm once to discuss and observe progress on the EMS with the producer. The third workshop was a meeting held on one of the participant farms six months after the start of the program to share ideas between farmers on how they were using their EMS to address priority issues in their operation. A final meeting was held one year into the program to discuss progress to date and plans for the future.
Approximately nine months into the project participants evaluated the program and 19 of the original 35 operations indicated that they plan continue using their EMS.

Methods
In March 2005, approximately a year after the completion of the producer involvement in the two pilot projects a letter and a questionnaire (see Appendix A) was mailed to participants. All 19 of the WILESPP participants and the 19 of the original 35 operations that completed the LEMS were surveyed. The questionnaire asks them to evaluate their experience with the LEMS or WILESPP educational programs. There was 48% return rate.

Findings
On most of the questions there was very little difference in the response between the two groups. Unless noted otherwise the following results were comparable to the questions below (see Appendix B).

Current Use of EMS/CNMP
All the participants surveyed are currently using their EMS or CNMP plan. Eighty-four percent have referred to the plan in the last three months, but only 28% have updated their original plan.

When asked how they recorded the amount of manure applied to each field, 100% of the LEMS participants count loads, while 67% of WILESPP participants count loads, 22% weigh the spreader/tank, and 11% use a flow meter. 100% of WILESPP participants sample manure annually for nutrient content, while only 18% of LEMS participants did.

Sixty-four percent of LEMS participants have implemented new or expanded manure management practices or structures because of this project, while only 29% of WILESPP participants did. However, all of the hog producers participating in the WILESPP project were using a manure management plan prior to the start of the pilot project. LEMS participants spent an average of $31,000 and WILESPP participants spent an average of $750 for new construction, mostly concrete settling basins. The LEMS participants were open beef feedlot that needed to upgrade manure handling facilities while the hog producers in the WILESPP project would have already had structures in place.

Environment

All the participants believe that because of the programs they have a better understanding of environmental regulations and are better complying with these rules and regulations. Ninety-five percent of the participants believe that they practice better stewardship because of the programs.

Forty-six percent have seen improved crop yield or performance since using their plans, while 45% have seen improvement in soil conservation through less erosion and runoff. Half of the LEMS participants have seen an improvement in animal performance, only 20% of WILESPP participants saw an improvement likely reflecting the hog versus cattle facilities.

All of the participants intend to continue using the plans they developed in these projects. When asked what would help them implement their plan, LEMS participants stated that financial incentives would be the most help and software tools would be the least helpful. WILESPP participants believe that financial incentive and cost share for construction would be the most helpful and regulatory pressure would be least helpful.

When the participants were asked to define environmental stewardship both groups gave similar definitions, protecting the environment while running a profitable operation. For example an LEMS participant stated, “(environmental stewardship is) using the recourses available to us to produce a quality product while not polluting the environment and make a profit.” A WILESPP participant stated “(environmental stewardship is) protecting natural resources through land and livestock management practices beneficial to everyone.” The participants were also asked to give indications that a farmer is a good steward. They said that good practices indicate good stewardship. For example, good practices would be an active EMS, proper manure application, clean pens, neat farmstead, no-till, and if working on improving their operation.

Fifty-five percent of the LEMS participants stated that there are additional changes they are planning to implement in regard to their plan, 29% of WILESPP participants plan on doing additional work. Overall, the WILESPP participants are more concerned about the operation in relation to the environment (see Table 1).

Both groups believed that the producer was the person most responsible for environmental protection, followed by the DNR, NRCS, and then commodity groups.

25. Please indicate how concerned you are on your operation about each of the following:	LEMS		WILESPP	
	Not Concerned	Concerned	Not Concerned	Concerned
Water quality related to manure management	0.0%	100.0%	0.0%	100.0%
Water quality related to pesticides, chemicals, fuels, or fertilizers	45.5%	54.5%	0.0%	100.0%
Water quantity and availability	18.2%	81.8%	16.7%	83.3%
Soil quality and/or soil conservation	18.2%	81.8%	0.0%	100.0%
Wildlife habitat	9.1%	90.9%	0.0%	100.0%
Odor and/or air quality	27.3%	72.7%	16.7%	83.3%
Energy costs and availability	0.0%	100.0%	0.0%	100.0%

Table 1

All the participants were fairly confident in their current expertise in the current and future (next two years) need of their operation (see Table 2).

24. How confident are you that your current expertise in each area meets the needs of your operation now and in the next two years.	LEMS		WILESPP	
	Not Confident	Confident	Not Confident	Confident
Livestock production management	0%	100%	0%	100%
Crop production management	0%	100%	0%	100%
Business management	0%	100%	17%	83%
Environmental management	0%	100%	0%	100%
Regulatory compliance	18%	82%	0%	100%
Conservation plan compliance	0%	100%	0%	100%

Table 2

Information / Communication

When asked where they get information or advice on different topics (question #19) the WILESPP participants obtain information from NRCS for every topic except environmental regulations, they got that information from producer organizations or commodity groups. LEMS participants stay updated on environmental changes most frequently with meetings, WILESPP get their information through print media. The least frequent way to get information is through word of mouth (LEMS) and the internet (WILESPP).

