

2004 Manure Applicator Certification Program
July 1, 2003 to June 30, 2004
Agreement Number 04-7112-01
Final Report

Introduction

In 1998, the Iowa Legislature passed HF 2494. This bill required certification of commercial manure applicators and confinement site manure applicators with operations of a designated size. Legislative changes (HF 644) again in 2003 required rule changes for the 2004 program. These changes primarily dealt with the administrative changes to the commercial manure applicator program. The new law required manure application businesses to hold business licenses and allowed fees to be set for businesses, managers and employees. The purpose of this project, entered into by the Iowa Department of Natural Resources (IDNR) and Iowa State University Extension (ISUE) was to develop manure certification training and testing materials and to conduct certification workshops for commercial manure applicators and confinement site manure applicators. This annual report covers the sixth year of the certification program.

Training Material Development

Confinement Site Manure Applicator Program

Training materials for the Confinement Site programs were developed into individual modules. The goal of the module concept was that the material could be used again in future programs with minimal time used in development of the presentation of the materials but instead, time focused on updating the subject matter of each module for future use. The modules are identified at a yearly planning meeting. An Extension campus and/or field specialist or IDNR staff member then develops and presents each module. For some modules, other speakers are identified and asked to participate in the program. The materials are developed into a PowerPoint presentation and then burned onto a CD for use at the annual workshops. Each module may be modified at the local level by extension field specialists to adapt for regional or county use to meet certain manure application practices, crop, soils or topography requirements.

Materials developed for the 2004 Confinement Site Manure Applicator program focused on 1) Land Application Rules, Applicator Requirements and Separations Distances; 2) Making your Manure Management Plan Work for You; 3) Animal and Human Health Safety Issues; and 4) Manure Spill Responses Kit, Simulated Manure Spill and Emergency Action Plans; A complete listing of modules by year, and time allocated is presented in Table 1.

Significant changes to the forms used in the Confinement Site Manure Applicator Program occurred this year. Iowa State University Extension staff, in cooperation with IDNR, spent a large amount of time working on revising forms to meet new program requirements. Changes in layout were made to the Confinement Site Manure Applicator Training Sign-in Sheets. ISUE office assistants were asked to review these forms because they are the primary points of contact for producers who are required to complete these forms as proof of attendance at the meetings. The forms were much easier to read, fill out, and the office assistants were able to understand what information needed to be on them and where and when to send them. As a result of these

changes, a higher percentage of sign-in sheets were sent to DNR upon completion of the program and ISUE staff spent less time chasing these forms.

The Confinement Site Manure Applicator Certification or Renewal of Certification form had major changes as well. Here again ISUE spent many hours developing the forms and then had them reviewed by IDNR. These changes made it possible to reduce the number of forms the Confinement Site applicators fill out to just one. The Confinement Site Manure Applicator Training Verification had been eliminated since the forms for certification/renewal of certification now had an area on the form for selecting either initial certification or renewal recertification.

The Confinement Site Manure Applicators also had a change in fees for certification. The fee structure is \$100 for three years plus an additional annual \$25 for an educational fee. All of these fees are remitted to IDNR. Because the forms were revised, the annual fee structure for producers was made easier to understand.

Commercial Manure Applicator Program

Materials developed for the 2004 Commercial Manure Applicator program were also discussed at a yearly planning meeting and with input from commercial manure applicators present at the meeting and with NRCS, IDNR, and ISUE field staff. The program materials were delivered with PowerPoint presentations in live format via the annual satellite downlink held on January 6, 2004

The 2004 Commercial Manure Applicator program included the following modules: 1) Land Application Rules, Applicator Requirements and Separations Distances; 2) How to Read Manure Management Plans; 3) Animal and Human Health Safety Issues; 4) Manure Spill Responses Kit, Simulated Manure Spill and Emergency Action Plans; 5) Iowa Commercial Nutrient Applicators Association Update, and 6) How to complete forms, pay fees, and substitution of new employees. Complete listing of modules by year, and time allocated is presented in Table 1 (prior to 2001, program was not developed into modules).

