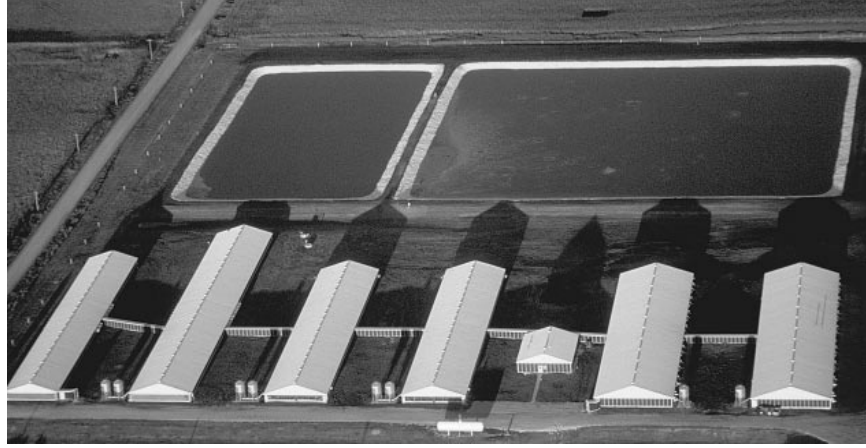


Iowa Manure Matters

Odor and Nutrient Management



EDC-129-5, Volume 2, Issue 1

May 1999

Manure applicators to be certified

by Tracy Peterson, extension communications

A new law passed by the Iowa Legislature requires all commercial manure applicators to be certified by July 1 and confinement site manure applicatorsto be certified by Oct. 1. Manure applicators may be certified by passing a written exam or attending a certification workshop offered by Iowa State University Extension.

The law defines specifically commercial manure applicators and confinement site applicators. (See related story, page 2.) A series of three-hour certification workshops is being offered for commercial applicators. A series of two-hour certification workshops is being offered for confinement site applicators. The certification workshops will be taught by ISU Extension specialists. (See pages 3 and 4 for the workshop schedules.)

After the initial certification requirements are met, commercial applicators may maintain their certification in following years by attending three hours of continuing instruction each year or taking an exam. The certification fee for commercial applicators is \$50 every year.

Once confinement site applicators meet the initial certification requirement, which is valid for three years, they may maintain their certification in following years by attending two hours of continuing instruction each year or taking an exam every three years. The certification fee for confinement site applicators is \$50 every three years.

ISU Extension also is offering study guides for commercial applicators and confinement site applicators. The study guides, which cost \$20, may be purchased at local county Extension offices or ordered from ISU Extension Distribution. (See order form on page 5.)

For information about becoming certified by taking the exam rather than by attending workshop, please contact one of the Department of Natural Resources field offices listed in the table above.

Department of Natural Resources

Field Office 1, Manchester,
(319) 927-2640

Field Office 2, Mason City,
(515) 424-4073

Field Office 3, Spencer,
(712) 262-4177

Field Office 4, Atlantic
(712) 243-1934

Field Office 5, Des Moines,
(515) 281-9069

Field Office 6, Washington,
(319) 653-2135

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Who's Who: Iowa law defines two types of manure applicators

by Tracy Peterson, extension communications

Which category do you fit—commercial applicator or confinement site applicator? Iowa law defines the two types of manure applicators:

- A **commercial manure applicator** is a person who engages in the business of and charges a fee for applying manure on the land of another person.
- A **confinement site manure applicator** is a person who applies manure stored at a confinement site other than a commercial applicator. Full-time employees of confinement feeding operations whose primary responsibility is manure application fall

under this definition as do individual livestock producers.

A **confinement feeding operation** is defined as one where animals are confined to totally roofed areas. According to the legal definition, such operations must exceed animal weight capacity of 200,000 pounds (about 1,333 market hogs) for animals other than bovine, and exceed 400,000 pounds for bovine animals to require certification.

Production systems, under roof, with the average capacity production numbers listed below meet the definition of confinement site operations that must be certified for land application of manure.

Table 1. Facility production capacity for filing manure plans.

Facility weight capacity for swine.