LEMS participants found the extension service most helpful (73%) and the WILESPP participants found federal or state conservation agencies most helpful (50%) (see Table 3).

21. Please indicate whether you have used the services of an outside adviser or consultant to help with your operation management or decision making in the last two years.	LEMS				WILESPP			
	Didn't Use	Not Helpful	Neutral	Helpful	Didn't Use	Not Helpful	Neutral	Helpful
Producer organization/ commodity group	0%	11%	33%	56%	40%	0%	40.0%	20%
Extension service	18%	0%	9%	73%	17%	17%	50.0%	17%
Neighbor/another local producer	33%	0%	17%	50%	50%	17%	0.0%	33%
Hired consultant	58%	0%	8%	33%	67%	0%	0.0%	33%
University researcher	50%	8%	17%	25%	50%	33%	16.7%	0%
Federal or state conservation agencies	38%	15%	15%	31%	0.0%	33%	16.7%	50%
Input provider	50%	0%	17%	33%	50%	50%	0.0%	0%
Non-profit educational groups	89%	0%	0%	11%	83%	17%	0.0%	0%

Table 3

Programs

When the participants were asked if they were satisfied with different aspects of the pilot programs that they participated in, a vast majority agreed with each of the comments. The one statement that participants of the WILESPP program did not agree with was the statement that stated that the information they were presented gave them a new awareness about the environmental impact of their operation, 67% disagreed with this statement (see Table 4). Again, many of these participants were hog producers that have tougher environmental requirements for a number of years and this program did little to improve their awareness.

22. Please indicate your level of agreement or disagreement with each of the following statements.	LEMS		WILESPP	
	Disagree	Agree	Disagree	Agree
I understand and appreciate the purpose of this project.	0%	100%	0%	100%
The amount of time spent in this project was reasonable	0%	100%	17%	83%
The on-site assessment was a valuable part of the project.	0%	100%	20%	80%
The information presented is easy to understand	9%	91%	17%	83%
The information presented is useful to my operation	0%	100%	0%	100%
The information presented gave me new awareness about the environmental impact of my operation	0%	100%	67%	33%
The assessment of the environmental impacts of my operation will fit into my other management activities	0%	100%	33%	67%
I was satisfied with the amount of time project staff spent with me.	9%	91%	0%	100%
Project staff answered my questions and provided the assistance I needed to complete the assessment.	0%	100%	0%	100%

Table 4

The participants were asked what improvements could be made to the individual programs to improve participation understanding and results. A majority of the LEMS participants believed that the presentation of the information was helpful and presented well, but thought there was too much paper and the program should "get to the basics". The participants believed that in order to achieve better results there needs to be more hands-on activity, for example, tours of feedlots that had already been through the process, pictures of other producers, continued contact to keep them motivated, and yearly updates of new rules/regulations and progress of other participants.

There was little response to this question from the WILESPP participants. The responses that were received stated that there was too much material and the program developers needed to work closely with the DNR to make sure there is one system that fulfills requirements for all organizations.

The majority of the participants from both groups participated in the projects because they wanted to learn more about the rules and regulations and be compliant with them. Other reasons were because they respected the presenter, interest in additional education, and importance of environmental stewardship.

The goals for participating were similar to the reasons they participated: compliance and good stewardship.

All the participants believe that the programs had value and that their individual goals were met by participating. The majority would participate again and all the participants would recommend this program to another producer.

Each of the participants stated that they valued the 3rd party assistance and 56% of the LEMS participants (25% of WILESPP participants) said that they would pay over $1000 for this assistance. Around 50% of all participants stated that there was a similar service available in their area and the majority of both participants (57% of LEMS and 67% of WILESPP participants) would pay less then $500 for the assistance (see Table 5).

	LEMS			**WILESPP**		
	<$500	**$500-$1000**	**> $1000**	**<$500**	**$500-$1000**	**> $1000**
How much was the 3rd party assistance worth to your operation?	33%	11%	56%	25%	50%	25%
How much would you be willing to pay for similar assistance today?	57%	29%	14%	67%	0%	33%

Table 5

The participants of the WILESPP program plan to continue following their plan as it is or update it as needed. The majority of LEMS participants that responded plan to continue improving their EMS plans and their operations.

Conclusion

The two pilot projects produced similar responses to the survey questions. Participants in each thought there was too much paperwork, but would participant again, recommend it to a neighbor, and would be willing to pay for the service. The differences in the two programs are influenced by the type of participants. The entire LEMS group had open beef feedlots that have not had as much regulatory pressure as the pork industry. Fifteen of the 19 WILESPP group were pork producers and had manure management plans and manure storage structures in place before the project.

Although prescriptive and more consultant driven, at the end each WILESPP participant had implemented a CNMP for the land receiving manure. The LEMS participants working largely on their own after learning the process identified their priorities, continued to make changes, and had plans for future improvements, but few have a nutrient management plan. For most of them it is not required.

The results of the survey indicate that both programs were successful in moving producers toward improved stewardship and practices that will better protect water quality. While there are no statistics to quantify the differences, the authors offer the following observations.

