

Odor and Nutrient Management

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Manure Stockpiling Prior to Land Application

by Gene Tinker, Iowa Department of Natural Resources

Many producers choose to stockpile accumulated manure until crop production fields are available for land application. The location of the manure stockpile and how it is managed are important to prevent water quality violations from occurring. In addition there may be state laws that affect where and how manure can be stockpiled.

Open feedlot operations must not stockpile manure within 800 feet of a high quality water resource or within 400 feet of a designated area such as a known sinkhole, cistern, abandoned well, unplugged agricultural drainage well, agricultural drainage well surface inlet, drinking water well, designated wetland or water source. In addition the stockpile can not be within 200 feet of a terrace tile inlet or surface tile inlet unless runoff from the stockpile can not drain to the inlet.

Manure cannot be stockpiled on a grassed waterway or where water pools on the soil surface. Stockpiles on land with a slope greater than 3 percent must have controls for runoff from the stockpile, such as hay bales, silt fences or temporary earthen berms. The stockpiled manure must also be land applied within six months.



Confinement operations must be no discharge systems and therefore stockpiling of manure from a confinement facility is only allowed in a manure storage area that will contain all runoff from the stockpile. Many poultry confinement operations use Chapter 200A agreements for their manure management. These 200A agreements are managed by the Iowa Department of Agriculture and Land Stewardship and therefore IDALS requirements for stockpiling must be followed. For information on these requirements, please contact Terry Jensen at (515) 281-8599.

Regardless of the source of the manure and the regulations for where the manure can be stockpiled, prevention of water quality violations is of utmost importance and must be a consideration for management of the stockpile.

Commercial Manure Applicator Training for 2007

by Angela Rieck-Hinz, Department of Agronomy, Iowa State University

Iowa State University (ISU) Extension, in cooperation with the Iowa Department of Natural Resources (IDNR), will offer a satellite downlink program on Friday, Jan. 5, 2007 for the commercial manure applicators. This program will begin with registration at 8:30 a.m. and the program concludes at noon. You must be registered and in your seat by 9 a.m. when the program begins. This program will provide the mandated three hours of annual training for commercial manure service representatives and business managers. All currently certified commercial applicators must attend training and submit forms prior to March 1, 2007 to avoid paying late fees.

Commercial manure service representatives and managers may also meet certification requirements by contacting their regional IDNR field office and scheduling an appointment to take the exam or by scheduling an appointment at their county Extension office to watch the training video. Because the training tapes are an edited version of the three-hour satellite program and must be duplicated and sent to county offices, ISU Extension can't guarantee the training tapes will be available for training prior to mid Feb. 2007. For this reason you are encouraged to attend the satellite program on Jan. 5, 2007.



(Training continued from front page)



Currently certified commercial applicators will receive a registration brochure containing workshop dates and locations in mid-December 2006. Please register for the workshop by Dec. 29. If you do not receive a brochure, you may access a brochure at: <http://extension.agron.iastate.edu/immag/certification/07commmacbrochure.pdf>.

Applicator workshops for dry poultry manure applicators will be held on:

- Feb. 12, 2007, 9:00 a.m. Sac County Extension Office, Sac City
- Feb. 13, 2007, 9:00 a.m. Adair County Extension Office in Greenfield
- Feb. 20, 2007, 9:00 a.m. Washington County Extension Office in Washington
- Feb. 23, 2007, 9:00 a.m. Heartland Museum in Clarion
- Feb. 26, 2007, 9:00 a.m. Branding Iron Restaurant in Thompson.

The dry poultry workshops will be 3 hours long and will meet the certification requirements for both confinement and commercial manure applicators.

Commercial applicators needing to be certified in both Iowa and Minnesota can meet requirement for each state by attending one of the joint training sessions held on Jan. 5 in either Nobles or Mower County Minnesota. There are no sites in Iowa offering joint training in 2006. In addition to the Iowa and Minnesota sites, the downlink will also be offered in Boone County, Nebraska and Grant County, Wisconsin.

If you can't attend the satellite program on Jan. 5, you must schedule an appointment to watch the training video at your local county Extension office. If attending the 3-hour training is inconvenient for you, please make an appointment at your regional DNR field office to take the exam to meet the certification requirements.