Due to the changes in the House File 644, the Commercial Manure Applicator licenses had been divided into two separate types; the Commercial Manure Service and the Commercial Manure Service Representatives. This division made it necessary to change all IDNR forms for the commercial applicator program. This change brought on numerous meetings about these forms and how they needed to be formatted and information necessary for the IDNR. Here again, this took an enormous amount of ISUE time to provide input, develop, revise and work with DNR on these forms. The final forms were developed to identify businesses with a manager listed, and then the corresponding representatives who work for the business. This made it easier for business to substitute representatives since this line of business has a high turn-over rate. Added to this was the change in the certification fees for the business and for the representative. The businesses had to identify one person as the manager and pay a fee of \$200 for the business license which includes the certification fee for the manager, an educational fee for the manager of \$25, and a service representative fee of \$75 for certification and \$25 for an educational fee. The Commercial Manure Applicator Training Sign-in sheet was also restructured to correspond with the Confinement Site Manure Applicator Sign-in Sheet.

Table 1. Certification modules by program and year.

Year	Confinement Site Manure Applicator Program	Commercial Manure Applicator Program
2001	Sampling Manure 20 min.	Recordkeeping 20 min
	Manure Nutrient Research 20 min.	Emergency Action Plan 30 min
	Emergency Action Plans 30 min.	Rules 30 min
	Rules 25 min	Manure Application Techniques 45 min
	Recordkeeping 25 min	Case Studies 30 min
		Questions and Answers 25 min
2002	Feeding Strategies for Nutrient Management 30 min	Rules
	Equipment Calibration 20 min	Case Studies
	Dead Animal Disposal 30 min	Pumping, Hauling and Land Application Issues
	Equipment Options and Land Application Concerns 20 min	Interview with County Supervisor – road and bridge damage, weight restrictions (video)
	Dry Manure Issues (optional) 20 min	
2003	Phosphorus and Water Quality 40 min	Land Application Rules; Separation Distances and Review of Matrix Implications 40 min + 10 min Q and A
	Review of Rules 40 min	Manure Application Equipment effects on Odor, Residue Cover and Crop Yields 40 min
	Earthen Basin Inspection (video) 20 min	Case Studies and Manure Spill Responses 15 min
	Recordkeeping 20 min	Pollution Liability Insurance 20 min
		Iowa Commercial Nutrient Applicators Association 10 min
		Phosphorus and Water Quality Issues 30 min + 15 min Q and A
2004	Review of Rules; Land Application and Separation Distances; Recordkeeping 50 min	Review of Rules; Land Application and Separation Distances; Recordkeeping 50 min
	Manure Spill Response Kit and Simulated Manure Spill (video) 12 min	Manure Spill Response Kit and Simulated Manure Spill (video) 12 min
	Making your Manure Management Plan work for you 20 min	How to Read Manure Management Plans 30 min + 5 min Q & A
	Biosecurity Issues 20 min	Biosecurity Issues (video) 33 min
		Recommendations for Commercial Applicators during agitation & pumping 22 min
	Manure Pit Storage Safety 20 min	
	Iowa Commercial Nutrient Applicators Association 10 minutes	
	How to complete forms and review of fees. 15 min.	
	Additional Q & A section 22 min	

Supporting Training Materials

Three fact sheets were distributed to manure applicators via the training workshops in 2004. These fact sheets, prepared by IDNR and reviewed by ISUE, included updated versions of:

- DNR 113, Separation Distances for Land Application of Manure (revised January, 2003)
- DNR 115 Commercial Manure Applicator Certification (revised November, 2003)
- DNR 116 Manure Applicators Certification (revised November, 2003)
- DNR 117 High Quality Water Resources (March 2003)

In addition, PM 1859 Emergency Action Plans, developed by ISUE and IMMAG was also used in the workshops. These fact sheets were also linked on the Manure Applicators Certification web page- a component of the IMMAG web page, and made available at field days, the Iowa Pork Congress and association meetings. Copies of these fact sheets are available in Appendix 1.

Certification Workshops

Confinement Site Workshops

Training workshops for the 2004 Confinement Site Manure Applicator Certification program began in January 2004 and continued through March 2004. There were 50 training workshops held in 50 County Extension offices. In addition to the workshops, Confinement Site applicators were trained by offering a two-hour videotape for training which could be watched by producers by scheduling an appointment at their County Extension office.