- All of the participants responding to this survey are continuing to use the plans set up in their respective projects.
- Requiring the target improves conformity. All of the WILESPP participants had a nutrient plan and did soil and manure analysis because that was the requirement and in the pilot it was done for them. While all the LEMS participants counted loads of manure, only a few weighed the spreader and less than a fifth did manure analysis. Nutrient management was not required nor a priority for the LEMS group.
- The LEMS project represented a journey of continuous improvement towards environmental stewardship while the WILESPP project represented a destination of completing a CNMP document and implementing the plan. WILESPP participants had few plans for future improvements other than to implement the plan. LEMS participants are continuing to identify new objectives and changes to implement.
- Activities that involve agencies and organizations with common goals and/or that allow producers to learn together and from each other are still effective methods of achieving behavior change.

Approximately two years ago you participated in a project to develop a CNMP/EMS for your operation. We would like to ask you a few questions about that process, your experience, and how you use the information today.

Circle one

1. Are you using the CNMP/EMS developed in this project? Yes No

    a. Have you referred to your plan in the last 3 months? Yes No
    b. Have you updated the original plan? Yes No
    If yes, when did you update? _____

2. Do you apply manure according to a Manure Management Plan (MMP)? Yes No

    a. If yes, is it balanced on Phosphorous or Nitrogen? P N

    b. If no, do you plan to develop a MMP? Yes No

3. Are you required by regulation or EQIP contract to have a Manure Management Plan? Yes No

4. Do you record manure applied to each field? Yes No

    a. If no, go to question #5.
    b. If yes, how do you record the amount of application? *(check all the apply)*

	Count Loads
	Weigh Spreader / Tank
	Flow Meter
	Other (explain:_____)

5. Do you sample manure annually for nutrient content? Yes No

6. How often do you soil test fields receiving manure? *(fill in the blank)* Every _____ year(s) _____Never

7. Have you implemented new/expanded manure management practices/structures because of this project?
Yes No

    a. If yes, what is the cost of the newly implemented manure management practices, equipment, or structures? *(fill in the blanks)*
    New construction $_____ (What was built?) _____
    Cost of additional farm labor or management time $_____ per year
    Fees for services hired $ _____ per year (Which services?) _____
    Other (please describe) _____ $_____

8. Have you implemented new/expanded conservation practices/treatments/structures? Yes No

   a. If yes, what is the cost of the newly implemented manure management practices, equipment, or structures? *(fill in the blanks)*

      New construction $_____ (What was built?) _____
      Cost of additional farm labor or management time $_____ per year
      Fees for services hired $ _____ per year (Which services?) _____
      Other (please describe) _____ $_____

Because of participating in this program:

9. Do you believe you have an improved understanding of environmental regulations? Yes No

10. Do you believe you are better complying with environmental rules & regulations? Yes No

11. Do you believe that you practice better stewardship? Yes No
    Please provide an example: _____

12. Have you seen improvements in:

Yes	No		If yes, please explain
		Crop yield/performance	
		Soil Conservation	
		Animal Performance	
		Other:_____	

13. Do you intend to continue using your plan developed in this project? Yes No

14. What would help you implement your plan developed in this project? *(rank in order of importance, with 1 being most important)*

Rank (1-7)		Please explain specific assistance, tools, topics
	3rd party assistance	
	Software tools	
	Educational Materials	
	Cost share for construction	
	Financial incentive	
	Regulatory pressure	
	Regulatory flexibility	

15. Are there additional adjustments/practices/changes you are planning to do? Yes No

    If yes, what are some examples? _____
    _____
    _____
    When do you plan to accomplish these by? _____

16. Who should be responsible for environmental protection? *(rank in order of responsibility, with 1 being most responsible*)

	Producer
	Commodity Groups (i.e. Iowa Farm Bureau, Iowa Pork Producers, Iowa Cattlemen)
	Department of Natural Resources
	Natural Resources Conservation Service
	Other (please identify):_____

17. What is your definition of environmental stewardship?

_____

_____

18. What is an indication that a farmer is a good steward?

_____

_____

19. Where do you get information or advice on the following topics? *(Check all that apply)*

	DNR	NRCS	Producer organization / Commodity group	Extension	Farm Supplier	Neighbor	Other _____
Environmental regulations							
Management practices to protect water quality							
Cost share and incentives							
Manure management plans							
Conservation plans							
Manure control structures and design							

20. How do you stay updated on environmental changes? (*Rank in order of frequency of use, with 1 being most frequent, if you don't use the method leave it blank*)

	Email
	Internet
	Meetings
	Mail
	Word of Mouth
	Media print (newspaper, other)
	Media (radio, TV, other)
	Other (please identify):_____

21. Please indicate whether you have used the services of an outside adviser or consultant to help with your operation management or decision making in the last two years. Indicate the helpfulness of the advice you received. *(place check in appropriate box)*

Used	Did Not Use	Provider	Not Helpful ◄——► Very Helpful				
			1	2	3	4	5
		Producer organization/ commodity group					
		Extension service					
		Neighbor/another local producer					
		Hired consultant					
		University researcher					
		Federal or state conservation agencies (NRCS, SWCD, FSA)					
		Input provider (feed dealer, coop agronomist, etc.)					
		Non-profit educational groups (i.e., Center for Rural Affairs, AERO, ATTRA, SoSAWG, Savory Center for Holistic Management, Michael Fields Agricultural Institute)					
		Other (please identify):_____					

22. Please indicate your level of agreement or disagreement with each of the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I understand and appreciate the purpose of this project.				
The amount of time spent in this project was reasonable				
The on-site assessment was a valuable part of the project.				
The information presented is easy to understand				
The information presented is useful to my operation				
The information presented gave me new awareness about the environmental impact of my operation				
The assessment of the environmental impacts of my operation will fit into my other management activities				
I was satisfied with the amount of time project staff spent with me.				
Project staff answered my questions and provided the assistance I needed to complete the assessment.				