2007 Confinement Site Manure Applicator Workshops

by Angela Rieck-Hinz, Department of Agronomy, Iowa State University

Confinement site manure applicators are required by law to be certified to haul, handle or transport manure from any confinement facility with more than 500 animal units. Iowa State University Extension will offer workshops in January and February 2007 to help applicators meet certification requirements. The focus of this year's programming will include the applicator rules, manure use for crop production, and soil sampling requirements and recommendations. The workshops also will focus on P Index manure management plan requirements. Confinement site applicators should plan to attend one of the workshops listed in the table to meet their certification requirements or to renew their licenses. In addition to the 77 workshops listed, ISU Extension will also offer five dry poultry manure workshops. These dry manure workshops are also included in the table.

For exact workshop locations and to confirm exact times or to determine meeting options in the event of bad weather, please call the ISU Extension County Office where you plan to attend the workshop. Registration is not required for these meetings, but you may wish to contact the Extension office to ensure there will be adequate space and training materials available. There are no fees to attend these workshops except where noted.

If you can't attend one of these workshops and you need to attend training, please schedule time at your local ISU Extension County Office to watch the training videotape. Due to scheduling conflicts, many offices will no longer accept walk-in appointments to watch these tapes. If you can't attend the training, please contact your regional Iowa Department of Natural Resources field office to schedule an appointment to take the exam.

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Iowa Manure Matters: Odor and Nutrient Management



County	Workshop Location	Telephone	Date	Time	Alternate Meeting Location
Adair	City Hall in Adair	641-743-8412	January 24, 2007	1:30 p.m.	See Adams or Dallas
Adair	County Extension Office in Greenfield	641-743-8412	February 13, 2007 This meeting will focus on dry manure issues and will be 3 hours to serve commercial applicators as well	9:00 a.m.	See Adams, Dallas, East Pottawattamie or West Pottawattamie
Adams	Boz's Kitchen in Corning	641-322-3184	January 22, 2007	1:30 p.m.	See Adair or Page
Allamakee	County Extension Office in Waukon	563-568-6345	February 14, 2007	1:30 p.m.	See Clayton or Fayette
Benton	County Extension Office in Vinton	319-472-4739	February 13, 2007	9:30 a.m.	See Buchanan or Johnson
Boone	County Extension Office in Boone	515-432-3882	January 30, 2007	1:30 p.m.	See Greene or Story
Buchanan	County Extension Office in Independence	319-334-7161	January 11, 2007	1:30 p.m.	See Delaware or Fayette
Buena Vista	County Extension Office in Storm Lake	712-732-5056	February 27, 2007	7:00 p.m.	See Clay, Cherokee or Sac
Calhoun	Union State Bank in Rockwell City	712-297-8611	February 6, 2007	9:30 a.m.	See Pocahontas, Sac or Webster
Carroll	Recreation Center in Carroll	712-792-2364	February 15, 2007	7:00 p.m.	See Calhoun, Crawford or Greene
Cedar	Cedar County Courthouse in Tipton	563-886-6157	January 31, 2007	9:30 a.m.	See Clinton, Scott or Muscatine
Cherokee	Western Iowa Technical College in Cherokee	712-225-6196	January 24, 2007	9:30 a.m.	See Plymouth, O'Brien or Buena Vista
Chickasaw	County Extension Office in New Hampton	641-394-2174	February 1, 2007	1:30 p.m.	See Howard or Floyd
Clay	County Extension Office in Spencer. This workshop will test prep for the DNR exam for recertification. A \$10 fee will be charged. Lunch served.	712-262-2264	January 26, 2007	9:30 a.m. Test at 1:00 p.m.	See Dickinson or O'Brien
Clay	Dickens Community Center	712-262-2264	February 22, 2007	7:00 p.m.	See Dickinson or O'Brien
Clayton	Freedom Bank in Elkader	563-245-1451	February 15, 2007	1:30 p.m.	See Allamakee or Fayette

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Iowa Manure Matters: Odor and Nutrient Management