Average Capacity	Sows (400 lbs.)	Nursery (25 lbs.)	Market Hogs (150 lbs.)	Farrow to Finish (10 pigs per litter)
200,000 lbs.	500	8,000	1,333	105

Facility weight capacity for poultry.

Average Capacity	Laying Hens (4 lbs.)	Broiler (2 lbs.)	Turkey (10 lbs.)
200,000 lbs.	50,000	100,000	20,000

Facility weight capacity for bovine.

Average Capacity	Slaughter Cattle (750 lbs.)	Feeder Cattle (625 lbs.)	Dairy (1,500 lbs.)
400,000 lbs.	533	640	267

ISUE no longer developing manure plans

by Tracy Peterson, extension communications

List of private planners available

Private consultants are taking over the job of writing manure plans as Iowa State University Extension gets out of that business.

The change is a result of a rising demand of manure plans, as required by recent legislation, according to Wendy Wintersteen, director, ISU Extension to Agriculture and Natural Resources.

Effective July 1, ISU Extension will no longer develop the manure plans required by the Department of Natural Resources. However, ISU Extension will continue to offer educational programs on manure nutrient management planning for livestock producers and agribusinesses.

“Because the need is dramatically different from county to county, staff will work together

with private manure planners to determine the approach that meets local needs,” Wintersteen said.

She added that Extension will develop only the most basic plans, and that producers are expected to work with Extension staff in developing them.

Effective immediately, ISU Extension will no longer complete plans for new operations or those requiring a DNR permit.

Extension has prepared a brochure, EDC176—Manure Management Planners, which

lists planners throughout the state. This publication is available at no charge from local county Extension offices, or can be ordered from ISU Extension Distribution, 119 Printing and Publications Bldg., Iowa State University, Ames, IA 50011-3171; phone (515) 294-5247.

The manure planners list also can be accessed from the IMMAG web site: <http://extension.agron.iastate.edu/immag> Click on the Private Consultants button to reach the list of manure planners.

ISU offers manure certification workshops

by Tracy Peterson, extension communications

Iowa State University Extension is offering two series of workshops to enable manure applicators to become certified. The two series of workshops target commercial manure applicators and confinement site applicators.

Six Commercial Manure Applicator Workshops are scheduled for May and June. The workshops are three hours. To become certified, you are required by law to attend the workshop for the full three hours. If you arrive late, you will not be allowed to participate in that workshop; if you leave early you will not become certified. After completion of the commercial manure applicators workshop, you will receive a form to mail with the \$50 fee to the Department of Natural Resources.

DNR will then issue your certification license.

Confinement Site Applicator Certification Workshops will be held throughout the state from June through September. The Confinement Site Applicator Workshops are two hours. As with the commercial workshops, you are required to attend the certification workshop for the full 2 hours. If you arrive late, you will not be allowed to participate in that workshop; if you leave early you will not become certified. After completion of the confinement site manure applicators workshop, you will receive a form to mail with the \$50 fee to the Department of Natural Resources. DNR will then issue your certification license.

Commercial Manure Applicator Workshops

Date	County	Information
5/25/99	Fayette	(319) 425-3331
5/25/99	Cerro Gordo	(515) 423-0844
5/26/99	Carroll	(712) 792-2364
5/26/99	Buena Vista	(712) 732-5056
5/27/99	Johnson	(319) 337-2145
6/24/99	Story	(515) 382-6551

Confinement Site Manure Applicator Certification Workshops

Date	County	Information
9/14/99	Adair	(515) 743-8412
7/28/99	Adams	(515) 322-3184
8/25/99	Allamakee	(319) 568-6345
8/26/99	Appanoose	(515) 856-3885
7/21/99	Audubon	(712) 563-4239
7/15/99	Benton	(319) 472-4739
9/1/99	Black Hawk	(319) 234-6811

Date	County	Information
7/29/99	Boone	(515) 432-3882
8/27/99	Bremer	(319) 882-4275
9/2/99	Buchanan	(319) 334-7161
6/9/99	Buena Vista	(712) 732-5056
8/19/99	Buena Vista	(712) 732-5056
9/1/99	Butler	(319) 267-2707
8/30/99	Calhoun	(712) 297-8611
8/18/99	Carroll	(712) 792-2364
9/20/99	Cass	(712) 243-1132
7/19/99	Cedar	(319) 886-6157
7/26/99	Cedar	(319) 886-6157
9/1/99	Cerro Gordo	(515) 423-0844
8/25/99	Cerro Gordo	(515) 423-0844
7/20/99	Cherokee	(712) 225-6196
8/26/99	Chickasaw	(515) 394-2174
9/13/99	Clarke	(515) 342-3316
7/15/99	Clay	(712) 262-2264
8/30/99	Clayton	(319) 245-1451