23. Now that you've completed the CNMP/EMS process, what improvements could be made…
    a. regarding the material discussed

    _____
    _____

    b. on the presentation of the material

    _____
    _____

c. to achieve better results

_____

_____

24. How confident are you that your current expertise in each area meets the needs of your operation now and in the next two years. *Please check the number that best represents your level of confidence.*

	Not Confident ⟷ Very Confident				
	1	2	3	4	5
Livestock production management					
Crop production management					
Business management					
Environmental management					
Regulatory compliance					
Conservation plan compliance					

25. Please indicate how concerned you are on your operation about each of the following:

	Not Concerned	Slightly Concerned	Concerned A Lot	Extremely Concerned
Water quality related to manure management				
Water quality related to pesticides, chemicals, fuels, or fertilizers				
Water quantity and availability				
Soil quality and/or soil conservation				
Wildlife habitat				
Odor and/or air quality				
Energy costs and availability				
Other (Specify)_____				

26. Why did you choose to participate in the project?

_____

_____

27. What were your goals for participation?

_____

_____

28. Were your goals met?

Strongly Disagree ⟷ Strongly Agree				
1	2	3	4	5

29. Would you participate again? Yes No

30. Would you recommend this project to another producer? Yes No

Why/Why Not: _____

31. How valuable was the project for you?

Not Valuable ⟷ Very valuable				
1	2	3	4	5

32. Did you value the 3rd party assistance provided in this project? Yes No
If yes, how much was the 3rd party assistance worth to your operation? *(place check in appropriate box)*

<$500	$500-$1000	$1000 - $2000	>$2000	Other _____

Is a similar service available in your area? Yes No
How much would you be willing to pay for similar assistance today?

<$500	$500-$1000	$1000 - $2000	>$2000	Other _____

33. What are your future plans with respect to CNMP/EMS on your operation?

_____
_____
_____

LEMS **WILESPP**

1. Are you using the CNMP/EMS developed in this project?

Yes	No
100%	0%

Yes	No
100%	0

a. Have you referred to your plan in the last 3 months?

Yes	No
82%	18%

Yes	No
86%	14%

b. Have you updated the original plan?

Yes	No
27%	73%

Yes	No
29%	71%

If yes, when did you update?

December constantly Jan-05 February Nov'04

2. Do you apply manure according to a Manure Management Plan (MMP)?

Yes	No
50%	50%

Yes	No
100%	0%

a. If yes, is it balanced on Phosphorous or Nitrogen?

P	N
75%	25%

P	N
0%	0%

b. If no, do you plan to develop a MMP?

Yes	No
33%	67%

Yes	No
0%	0%

3. Are you required by regulation or EQIP contract to have a Manure Management Plan?

Yes	No
36%	64%

Yes	No
100%	0%

4. Do you record manure applied to each field?

Yes	No
75%	25%

Yes	No
100%	0%

b. If yes, how do you record the amount of application? *(check all the apply)*

100%	Count Loads	67%
0%	Weigh Spreader / Tank	22%
0%	Flow Meter	11%
0%	Other (explain:_____)	0%

5. Do you sample manure annually for nutrient content?

Yes	No
18%	82%

Yes	No
100%	0%

6. How often do you soil test fields receiving manure? *(fill in the blank)*

3.318 years (average)	3.428571

7. Have you implemented new/expanded manure management practices/structures because of this project?

Yes	No
64%	36%

Yes	No
29%	71%

a. If yes, what is the cost of the newly implemented manure management practices, equipment, or structures?

New construction cost

$ 31,833 $ 750.00

What was built?

concrete settling basins

Terrace to spread runoff across field

Solids settling structure (I didn't take Eqip money because I didn't want MMP)

solid settling

concrete sediment basin

Constructed manure settling basin below feedlot and used our materials and labor

Changed from corn-bean rotations to continuous corn

Cost of additional farm labor or management time - cost per year

$ 2,600

Fees for services hired - cost per year

$ 250

Which services?

Engineering

Other (please describe)

Manure spreader

Plan on building structures in summer 2005 DNR sets the rules so you couldn't do anything until approved if above 1000 herd cattle. NRCS has a lot of rules that effect everything if you use EQIP money.

Cost

$ 25,000

8. Have you implemented new/expanded conservation practices/treatments/structures?

Yes	No
14%	86%

Yes	No
20%	80%

a. If yes, what is the cost of the newly implemented manure management practices, equipment, or structures?

New construction cost

$ 3,600

What was built?

waterways

clean water diversion

Cost of additional farm labor or management time - cost per year

$ 100.00

Fees for services hired cost per year Which services?