County	Workshop Location	Telephone	Date	Time	Alternate Meeting Location
Clinton	Community Center in DeWitt	563-659-5125	January 17, 2007	1:30 p.m.	See Cedar or Scott
Crawford	Western Iowa Research Farm at Castana	712-263-4697	February 23, 2007	1:30 p.m.	See Ida, Monona, Carroll or Shelby
Dallas	County Extension Office in Adel	515-993-4281	January 17, 2007	1:30 p.m.	See Greene or Boone
Davis	County Extension Office in Bloomfield	641-664-2730	January 22, 2007	1:30 p.m.	See Wapello or Jefferson
Delaware	County Extension Office in Manchester	563-927-4201	January 23, 2007	9:30 a.m.	See Henry or Lee
Des Moines	County Extension Office in Burlington	319-754-7556	January 19, 2007	9:30 a.m.	See Henry or Lee
Dickinson	Library in Estherville	712-336-3488	January 19, 2007	1:30 p.m.	See Osceola or Emmet
Dubuque	County Extension Office in Dubuque	563-583-6496	January 18, 2007	9:30 a.m.	See Clayton or Delaware
Emmet	Library in Estherville	712-362-3434	January 19, 2007	1:30 p.m.	See Dickinson or Kossuth
Fayette	County Extension Office in Fayette	563-425-3331	January 17, 2007	1:30 p.m.	See Clayton or Chickasaw
Fayette	County Extension Office in Fayette	563-425-3331	February 21, 2007	1:30 p.m.	See Clayton or Chickasaw
Floyd	NE Research and Demonstration Farm at Nashua	641-228-1453	February 1, 2007	9:30 a.m.	See Mitchell or Chickasaw
Franklin	Hampton State Bank in Hampton	641-456-4811	February 22, 2007	9:30 a.m.	See Hardin or Wright
Greene	County Extension Office in Jefferson	515-386-2138	January 22, 2007	1:30 p.m.	See Carroll or Boone
Grundy	Hudson Community Center	319-824-6979	January 26, 2007	9:30 a.m.	See Hardin or Marshall
Hamilton	County Extension Office in Webster City	515-832-9597	February 8, 2007	9:30 a.m. or 1:30 p.m.	See Webster or Wright
Hancock	County Extension Office in Garner	641-923-2856	February 22, 2007	1:30 p.m.	See Kossuth or Wright
Hardin	County Extension Office in Iowa Falls	641-648-4850	January 31, 2007	1:30 p.m. or 7:00 p.m.	See Hamilton or Franklin
Henry	Masonic Lodge in Mount Pleasant	319-385-8126	January 23, 2007	1:30 p.m.	See Des Moines, Jefferson or Lee

Iowa Manure Matters: Odor and Nutrient Management



County	Workshop Location	Telephone	Date	Time	Alternate Meeting Location
Howard	County Extension Office in Cresco	563-547-3001	February 12, 2007	9:30 a.m.	See Mitchell or Chickasaw
Humboldt	County Extension Office in Humboldt	515-332-2201	February 19, 2007	1:30 p.m.	See Pocahontas or Wright
Ida	Correctionville Community Center	712-364-3003	February 5, 2007	9:30 a.m.	See Woodbury, Sac or Cherokee
Jasper	County Extension Office in Newton	641-792-6433	January 23, 2007	1:30 p.m.	See Marion or Marshall
Jefferson	County Extension office in Fairfield	641-472-4166	February 6, 2007	9:30 a.m.	See Keokuk, Wapello or Washington
Johnson	Stutsman, Inc. in Hills	319-337-2145	January 30, 2007	9:30 a.m.	See Cedar or Washington
Jones	County Extension Office in Anamosa	319-462-2791	February 13, 2007	1:30 p.m.	See Lynn or Cedar
Keokuk	Expo building, Keokuk County Fairgrounds	641-622-2680	January 23, 2007	9:30 a.m.	See Mahaska, Washington or Wapello
Kossuth	Community Center in Burt	515-295-2469	January 25, 2007	9:30 a.m.	See Hancock or Humboldt
Lee	Pilot Grove Savings Bank Community Room in Donnellson	319-835-5116	February 6, 2007	1:30 p.m.	See Henry or Des Moines
Louisa	SE Research Farm at Crawfordsville	319-523-2371	January 30, 2007	1:30 p.m.	See Washington, Muscatine or Des Moines
Lyon	Forster Community Bldg. in Rock Rapids	712-472-2576	February 20, 2007	1:30 p.m.	See Osceola, Sioux or O'Brien
Mahaska	County Extension Office in Oskaloosa	641-673-5841	February 8, 2007	1:30 p.m.	See Marion or Keokuk
Marion	County Extension Office in Knoxville	641-842-2014	January 18, 2007	1:30 p.m.	See Jasper or Mahaska
Marshall	County Extension Office in Marshalltown	641-752-1551	February 16, 2007	1:30 p.m.	See Jasper or Story
Mitchell	County Extension Office in Osage	641-732-5574	February 12, 2007	1:30 p.m.	See Howard or Floyd
Monona	Western Iowa Research Farm at Castana	712-423-2175	February 23, 2007	1:30 p.m.	See Crawford or Woodbury
Muscatine	County Extension Office in Muscatine	563-263-5701	January 31, 2007	1:30 p.m.	See Cedar, Johnson or Scott