Date	County	Information	Date	County	Information
7/19/99	Clinton	(319) 659-5125	8/30/99	Marion	(515) 842-2014
9/21/99	Crawford	(712) 263-4697	7/29/99	Marshall	(515) 752-1551
7/15/99	Dallas	(515) 993-4281	8/30/99	Marshall	(515) 752-1551
9/1/99	Davis	(515) 664-2730	8/18/99	Mills	(712) 624-8616
Call For Meeting			8/17/99	Mitchell	(515) 732-5574
Date	Decatur	(515) 446-4723	8/20/99	Monona	(712) 423-2175
9/3/99	Delaware	(319) 927-4201	9/14/99	Monroe	(515) 932-5612
9/16/99	Delaware	(319) 927-4201	9/9/99	Montgomery	(712) 623-2592
9/22/99	Des Moines	(319) 754-7556	7/12/99	Muscatine	(319) 263-5701
8/27/99	Dickinson	(712) 336-3488	6/4/99	O Brien	(712) 575-5045
9/13/99	Dubuque	(319) 583-6496	7/13/99	Osceola	(712) 754-3648
8/4/99	Emmet	(712) 362-3434	9/9/99	Page	(712) 542-5171
8/23/99	Fayette	(319) 425-3331	7/13/99	Palo Alto	(712) 852-2865
9/22/99	Fayette	(319) 425-3331	6/8/99	Plymouth	(712) 546-7835
8/17/99	Floyd	(515) 228-1453	6/17/99	Pocahontas	(712) 335-3103
7/29/99	Franklin	(515) 456-4811	Call For Meeting		
8/18/99	Fremont	(712) 374-2351	Date	Polk	(515) 261-4219
6/29/99	Greene	(515) 386-2138	9/21/99	Pottawattamie E.	(712) 482-6449
8/27/99	Grundy	(319) 824-6979	Call For Meeting		
7/28/99	Guthrie	(515) 747-2276	Date	Pottawattamie W.	(712) 366-7070
8/11/99	Hamilton	(515) 832-9597	7/14/99	Poweshiek	(515) 623-5188
8/3/99	Hancock	(515) 923-2856	9/13/99	Ringgold	(515) 464-3333
9/7/99	Hardin	(515) 648-4850	7/21/99	Sac	(712) 662-7131
8/25/99	Hardin	(515) 648-4850	7/29/99	Scott	(319) 359-7577
9/23/99	Harrison	(712) 644-2105	7/27/99	Shelby	(712) 755-3104
9/23/99	Henry	(319) 385-8126	6/28/99	Sioux	(712) 737-4230
8/26/99	Howard	(319) 547-3001	9/22/99	Sioux	(712) 737-4230
8/30/99	Humboldt	(515) 332-2201	6/28/99	Story	(515) 382-6551
6/3/99	Ida	(712) 364-3003	7/14/99	Tama	(515) 484-2703
7/7/99	Iowa	(319) 642-5504	Call For Meeting		
7/13/99	Jackson	(319) 652-4923	Date	Taylor	(712) 523-2137
6/29/99	Jasper	(515) 792-6433	7/19/99	Union	(515) 782-8426
8/30/99	Jasper	(515) 792-6433	9/15/99	Van Buren	(319) 293-3039
8/3/99	Jefferson	(515) 472-4166	8/31/99	Wapello	(515) 682-5491
7/9/99	Johnson	(319) 337-2145	Call For Meeting		
9/21/99	Johnson	(319) 337-2145	Date	Warren	(515) 961-6237
7/13/99	Jones	(319) 462-2791	8/3/99	Washington	(319) 653-4811
7/26/99	Jones	(319) 462-2791	9/23/99	Washington	(319) 653-4811
6/28/99	Keokuk	(515) 622-2680	9/16/99	Wayne	(515) 872-1755
7/13/99	Kossuth	(515) 295-2469	8/3/99	Webster	(515) 576-2119
9/22/99	Lee	(319) 835-5116	8/30/99	Webster	(515) 576-2119
7/15/99	Linn	(319) 377-9839	8/24/99	Winnebago	(515) 584-2261
6/28/99	Louisa	(319) 523-2371	8/31/99	Winneshiek	(319) 382-2949
9/16/99	Lucas	(515) 774-2016	9/23/99	Woodbury	(712) 276-2157
8/26/99	Lyon	(712) 472-2576	8/27/99	Worth	(515) 324-1531
8/31/99	Madison	(515) 462-1001	7/7/99	Wright	(515) 532-3453
9/13/99	Mahaska	(515) 673-5841	8/3/99	Wright	(515) 532-3453
9/14/99	Mahaska	(515) 673-5841			