Other (please describe) Cost

Because of participating in this program:

9. Do you believe you have an improved understanding of environmental regulations?

Yes	No
100%	0%

Yes	No
100%	0%

10. Do you believe you are better complying with environmental rules & regulations?

Yes	No
100%	0%

Yes	No
100%	0%

11. Do you believe that you practice better stewardship?

Yes	No
90%	10%

Yes	No
100%	0%

Please provide an example:

spread manure in different areas

Not over applying manure, scraping pens more frequently

applying manure based on phosphorous

always learning - I have been a soil conservation commissioner since 1978

By tracking all nutrients

learned and picked up some ideas on solid settling

more aware of a good neighbor effect

general awareness

application rates

pen cleaning with > 60% Rain chance in 3 day forecast

controlling runoff due to conservation practices

solid settlement

knowing what nutrients are applied to what field

12. Have you seen improvements in:

Crop yield/performance

Yes	No
50%	50%

better manure application management
Poorer soils yield better
better yields

Crop yield/performance

Yes	No
43%	57%

improved yield
better drought tolerances and yields
better yields from balance in ground samples

Soil Conservation

Yes	No
50%	50%

buffer strips work!!
less erosion

Soil Conservation

Yes	No
40%	60%

less runoff

Animal Performance

Yes	No
50%	50%

better gains because of more concrete
better gains
Better growth with scraping (pens) yards, less dust, less manure in pens
Other:_____

Animal Performance

Yes	No
20%	80%

more concern of animal wellness and environment

13. Do you intend to continue using your plan developed in this project?

Yes	No
100%	0%

Yes	No
100%	0%

14. What would help you implement your plan developed in this project? *(rank in order with 1 being most important)*

	LEMS							
	1	2	3	4	5	6	7	Aver.
3rd party assistance	0.0%	9.1%	36.4%	18.2%	9.1%	18.2%	9.1%	4.18
Software tools	10.0%	0.0%	0.0%	0.0%	20.0%	10.0%	60.0%	5.90
Educational Materials	9.1%	9.1%	27.3%	27.3%	0.0%	18.2%	9.1%	3.91
Cost share for construction	30.0%	30.0%	0.0%	0.0%	30.0%	10.0%	0.0%	3.00
Financial incentive	30.0%	30.0%	20.0%	20.0%	0.0%	0.0%	0.0%	2.30
Regulatory pressure	0.0%	0.0%	10.0%	20.0%	30.0%	20.0%	20.0%	5.20
Regulatory flexibility	27.3%	27.3%	9.1%	9.1%	9.1%	18.2%	0.0%	3.00

we need to toot our horn to all the people in this state that bad mouth agriculture.
pictures for ideas, some reading material on what other people did
I'm not the only one benefiting here!
Leave me alone, deal with problem people
As long as I'm at least trying - let me alone. Deal with the offenders

	WILESPP							
	1	2	3	4	5	6	7	Aver.
3ru party assistance	0.0%	28.6%	14.3%	0.0%	42.9%	14.3%	0.0%	4.00
Software tools	14.3%	14.3%	0.0%	0.0%	28.6%	28.6%	14.3%	4.57
Educational Materials	0.0%	14.3%	14.3%	57.1%	14.3%	0.0%	0.0%	3.71
Cost share for construction	14.3%	14.3%	42.9%	14.3%	0.0%	14.3%	0.0%	3.14
Financial incentive	14.3%	42.9%	14.3%	0.0%	0.0%	28.6%	0.0%	3.14
Regulatory pressure	14.3%	0.0%	0.0%	0.0%	14.3%	14.3%	57.1%	5.71
Regulatory flexibility	28.6%	0.0%	14.3%	14.3%	14.3%	14.3%	14.3%	3.86

15. Are there additional adjustments/practices/changes you are planning to do?

Yes	No
54.5%	45.5%

Yes	No
28.6%	71.4%

If yes, what are some examples? When do you plan to accomplish these by?

finish settlement basins / structure	P based plan
Spring '06	Fall 05
we will be experimenting with a small infiltration bed, dual channel grassed waterways, maybe pump some effluent to nearby field at critical times.	
2005, 06, 07 - we will not stop making improvements	
general clean-up iron to junk yard - bury concrete piles	more terraces in the future
summer	5-7 years
construct 2 holding ponds (lagoons)	
Summer 2006	
Everyone focuses on the obvious like feedlot runoff, but after looking at the EMS programs, I became aware of the not so obvious. For example - like recycling. We have set up a recycling procedure to minimize stuff that ends up in the landfill. Fuel stora	
When DNR tells us	

16. Who should be responsible for environmental protection? *(rank in order with 1 being most responsible)*

LEMS					WILESPP			
1	**2**	**3**	**4**		**1**	**2**	**3**	**4**
11	0	0	0	Producer	7	0	0	0
0	0	2	6	Commodity Groups (i.e. Iowa Cattlemen)	0	1	1	5
0	5	1	1	Department of Natural Resources	0	5	0	2
0	2	4	1	Natural Resources Conservation Service	0	0	6	0
0	0	0	0	Other (please identify):_____	0	1	0	0

Ultimately the producer is the one responsible for environmental protection. Cattle feeders are probably the most innovative people around otherwise they wouldn't still be in the business. If the rules were known to the cattle feeders, they would have sol