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Iowa Manure Matters: Odor and Nutrient Management



County	Workshop Location	Telephone	Date	Time	Alternate Meeting Location
O'Brien	Northwest Iowa Community College Bldg C in Sheldon	712-957-5045	February 8, 2007	7:00 p.m.	See Osceola, Sioux, Clay or Cherokee
Osceola	County Extension Office in Sibley	712-754-3648	February 15, 2007	9:30 a.m.	See Lyon, Dickinson or O'Brien
Page	County Extension Office in Clarinda	712-542-5171	February 7, 2007	1:30 p.m.	See Adams
Palo Alto	Rolfe Community Center	712 853 2865	January 25, 2007	1:30 p.m.	See Clay or Kossuth
Plymouth	Prime Bank in LeMars	712-546-7835	February 22, 2007	9:30 a.m.	See Sioux, Cherokee or Woodbury
Pocahontas	Rolfe Community Center	712-335-3103	January 25, 2007	1:30 p.m.	See Buena Vista or Humboldt
Pottawattamie East	Fire Station Meeting Room in Hancock	712-482-6449	January 4, 2007	7:00 p.m.	See Shelby
Sac	County Extension Office in Sac City	712-662-7131	February 12, 2007 This meeting will focus on poultry manure issues and will be 3 hours to serve commercial applicators as well	9:00 a.m.	See Ida, Carroll or Buena Vista
Sac	County Extension Office in Sac City	712-662-7131	February 13, 2007	7:00 p.m.	See Ida, Carroll or Buena Vista
Scott	County Extension Office in Bettendorf	563-359-7577	January 17, 2007	7:00 p.m.	See Clinton, Cedar or Muscatine
Shelby	St. Mary's Parish Hall in Portsmouth	712-755-3104	January 30, 2007	1:30 p.m.	See Adair or E. Pott
Sioux	TePaske Theater Sioux Center High School	712-737-4230	January 24, 2007	1:30 p.m.	See Lyon or Plymouth
Story	County Extension Office in Nevada	515-382-6551	January 29, 2007	1:30 p.m.	See Boone or Mashall
Wapello	Eddyville-Blakesburg High School	641-682-5491	January 22, 2007	7:00 p.m.	See Keokuk, Jefferson or Davis
Washington	County Extension Office in Washington	319-653-4811	February 15, 2007	7:00 p.m.	See Johnson, Keokuk or Louisa
Washington	County Extension Office in Washington	319-653-4811	February 20, 2007 This meeting will focus on poultry manure issues and will be 3 hours to serve commercial applicators as well	9:00 a.m.	See Johnson, Keokuk or Louisa



County	Workshop Location	Telephone	Date	Time	Alternate Meeting Location
Wayne	Courthouse in Corydon	641-872-1755	January 25, 2007	1:30 p.m.	See Davis
Webster	County Extension Office in Ft. Dodge	515-576-2119	February 5, 2007	1:30 p.m.	See Calhoun, Humboldt or Hamilton
Winnebago	Branding Iron in Thompson	641-584-2261	February 26, 2007 This meeting will focus on dry manure issues and will be 3 hours to serve commercial applicators as well	9:00 a.m.	See Kossuth or Hancock
Woodbury	Correctionville Community Center	712-276-2157	February 5, 2007	1:30 p.m.	See Plymouth or Monona
Wright	County Extension Office in Clarion	515-532-3453	February 7, 2007	1:30 p.m.	See Franklin, Hamilton or Humboldt
Wright	Heartland Museum in Clarion	515-532-3453	February 23, 2007 This meeting will focus on dry manure issues and will be 3 hours to serve commercial applicators as well	9:00 a.m.	See Franklin, Hamilton or Humboldt

Value of Manure Nutrients

by Kelvin Leibold and Tom Olsen, Iowa State University Extension

The change in the size of livestock operations and increasing fertilizer prices have resulted in increased interest in valuing manure and using it as a crop nutrient. Manure, especially deep pit liquid swine manure, is widely accepted as a viable source of organic nutrients. Its use as a fertilizer replacement has increased the interest in putting a value on the use of manure. In part, this interest has supported the growth of the livestock industry in recent years.