Extension staff reported that 1,242 attended the certification meetings, of that number 1,087 confinement site applicators returned evaluations of the program based on the workshop they attended, 80 confinement site applicators returned evaluations from the training in which they watched two-hour video at a county extension office for a total of 1,167 evaluations. A total of 67 training events were implemented for the 2004 Confinement site program using staff resources of 18 field specialists in Ag Engineering, and Livestock Extension. **At this time, the total number of certified confinement site manure applicators has not been determined due to changes in the IDNR database.**

Commercial Applicator Workshops

The 2004 Commercial Manure Applicator program was delivered via satellite downlink on January 6, 2004. This downlink was broadcast to 50 Iowa county extension offices. Three Iowa Counties; Howard, Dickinson, and Winnebago, offered joint training for Minnesota and Iowa commercial applicators to meet the requirements of both states. This joint program was a 4-hour program that covered all the materials presented in the Iowa program and provided one extra hour of rules to meet the Minnesota requirements. This was the fourth consecutive year for this joint effort. Extension staff reported that 505 attended the certification meetings, but ISUE has collected 638 commercial applicators evaluations. From those evaluations, 461 are from applicators who attended the satellite downlink and 177 evaluations were returned from applicators viewing the videotape. **At this time, the total number of certified commercial manure applicators has not been determined due to changes in the IDNR database.**

Portions of the program delivered via the Commercial satellite downlink program were used to develop the training videotapes for both the Confinement Site Applicator and Commercial Applicator program. The module on rules is taped separately for the confinement site program. The satellite downlink was taped and edited accordingly to provide a two-hour and three-hour program respectively. Each county extension office received one copy of the two-hour Confinement Site Applicator Tape and one copy of the three-hour Commercial Applicator Tape. The tapes were produced and distributed within 2 weeks of the commercial manure applicator program to ensure that applicators had adequate time to view tapes prior to the annual March 1st uniform certification deadline.

Specialty Certification Workshops/Training

On December 3, 2003, with the permission of IDNR, an applicator workshop was held in conjunction with the Iowa Turkey Grower's annual association meeting at Stoney Creek Inn in Des Moines. This workshop was open to all poultry producers. This certification meeting provided the same materials as a regular confinement site applicator meeting, but discussion was geared primarily at dry manure issues. Twelve confinement site applicators attended this workshop.

On February 26, 2004, a workshop was held specifically for dry manure applicators in the Eagle Grove, Iowa, area. This workshop provided the necessary three hours of training for those who were commercial applicators. The confinement applicators who attended this workshop benefited from the extra hour of information. The workshop topics discussed the current regulatory requirements for manure applicators, stockpiling manure and water quality issues, and solid manure distribution from different types of dry manure application equipment. There were 16 applicators who attended this workshop.

Finally, the Commercial Manure Applicator program was also downlinked to one County Extension Office in Wisconsin and one County Extension Office in Nebraska. Due to the high numbers of employees in these counties who apply manure in Iowa, the program was coordinated with these respective Extension service to offer this training in other states. Wisconsin does not currently have mandatory manure certification requirements at this time. Recent legislative changes in Nebraska require applicators to be certified, but a formal training program has not been developed.

Certification Workshop Evaluations

Evaluation forms were created with new questions for the applicators pertaining to the material given during the certification process. At the end of each workshop and at the end of each video, the applicators were asked to fill out an evaluation on the information of the material, an overall evaluation, and any changes in their manure management practices. The applicators were also asked if they had or would be willing to adopt the new practices. Some of the practices evaluated in 2004 were as follows:

- 38% of Commercial applicators have developed an emergency action plan or spill kit to prepare for manure spills, while 36% planned to adopt such plans due to current training.

- 72% of Commercial applicators have maintained land application records, while 16% have planned to adopt land application recordkeeping practices due to current training.
- 77% of Commercial applicators have adopted meeting application rates required by manure/nutrient management plan, while 14% plan to adopt this practice because of the current training.
- 29% of the Confinement applicators have already developed an emergency action plan or spill kit to prepare for manure spills, while 58% plan to adopt a procedure due to current training.
- 75% of the Confinement applicators already maintain land application records, while 18% are planning on adopting this procedure.
- 80% of Confinement applicators meet application rates as required by manure management plans, where only 13% plan to adopt these measures.
- 64% of Confinement applicators have implemented bio-security measures to reduce impacts of disease transmission on animals, while 26% of the Confinement applicators plan to adopt these measures due to current training.

New to this year's evaluation were two questions pertaining to last year's program and how it changed the applicators practices. The goal in asking these questions was to determine if applicators who have attended a meeting in the previous year had made changes to the practices they plan to adopt as a result of the previous year's training.