17. What is your definition of environmental stewardship?

Trying to do some kind of environment protection practices - waterways with filter strips, terraces, solid settling from feedlots. Just do something - don't act dumb!	using all resources to maximize profit while doing no harm to the environment
leaving land better than when you got it	being responsible for your actions
caring for the land	
Running a farming operation that is profitable at same time not impacting the environment	Balancing crop and livestock production while protecting or increasing the quality of the environment
water leaving our premises is as good as when it entered	
using available resources to evaluate and improve the environmental impact of all we do. To constantly evaluate our environmental impact and use a whole farm approach to improve	Protecting natural resources through land and livestock management practices beneficial to everyone
leaving the land better than we found it, and improving for next generation	
To use the resources available to us to produce a quality product while not polluting the environment and make a profit	field condition, not tracking on roadways, manure incorporation
	Putting to work practices that improve or protect the environment from any risks that may occur during production of livestock or crops
To provide a clean well maintained feedlot, with total containment. Also keep in good relations with DNR, NRCS, and neighbor	
working to enhance the environment instead of ruining the environment	

18. What is an indication that a farmer is a good steward?

controls erosion and feedlot waste so it does not pollute water while running a profitable efficient operation

when applying manure, make sure that it is incorporated immediately

neat farmstead, grass waterways, hillsides, rotated with hay and pasture, provide shelter for cattle

practice no-till

Look for good practices - clean ditches (weeds, shrubs, etc.) neat farm? Pens clean? Dirt roads? Gullies in field? Manure in ditches? Weeds in fields?

the environment surrounding his operation is improving because of his production practices

conservation, nutrient management, wildlife refuge - clean water, clean air

Does he/she have an active EMS. Can he/she name 3 negative environmental impact that he/she is currently working to improve

clean water

Well run operation that cares for livestock, crops, family, and neighbors and environment

One who cares for the land as it were to someday be extinct

action speaks louder than words - everyone pretty well knows good stewardship vs. bad stewardship

19. Where do you get information or advice on the following topics? *(Check all that apply)*

	DNR	NRCS	Producer organization / Commodity group	Extension	Farm Supplier	Neighbor	Other
Environmental regulations	25.0%	16.7%	33.3%	25.0%	0.0%	0.0%	0.0%
Management practices to protect water quality	20.0%	30.0%	25.0%	22.5%	2.5%	0.0%	0.0%
Cost share and incentives	3.1%	46.9%	21.9%	25.0%	3.1%	0.0%	0.0%
Manure management plans	19.4%	25.8%	22.6%	22.6%	3.2%	0.0%	6.5%
Conservation plans	4.0%	56.0%	12.0%	24.0%	4.0%	0.0%	0.0%
Manure control structures and design	20.6%	26.5%	14.7%	26.5%	5.9%	0.0%	5.9%

20. How do you stay updated on environmental changes? (*Rank in order with 1 being most frequent)* if you don't use leave it blank

	LEMS							
	Aver.	1	2	3	4	5	6	7
Email	4.38	1	2	0	1	0	2	2
Internet	4.78	2	1	0	0	0	3	3
Meetings	2.77	2	1	5	2	0	0	0
Mail	2.95	3	3	0	2	0	2	0
Word of Mouth	5.00	0	0	1	1	6	1	1
Media print (newspaper, other	3.05	2	2	2	2	1	0	1
Media (radio, TV, other)	4.14	0	1	2	2	3	1	1
Other (please identify):		0	0	0	0	0	0	0

	WILESPP							
	Aver	1	2	3	4	5	6	7
Email	4.40	2	0	0	0	0	1	2
Internet	4.80	0	1	0	1	1	1	1
Meetings	3.29	1	2	2	0	1	0	1
Mail	3.29	1	0	4	1	0	1	0
Word of Mouth	4.00	0	1	1	0	1	1	0
Media print (newspaper, other	2.43	3	1	0	3	0	0	0
Media (radio, TV, other)	4.00	0	2	0	0	2	1	0
Other (please identify):		0	0	0	0	0	0	0

21. Please indicate whether you have used the services of an outside adviser or consultant to help with your operation management or decision making in the last two years. Indicate the helpfulness of the advice you received.

	LEMS					
	Didn't Use	Not Helpful ⟷				Very Helpful
	0	1	2	3	4	5
Producer organization/ commodity group	0%	0%	11%	33%	44%	11%
Extension service	18%	0%	0%	9%	36%	36%
Neighbor/another local producer	33%	0%	0%	17%	50%	0%
Hired consultant	58%	0%	0%	8%	25%	8%
University researcher	50%	0%	8%	17%	25%	0%
Federal or state conservation agencies	38%	0%	15%	15%	31%	0%
Input provider	50%	0%	0%	17%	17%	17%
Non-profit educational groups	89%	0%	0%	0%	11%	0%
Other (please identify):_____	100%	0%	0%	0%	0%	0%