Component Pricing

The most common method of valuing fertilizer is component pricing. The manure is sampled and tested to determine the nutrient content. Then this analysis is used to determine the value based on commercial fertilizer prices. A typical swine finishing manure might test 50-35-25 pounds of nitrogen (N), phosphorus (as P₂O₅), and potassium (as K₂O) per 1,000 gallons.

If the manure was injected with minimal losses and the nitrogen was readily available a 3,000 gallon rate would

provide 140 units of nitrogen per acre. If nitrogen was valued at \$0.28 a pound there would be \$39 of N value. In addition, 105 pounds of P₂O₅, valued at \$0.26 per pound, would equal \$27 per acre. You would also receive 75 pounds of K₂O valued at \$0.22 per pound would bring the total to about \$83 per acre. In addition, the manure would contain other micronutrients and the solids in manure could contribute to increasing soil organic matter. This method may not take into account nitrogen losses and crop use. If the soil where the manure is applied has very high phosphorus or potassium levels, the application of additional fertilizer may not provide any additional yield increases.

Bulk Commodity

Another method used to price manure is to price it as a bulk commodity where you have sellers and buyers. If you are in an area that has an abundance of supply and limited demand it will drive the price down. If demand outstrips supply the price will increase until it balances out with the demand. The nutrients would have a different value depending on the location and local situation. Transportation and distribution costs become a factor in negotiating a price. If there is an over abundance of

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manure in one area and the livestock producers are faced with high transportation costs to move it out of the area, they may be willing to reduce the price if they can avoid significant transportation costs.

Transportation Costs

Transportation costs can be broken down into to general categories. The first is commercial or custom hauling. Iowa has developed a very significant and important industry around commercial hauling for both liquid and dry manure. Commercial haulers usually base their rates on a per gallon basis, with a variety of premiums and discounts. Premiums are based on distance, rates and set up fees to name a few.

If you use \$.01 per gallon as a base rate a producer might spend \$30 per acre to get manure applied. Even if there was a surcharge of \$.001 per mile for going each extra mile it would only add \$3 or \$6 to the cost of going an extra mile or two. Comparing that cost with the \$83 of potential value in the manure explains why some grain farmers are interested in constructing new swine finishing facilities.

Some producers may decide to haul their own manure. This could be a crop producer who wants to haul someone else's manure to his own farm or it could be a livestock producer. If the farmer already has a tractor that is adequate for pulling an applicator there are additional opportunities for savings. If producers are interested in calculating their own costs they can download a spreadsheet (<http://www.extension.iastate.edu/agdm/crops/xls/a3-29machcostcalc.xls>) that will help them calculate the fixed and variable costs of operating machinery. As the spreadsheet demonstrates, a person who uses a tractor that they already are using in their crop operation can lower the fixed costs and overall costs of hauling manure.

Limitations

Some of the concerns with using manure are compaction from application, uniformity of the product, uniformity of application, fixed analysis, impact on planting date, increased weed pressure or increased disease pressure. The "net present value" of applying phosphorus and potassium on very high testing soils may not equal the cost of the freight. Manure is not always a uniform product. Even from year to year we are seeing differences in manure nutrient analyses because of changing swine diets that include phytase, dried distillers grains and synthetic amino acids. These rations tend to have lower nutrient

analysis making them less value on a per 1,000 gallon basis. This is also increasing the cost of application per unit of fertilizer. This highlights the importance of having and using a good manure analysis program.