As a result of last year's program:

- 78% of the Commercial applicators implemented separation distances for land application of manure, 1% did not adopt this practice, and 17% said it did not apply to them.
- 71% of Commercial applicators work with producers to maintain residue requirements for conservation compliances and odor reduction, while only 4% have not adopted this practice, and 21% of the applicators listed it did not apply to them.
- 82% of the Confinement applicators have adopted new separation distances for land application of manure, while only 1% has not adopted this practice and 13% said it did not apply to them.
- 76% of the Confinement applicators understand the phosphorus impacts on water quality and made changes to their manure management plans and application rates; 8% of the Confinement applicators did not apply to these measures and 12% said it does not apply to them.

Complete results of program surveys and included in Appendix 2. These results are continuously updated as we receive evaluations from County Extension offices. For the latest version of these files, please access the files on the web at:

<http://extension.agron.iastate.edu/immag/maceval.html> Evaluations from the 2001, 2002 and 2003 MAC program are also available at this site.

Advisory Committee

The 2004 advisory committee was made up ISUE campus and field specialists, DNR staff and NRCS staff. The group met on August 19, 2003 at ISU to review the 2004 program, and discuss the development of the training materials, updates to certification forms, attendance forms, and other required paperwork including the development of the evaluation forms for both 2004

programs. The committee set deadlines for program material development and review and additional communication was primarily conducted electronically via email.

Promotional Materials

Promotional materials used in the 2004 Manure Applicator Certification programs were similar to that of previous years. Brochures were developed for both programs to be used as an informational and recruitment tool. Copies of the brochures are attached in Appendix 3. A press release was prepared and was used by county extension offices for local media; see Appendix 3. Workshop dates were maintained on the IMMAG web site (<http://extension.agron.iastate.edu/immag>) and were also linked on the Iowa Pork Industry Center's web page (<http://www.extension.iastate.edu/ipic/events.html>). A list of workshop dates was distributed to attendees at the Iowa Pork Congress in January 2004.

All of the certification materials have been distributed electronically through the IMMAG site. The Manure Applicator Certification Program button on the IMMAG site links users to a site solely devoted to the Certification Program (<http://extension.agron.iastate.edu/immag/mac.html>). The site contains a description of who needs to be certified, how to get certified and a list of questions and answers most commonly received about the program. The site also has a "staff only" link for ISU Extension employees to download program-planning materials. This site serves as the primary location for MAC information in the state of Iowa.

Budget

A copy of the budget expenditures as of May 31, 2004 is attached in Appendix 4. Funds for confinement site production staff and technical writers and editors have not been spent at this date. A final copy of the expenditures will be submitted within 60 day of the project's end date, per article 3.2 of the contract.

Appendix 1.

- **DNR 113, Separation Distances for Land Application of Manure (revised January, 2003)** <http://www.state.ia.us/epd/wastewtr/feedlot/sepdstb4.pdf>
- **DNR 115 Commercial Manure Applicator Certification (revised November, 2003)** <http://extension.agron.iastate.edu/immag/certification/04dnr115.pdf>
- **DNR 116 Manure Applicators Certification (revised November, 2003)** <http://extension.agron.iastate.edu/immag/certification/04dnr116.pdf>
- **DNR 117 High Quality Water Resources (March 2003)** <http://www.state.ia.us/epd/wastewtr/feedlot/files/hqwr2.pdf>
- **PM 1859 Emergency Action Plans (January 2001)** <http://www.extension.iastate.edu/Publications/PM1859.pdf>

Appendix 2.

Evaluation Summaries

2004 Confinement Site Manure Applicator Evaluation Summary

<http://extension.agron.iastate.edu/immag/certification/04confevaluation.html>

2004 Commercial Manure Applicator Evaluation Summary

<http://extension.agron.iastate.edu/immag/certification/04commevaluation.html>

**Appendix 3.
Brochures and Press Releases**

2004 Confinement Site Press Release

2004 Commercial Manure Applicator Press Release

2004 Confinement Site Manure Applicator Brochure

2004 Commercial Manure Applicator Brochure

11/13/03

FOR IMMEDIATE RELEASE

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Confinement Site Manure Applicator Training Scheduled in _____ County

Confinement site manure applicators should plan to attend a two-hour continuing education workshop offered by Iowa State University (ISU) Extension in January or February 2004 to maintain applicator certification requirements. In _____ (county) _____ the workshop will be offered on _____ (date) _____ at _____ (time) _____ in _____ (location) _____.