	WILESPP					
	Didn't Use	Not Helpful ⟷				Very Helpful
	0	1	2	3	4	5
Producer organization/ commodity group	40.0%	0.0%	0.0%	40.0%	0.0%	20.0%
Extension service	16.7%	0.0%	16.7%	50.0%	0.0%	16.7%
Neighbor/another local producer	50.0%	0.0%	16.7%	0.0%	16.7%	16.7%
Hired consultant	66.7%	0.0%	0.0%	0.0%	16.7%	16.7%
University researcher	50.0%	0.0%	33.3%	16.7%	0.0%	0.0%
Federal or state conservation agencies	0.0%	0.0%	33.3%	16.7%	33.3%	16.7%
Input provider	50.0%	16.7%	33.3%	0.0%	0.0%	0.0%
Non-profit educational groups	83.3%	0.0%	16.7%	0.0%	0.0%	0.0%
Other (please identify):_____	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

22. Please indicate your level of agreement or disagreement with each of the following statements.

	LEMS			
	Strongly Disagree	Disagree	Agree	Strongly Agree
	1	2	3	4
I understand and appreciate the purpose of this project.	0%	0%	55%	45%
The amount of time spent in this project was reasonable	0%	0%	82%	18%
The on-site assessment was a valuable part of the project.	0%	0%	45%	55%
The information presented is easy to understand	0%	9%	73%	18%
The information presented is useful to my operation	0%	0%	64%	36%
The information presented gave me new awareness about the environmental impact of my operation	0%	0%	73%	27%
The assessment of the environmental impacts of my operation will fit into my other management activities	0%	0%	91%	9%
I was satisfied with the amount of time project staff spent with me.	0%	9%	64%	27%
Project staff answered my questions and provided the assistance I needed to complete the assessment.	0%	0%	73%	27%

	WILESPP			
	Strongly Disagree	Disagree	Agree	Strongly Agree
	1	2	3	4
I understand and appreciate the purpose of this project.	0%	0%	83%	17%
The amount of time spent in this project was reasonable	0%	17%	67%	17%
The on-site assessment was a valuable part of the project.	0%	20%	80%	0%
The information presented is easy to understand	0%	17%	67%	17%
The information presented is useful to my operation	0%	0%	83%	17%
The information presented gave me new awareness about the environmental impact of my operation	0%	67%	17%	17%
The assessment of the environmental impacts of my operation will fit into my other management activities	0%	33%	50%	17%
I was satisfied with the amount of time project staff spent with me.	0%	0%	83%	17%
Project staff answered my questions and provided the assistance I needed to complete the assessment.	0%	0%	83%	17%

23. Now that you've completed the CNMP/EMS process, what improvements could be made…

a. regarding the material discussed

There was a lot of paper, try to keep it simple

ok

material needs to be made more concise - much waste that did not apply

I thought the material was very good

trim it down to basics

I think the on site assessment should be conducted by more than one party. Where as you would receive two opinions and could compare

hard question - the discussions, materials and others all effect people differently. That's why there is a broad spectrum of environmental issues and the importance of each. A small percent of people never will be affected and they are the problem

Coordinate more closely with DNR on reports and structure of reports so as to create one system used by all

I was completely satisfied with the project. It should help me in the future

b. on the presentation of the material

Dr. John was good. Explained thoroughly and helped us understand the language in the paperwork. No change!

ok

Presentation was good - but limited by poor content in workbook

get to the basics

continue offering the program to livestock producers

great presentation

OK - it will improve - it seems there was too much material

c. to achieve better results

Taylor to our needs

yearly updates

Tour other feedlots that took part in the process to see what they did to comply

need more technical assistance - provide specific solutions for specific problems. Need design assistance and tech support. Be a consultant with solutions.

keep asking questions like this survey to keep me motivated

A lot of pictures on what other producers did for solid settling and why they decided to use it and go the way they did

More time could be spent discussing each part of the presentation

stream line

coordinate with DNR

more follow-up visits

24. How confident are you that your current expertise in each area meets the needs of your operation now and in the next two years.*Please check the number that best represents your level of confidence.*

	LEMS				
	Not Confident ← → Very Confident				
	1	*2*	*3*	*4*	*5*
Livestock production management	0%	0%	27%	55%	18%
Crop production management	0%	0%	20%	60%	20%
Business management	0%	0%	36%	64%	0%
Environmental management	0%	0%	18%	64%	18%
Regulatory compliance	0%	18%	27%	55%	0%
Conservation plan compliance	0%	0%	18%	73%	9%

	WILESPP				
	Not Confident ← → Very Confident				
	1	*2*	*3*	*4*	*5*
Livestock production management	0%	0%	33%	50%	17%
Crop production management	0%	0%	33%	50%	17%
Business management	0%	17%	0%	83%	0%
Environmental management	0%	0%	33%	50%	17%
Regulatory compliance	0%	0%	33%	67%	0%
Conservation plan compliance	0%	0%	33%	50%	17%