Valuing Manure

As a general rule we don't sell liquid swine manure in Iowa. More frequently we are trying to negotiate for the reimbursement of the cost of hauling. When dealing with liquid swine manure most of the hog operators are receiving between \$0 and \$20 per acre to offset the cost of hauling. A few are having to pay someone to take the manure while others are receiving over \$20 per acre, either as cash or by covering the hauling charges. This may change as fertilizer costs increase. There are some spreadsheets available to help calculate the value of manure as a fertilizer. One of the products is the ISU Pork Calculator. The order form is available at <http://www.ipic.iastate.edu/information/MNVorderform.pdf>. The spreadsheet compares the value of commercial fertilizers with manure. It also estimates the acres needed. It includes the Iowa P-Index formulas and summary reports. There also is an ISU Extension spreadsheet that can be downloaded at <http://www.extension.iastate.edu/agdm/livestock/xls/b1-65manurecalculator.xls>. Another manure calculator spreadsheet is available to download from the University of Minnesota at: http://swroc.coafes.umn.edu/Bob/koehler_main_page.html.

Conclusion

Manure has a lot of valuable nutrients. It can be very cost effective to haul where needed. A producer needs to know the quantity of manure available, the nutrient analysis of the manure, the crop needs, the current soil test results and the handling and application costs. The use of manure may result in increased or decreased yields when compared to traditional fertilizers depending on any one of a number of reasons. Crop producers need to predict how well they can manage manure as a fertilizer sources and what the overall impact will be over a number of years. If they can, they will be better able to determine the value of the manure in their farming operations.





State Revolving Fund Loans Available for Manure Management

by Gene Tinker, Iowa Department of Natural Resources

Low interest loans are available for purchase of equipment or construction of manure control structures and implementation of management practices that can improve water quality protection for livestock operations. These loans are available through many local banks and the Iowa Agricultural Development Authority. The maximum interest rate is 3 percent and there are no loan fees.

Almost any kind of equipment or runoff control structure is eligible for funding. The primary purpose of the loan must be to improve water quality protection, which also often results in better use of livestock manure for fertilization of crop production. Currently cattle confinement facilities that also act as manure storage, such as deep bedded barns, are not eligible. Rule changes are being explored that would allow them as replacements for existing open feedlots or to encourage their construction in lieu of new open lots.

One limiting factor is the livestock operation cannot be a Concentrated Animal Feeding Operation or CAFO. These are generally operations that have capacity for 1,000 animal units, such as 1,000 head of feeder cattle or 2,500 head of swine over 55 pounds. There is often confusion in determining if an operation is a CAFO if the operation has both confinement and open feedlot facilities and more than one species, such as swine and beef cattle.

State law combines all operations based on housing type—capacity for all open feedlot operations are combined and capacity for all confinements are combined, but there is no combination of capacity of open feedlots with confinements. The species of animals doesn't have any impact. This is different from federal law which ignores the housing type, but combines capacity for all facilities used to house the same species of animals. For example, if an operation feeds cattle in a confinement building and open lots, the capacity of the confinement and open lots are combined to determine if the operation is a CAFO under federal law.

If interested in learning more about the Livestock Water Quality Facilities Loan Program, please contact Jeff Ward at the Iowa Agricultural Development Authority at (515) 281-6444.



High Priority Letter Spurs Changes in Feedlot

by Jason Johnson, USDA-NRCS

After receiving a letter from the Iowa Department of Natural Resources (DNR) in 2001 indicating his 4,500-head open cattle feedlot was a high environmental priority, Plymouth County farmer Rick Hansen knew he needed to make changes to his feedlot.

Because of its large size and severe slope, Hansen installed a total containment structure, or storage pond, below his feedlot to replace a basin that was not functioning adequately. Containment structures keep manure discharges out of neighboring water sources or waters of the state (i.e. streams, lakes, ponds, drainage systems).

Hansen, of Hinton, Iowa, took advantage of cost-share incentives through the USDA's Environmental Quality Incentives Program (EQIP) by signing a contract in 2002 to install a complete animal waste system. The USDA's Natural Resources Conservation Service (NRCS) designed the project.

Building the Storage Pond

Construction on the storage pond began in September 2005, but it was not complete until the spring of 2006, due to an unexpected perched water table on Hansen's property that set the timetable back several months. The perched water table was positioned above the normal water table because of the presence of an impermeable clay soil layer.

Hansen said about 300,000 yards of dirt was excavated. "It was a soupy mess," he said. "We wanted to take dirt out of the bottom and haul it to the top, but it was so wet it was unusable." Tile was also added to keep the containment structure stable.

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Sediment Basins

In addition to the five-acre storage pond, the animal waste system called for four sediment basins. Basins were strategically placed between the feedlot and pond, slowly releasing liquids into the pond through vertical wooden picket fences and outlets. Sediment basins allow time for solids to settle out.