"Iowa law requires confinement site manure applicators to obtain two hours of continuing education each year of their three-year certification period or take and pass the exam once every three years," said Angela Rieck-Hinz, ISU extension program specialist and coordinator of the manure applicator certification program. "If applicators fail to get the two hours of continuing education each year, they will be required to pass a written exam to be eligible to recertify."

During the workshop applicators will learn about manure application rules, manure spill response, safety issue for both animals and humans and manure management plan requirements.

The workshop will also serve as initial certification for those applicants who are not currently certified. If a confinement livestock operation has more than a 500 animal unit capacity, the operator must be certified to apply manure unless the manure is applied by a commercial manure applicator. The certification fee is \$100 for a three-year certificate. This fee is paid when applicators initially get certified and then every three years when they re-certify to apply manure. In addition, in 2004, confinement site applicators will pay an education fee as mandated by state law. The education fee is \$25 for 2004.

Due to uniform certification deadlines, applicators are encouraged to attend workshops prior to March 1 to avoid being assessed a \$12.50 late fee for re-certification. Also, applicators are highly encouraged to attend the workshops due to the uncertainty of when the videotapes will be available for training in late January and February.

If you have questions about meeting dates and locations, contact _____ County Extension Office at _____ (phone) _____ or visit the following Web site:
<http://extension.agron.iastate.edu/immag/mac.html>.

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Extension programs are available to all without regard to race, color, national origin, religion, sex, age, or disability.

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11/13/03 FOR IMMEDIATE RELEASE

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Commercial Manure Applicator Training Scheduled for _____ County

To help commercial manure applicators receive the three hours of annual continuing instruction required to maintain their manure applicator certification, Iowa State University Extension and the Iowa Department of Natural Resources (IDNR) will conduct a Commercial Manure Applicator Satellite Downlink on Tuesday, Jan. 6, 2004 from 9 a.m. -12:30 p.m. There is no registration fee for the workshop, but it is recommended that you register in advance. Contact the _____ County ISU Extension Office to register.

Commercial manure applicators wishing to recertify and those wanting to certify for the first time should attend. The workshop will provide the required three hours of annual training and will cover applicator rules, new program fees and program structure for licensure of businesses and employees and substitution of employees, manure spill response, safety issues, using manure management plans to determine application rates and updates from the Iowa Commercial Nutrient Applicator's Association.

All currently certified commercial manure applicator licenses will expire on Dec. 31, 2003. Those wanting to renew have until March 1, 2004 to renew and avoid paying the late fee for certification.

Commercial applicators are highly encouraged to attend the satellite downlink program due to the uncertainty of when videotapes will be available for training in late January and February.

Commercial manure applicators also may contact their local IDNR field office to schedule an appointment to take the certification exam to meet certification requirements.

If you have questions about the commercial applicator satellite downlink contact the _____ County ISU Extension Office at _____(phone)_____, or go to <http://extension.agron.iastate.edu/immag/mac.html>.-30-

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**Appendix 4.
Budget Summary**

MANURE APPLICATOR CERTIFICATION EXPENSES
 July 1, 2003 to May 31, 2004

Salary and Wages

Program Coordinator(s) 1.2 FTE.....	53,959.92
Technical writer, editors.....	0.00
Confinement Program Staff (Field Specialists).....	0.00
Video production 0.00	

Fringe Benefits

Program Coordinators	15,329.67
Technical writer	0.00
Confinement Program Staff (Field Specialists).....	0.00
Video Production staff	0.00

SUBTOTAL – PERSONNEL

Travel

Field Specialists and Campus Faculty and staff	3,594.30
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Supplies

Postage	399.61
Paper, office supplies	461.14

Other

County Extension Workshop Support	14,490.00
(meeting rooms, postage, technical support)	
Telecom/Computer 36.00	
Satellite Downlink Costs	3,366.40
ICN In-Service Training -Field Specialists (2hrs).....	0.00
Printing/Copying	1,108.72
(training material production)	
Contracted Services (web page design, closed captioning	1,676.39
(editor, commercial program staff)	

Expenses through May \$94,422.15

Allocation \$135,683.00

Encumbrances \$8,746.76

Balance \$32,514.09

Pending Allocation (\$12,000 for Field Specialist Salary and \$10,000 Video Production Staff)