25. Please indicate how concerned you are on your operation about each of the following

LEMS					WILESPP			
Not Concerned	Slightly Concerned	Concerned A Lot	Extremely Concerned		Not Concerned	Slightly Concerned	Concerned A Lot	Extremely Concerned
1	2	3	4		1	2	3	4
0.0%	27.3%	54.5%	18.2%	Water quality related to manure management	0.0%	66.7%	16.7%	16.7%
45.5%	9.1%	36.4%	9.1%	Water quality related to pesticides, chemicals, fuels, or fertilizers	0.0%	33.3%	50.0%	16.7%
18.2%	18.2%	36.4%	27.3%	Water quantity and availability	16.7%	66.7%	0.0%	16.7%
18.2%	9.1%	36.4%	36.4%	Soil quality and/or soil conservation	0.0%	16.7%	66.7%	16.7%
9.1%	45.5%	45.5%	0.0%	Wildlife habitat	0.0%	66.7%	33.3%	0.0%
27.3%	45.5%	27.3%	0.0%	Odor and/or air quality	16.7%	16.7%	50.0%	16.7%
0.0%	18.2%	63.6%	18.2%	Energy costs and availability	0.0%	0.0%	83.3%	16.7%
0.0%	0.0%	0.0%	0.0%	Other (Specify)	0.0%	0.0%	0.0%	0.0%

26. Why did you choose to participate in the project?

to be compliant
Respect John Lawrence
always interested in new things
To help meet DNR regulations
Trying to stay on the cutting edge!!
To try and learn more about the manure management practices
I wanted to see and hear what other producers were doing and why and how
wanted to continue feeding cattle and not have DNR looking over my shoulder
To get help with rules and regulations and help with solids settling structures
because I believe in self improvement and I believe in environmental stewardship
To become more informed on the rules and regulations I needed to comply with on my operation
to learn more about CNMP
always interested in information
environmental compliance
To try to improve on environmental stewardship and to be pro-active in a regulatory climate
To improve my operation relating to the environment and to meet current and upcoming government regulations
interest in new regulations and new management skills

27. What were your goals for participation?

Become better steward
reduce manure runoff
To try and attend every meeting and absorb as much info as possible. Also to develop one or more common management plans
To be in compliance with my size operation
to be compliant
To be provided with tools necessary to do a self-assessment now and in the future. I wanted to do the exact process outlined in EMS but just didn't know where to start
To help myself as well as others to understand the importance of good stewardship
To come up with idea for my own operation and try to pick something up that I probably didn't think of
better understanding of process
To do better with what we have and to do it in a way that keeps us profitable
just have an open mind
see if current practices were good enough
To be ahead of the curve regarding regulations
environmental compliance
To bring my operation into compliance with current regulations and find out the options I can use in the future if I want to change a practice I am currently using
Improve my management practices and to be in compliance with regulations

28. Were your goals met?

Strongly Disagree		← →		Strongly Agree
1	2	3	4	5
0%	0%	27%	45%	27%

Strongly Disagree		← →		Strongly Agree
1	2	3	4	5
0%	0%	0%	83%	17%

29. Would you participate again?

Yes	No
80%	20%

Yes	No
100%	0%

30. Would you recommend this project to another producer? Why/Why Not:

Yes	No
100%	0%

Yes	No
100%	0%

It depends on the producers site and the willingness to do the work
because of the common sense approach to the project
useful
everybody can learn a little
everyone needs help

Time is a factor with anyone, I'm sure as things move forward the process will be streamlined and time requirement will be reduced

everyone needs to protect natural resources even the independent producers

31. How valuable was the project for you?

Not Valuable ← → Very valuable				
1	2	3	4	5
0%	0%	10%	60%	30%

Not Valuable ← → Very valuable				
1	2	3	4	5
0%	0%	17%	67%	17%

32. Did you value the 3rd party assistance provided in this project?

Yes	No
100%	0%

Yes	No
100%	0%

If yes, how much was the 3rd party assistance worth to your operation? *(place check in appropriate box)*

<$500	$500-$1000	$1000 - $2000	>$2000	Other
1	2	3	4	5
33%	11%	33%	22%	0%

<$500	$500-$1000	$1000 - $2000	>$2000	Other
1	2	3	4	5
25%	50%	0%	25%	0%

Is a similar service available in your area?

Yes	No
56%	44%

Yes	No
40%	60%

How much would you be willing to pay for similar assistance today?

<$500	$500-$1000	$1000 - $2000	>$2000	Other
1	2	3	4	5
57%	29%	0%	14%	0%

<$500	$500-$1000	$1000 - $2000	>$2000	Other
1	2	3	4	5
67%	0%	33%	0%	0%

33. What are your future plans with respect to CNMP on your operation?

EMS is an ongoing process and changes almost daily. Everything with the environment changes with the weather and numbers, etc

to follow it

Keep on improving where-ever possible

I will continue to use the plan as it is

Now that I have to and want to tweak things a little after a few years of seeing other projects done by other producers. Seems like you can always find some improvement to do, pick up on something at a meeting and say to yourself "Hey, I didn't think of t

Continue to follow plan and move toward P based plan

I hope we always are enrolled, always have support staff, always do at least an annual review and mostly I want to stay on a track of consistent environmental improvement

continue to update as needed

complete the plan as written

If I expand the feedlot- relook at the Elms at that time. Or if the rules change.

continue without additional assistance

I'm going to stay with EMS because I dropped under 1000 head and in a few years I would like to be over 1000 head with out total containment, maybe by using alternative technologies

Plan to use it but not as extensively as it should be. Some of the information is not that valuable but just looks good to some who might be interested.

Total containment and learn as I go!

haul manure when needed to provide good environment for cattle