Manure Certification Study Guides Order Form

Ship to:

Company/Org. _____
 Name _____
 Street _____
 City _____
 State _____ Zip Code _____
 Telephone # _____
 Fax # _____

Bill to:

Purchase Order # _____
 Company/Org. _____
 Name _____
 Street _____
 City _____
 State _____
 Zip Code _____
 Telephone # _____
 Fax # _____

Please place items in alpha/numeric order

Qty.	Ref. No.	Title	Price each	Total
	Pm-1778	Commercial Manure Applicator Certification Study Guide	\$20.00	
	Pm-1779	Confinement Site Manure Applicator Certification Study Guide	\$20.00	

Subtotal	
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\$75.01 - \$110.00	\$9.55	
\$110.01 - \$210.00	\$10.55	
\$210.01 - \$300.00	\$11.65	
\$300.01 - \$400.00	\$20.60	
\$400.01 and over	Call (515) 294-5247	

*Thank you for
your order!*



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 University Extension

Using synthetic covers to reduce odor emissions

by Jeff Lorimor, ISU Extension agricultural and biosystems engineer

Synthetic covers are among the many products livestock producers can use to minimize odor emissions from manure storages. During the Iowa Odor Control Demonstration Project several producers installed synthetic covers to evaluate their effectiveness.

Synthetic covers usually are made of plastic. Other covers are made of wood or concrete or biodegradable materials such as hay or straw. Manure storage covers work by interrupting the flow of gases up from the liquid surface into the atmosphere. Iowa law recognizes the effectiveness of covers by reducing the separation distance between covered pits and neighbors.

In the odor demonstration project, synthetic covers significantly reduced odors when 100 percent of the storage surface was covered. To be effective, covers must be firmly attached to prevent the wind from catching and whipping them, and they must cover as much of the storage structure as possible. When less than 100 percent of the surface is covered, the odor reduction is much less dramatic. Figure 1 shows how field day attendees evaluated a covered and uncovered storage at one of the demonstration sites.

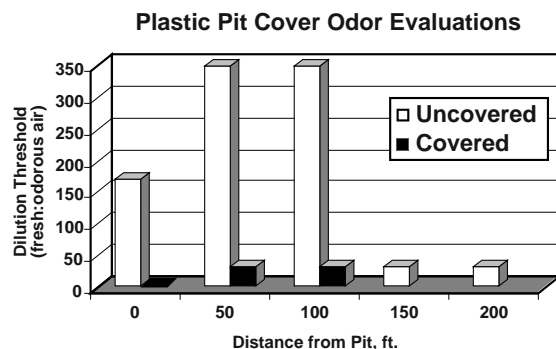


Figure 1. Odor evaluations of covered and uncovered concrete pit by field day attendees. Higher numbers indicate more odorous air.

Floating plastic covers are the most popular type of synthetic cover. However, one demonstration site used a cover supported by cables above the stored liquid, giving the appearance of a tent, Figure 2. Figure 3 shows a floating cover on an earthen basin.

Notice the rain water holding the floating cover down, out of potential wind, in Figure 3. The



Figure 2. Plastic cover on round pit.