Hansen cleans out the basins after major rains or after one foot of sediment is trapped in the basins. He then uses or sells the excess solids for fertilizer.

Hansen has since added a few more sediment basins on his own. “We want to keep the manure as high up on the hill as possible,” he said. “In time, I’d like to have one [sediment basin] for every pen. I think it would be a lot better for us.”

Diversions also were constructed to keep outside clean water from entering the system, reducing the amount of storage space needed.

System Design

Despite a few untimely heavy rains, Hansen said the system is working well. He also said the scope of the project was bigger than he expected. “This isn’t a deal where you go out there and dig a hole. It’s a lot more intense than I ever dreamed it would be,” he said. “The NRCS engineers went out of their way to do anything they could for us.”

The entire animal waste system totaled \$400,000, with Hansen receiving EQIP cost-share on a portion of that. His share went up slightly because the final cost exceeded the estimated cost, partly due to time delays because of the perched water table. “And in the meantime, diesel fuel went from \$1.50 per gallon to \$3 per gallon, so the final bill from the excavator was higher,” said Hansen.

Although the project scope exceeded his expectations, Hansen’s operation required the extensive system. “It’s good Rick did the total containment,” said Plymouth County District Conservationist Jim Lahn. “It’s necessary on all large feedlots like his, and to follow regulations, he did the right thing.”

According to Mark Garrison, NRCS environmental engineer, a major key to the success of waste management systems is proper maintenance and operation. “If the producer takes care of the system by cleaning out and maintaining the lot and structures, the system will be effective by preventing solids from leaving the system,” he said. “This helps protect water quality and prevents violations from occurring.”

CNMPs

Any producer who receives EQIP funds for an animal waste system must develop and implement a Comprehensive Nutrient Management Plan (CNMP). A CNMP is a specific plan for an Animal Feeding Operation (AFO) - it addresses the management and treatment necessary for the operator to protect soil and water resources.

“The CNMP helps the producer analyze the manure and calculate what nutrients are available for crop production,” says Steve Brinkman, NRCS nutrient management specialist. “CNMPs serve as a guide for the producer to best utilize nutrients for crop production.”

To learn more about animal waste systems, visit your local NRCS office or go online to www.iowadnr.com/afo/index.html.





Schedule an Appointment to Take Certification Tests

by Karen Grimes, Iowa Department of Natural Resources

The Iowa Department of Natural Resources (DNR) offers tests as an alternative to training for both commercial and confinement site manure applicators who want to be certified.

Those who would like or are required to take a test should contact the nearest DNR field office to make an appointment. The DNR will not be scheduling group test dates as they have in past years. Applicants bring a photo identification card, pencil and calculator to the test site.

For confinement site applicators who have missed one or more training sessions in a three-year certification cycle, the tests are not an option. A make-up test is substituted for the missed training, and must be taken prior to renewing certification. The DNR will notify applicators who are required to take the make-up tests.

After a confinement site applicator has passed the make-up test, the applicator can choose between taking another test or annual training to renew the certificate. At this time, there is no education fee charged for make-up tests.

There are many advantages to choosing the training, because information on nutrient management and state regulations is updated each year.

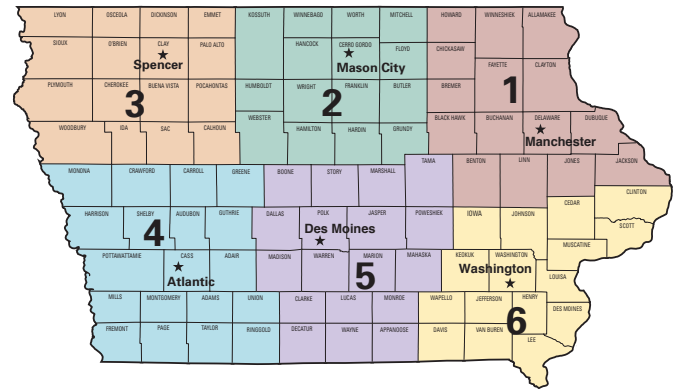
Applicators who choose testing instead of training will also be charged the same \$25 education fee when they take the test that they would pay when taking the training.



Calibrating 9500 gallon tank wagon

Ames, Iowa

DNR field office regions



Field Office #1

Joe Sanfilippo: Supervisor
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