Figure 3. Floating plastic cover on earthen pit.

edges are trenched 4 feet into the soil all around the pit, and gas vent lines are installed beneath the cover. Without the vent lines, large bubbles would form under the cover during warm weather, causing problems. The cover has a pumpout opening next to the buildings.

Some methane gas will be generated under synthetic covers. Unless the pit is extremely large, however, it won't be enough to harvest. Gas from the pits shown above is simply burned off or vented to the atmosphere.

Minnesota researcher are testing a new geotextile cover. The cover is made of a porous plastic fabric that floats on the pit surface. Bubbles beneath the cover are not a problem because the geotextile is porous. Initial data indicate that geotextile covers significantly reduce gas emission. An added benefit is that geotextile covers cost much less than the solid plastic covers currently used in Iowa.

The cost of synthetic covers ranges from \$0.25 per square foot of surface area to more than \$1 per square foot installed. The larger the storage, the less the cost per square foot, but the greater the total cost. Due to cost considerations and the larger size of anaerobic lagoons, synthetic covers are feasible for pits, but not for lagoons. The geotextile being tested in Minnesota cost \$1.25 per square

yard installed, significantly less than the solid covers. Because synthetic covers last for many years, their annual costs are comparable to those for biocovers.

Overall, synthetic covers are an excellent odor control technology, but they do require some up front investment, and some additional management.



Frequently asked questions about manure management plans

by Jeff Lorimor, ag and biosystems engineer and Angela Rieck-Hinz, extension program specialist, Department of Agronomy

What is the deadline for submitting a manure management plan?

Plans must be submitted to the DNR by July 1, 1999

How do I know if I need to submit a manure management plan to the DNR?

The requirements are about the same as those for the manure applicator program. If your operation is the minimum size or larger, (200,000 lb. average bodyweight for non-bovine, 400,000 lb. for bovine), the animals are in confinement, and the operation was originally built or expanded since May 31, 1985, you will need to submit a manure management plan to the DNR for approval.

I submitted a manure management plan to the DNR two years ago. Do I need to send in a new plan?

You might be required to send in a new plan. Previous plans for swine operations first occupied after Sept. 22, 1995, with more than 200,000 lb., but less than 625,000 lb. bodyweight capacity, and using formed storage pits, were not required to include all the information required now. If you filed one of those abbreviated plans you will have to submit a new plan.

I have been told there are “forms” on which to submit my manure management plan. Do these forms exist? How do I get a copy of these forms?

House File 2494 directed the DNR to develop manure management plan forms. At press time for this article (May 7, 1999) the forms were still under development. When the forms are completed, copies will be available at DNR field

offices. It is also anticipated that the forms will be made available electronically on the IMMAG web site, and at extension offices across the state. The web site can be accessed at <http://extension.agron.iastate.edu/immag>

If I have already submitted a complete manure management plan to the DNR, will I be required to re-submit the plan on the new forms?

The key is to have a complete plan. If you have already submitted a complete manure management plan to the DNR, you will not have to re-submit your plan on the new forms. If, however, you previously submitted an abbreviated plan as discussed above, you must resubmit.

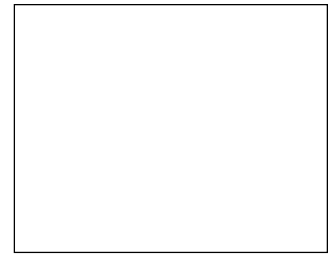
If I have not already submitted my manure management plan to the DNR can I go ahead and submit my manure plan without using the DNR forms?

Yes. Up until the time the forms are finalized you can submit your plan without using the forms. After the forms are finalized, you will be required to submit your plan on the forms developed by the DNR.

Who can help me write a manure management plan?

There are people throughout the state of Iowa who develop manure management plans as a business. These people include private manure planners, crop consultants, co-op agronomists, feed and seed sales people, private engineers, and others. Iowa State University Extension publication EDC-176 contains a list of Iowa manure planners. For more information on manure planners, please see the article on page 2 of this newsletter.

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We want to hear from you

If you haven't done so, please take a moment to complete the Odor and Nutrient Management newsletter survey, which ran in the previous issue. If you no longer have a copy of the survey, you can complete it on our World Wide Web page at: <http://extension.agron.iastate.edu/immag>

Thanks! We're looking forward to hearing from you!

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