

Odor and Nutrient Management

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Upper Midwest Manure Handling Expo July 22

by Ember Muhlbauer, Department of Agricultural and Biosystems Engineering

The 2009 Upper Midwest Manure Handling Expo “SET for Fall: Safety, Efficiency, and Technology” will be held at the Central Iowa Expo Center in Boone, Iowa on July 22, 2009. Expo vendors and visitors will have a chance to interact and discuss manure handling equipment, products, and services. The Expo will also offer educational opportunities to manure applicators and consultants.

The Expo’s location provides ample exhibition space and gravel streets between the facilities will be the setting for over eight hours of vendor/customer contact and field demonstrations showcasing vendor products. Educational courses and demonstrations will also be held throughout the day. General admission to the expo is free.

Vendor registration for the manure handling expo is now open. Vendor registration is \$600 for either a covered 10’x10’ space with electricity or a 40’x70’ lot.



Other amenities are available for purchase from the Central Iowa Expo Center. Expo, lodging and vendor registration information is available at www.ag.iastate.edu/wastemgmt/expo_home.htm. For additional information email agwaste@iastate.edu.

The 2009 Upper Midwest Manure Handling Expo is presented by Iowa State University and the Iowa Commercial Nutrient Applicators Association.

Planning Considerations for Livestock and Poultry Mortality Disposal: Part 4 – Emergency Planning

by Tom Glanville, Department of Agricultural and Biosystems Engineering, Iowa State University

In the past three issues of the Odor and Nutrient Management Newsletter, the pros and cons of using rendering, incineration, burial—on the farm or in landfills, and composting, were covered. This final installment is about emergency disposal planning.

Catastrophic poultry and livestock losses are not unusual. Their scope varies from incidents affecting single operations (fire, ventilation failure, building collapse) to disease- and weather-related losses affecting whole regions. Examples of regional losses in North America in the past five years include a major avian influenza outbreak in British Columbia (2004); hurricanes Rita and Katrina (2005); range land wildfires in North Texas (2006); prolonged heat stress in central California (2006 and 2007; blizzards in Colorado and Kansas (2007); and flooding in Iowa and Illinois in 2008.

When catastrophic losses occur, quick action is needed to minimize bio-security risks and prevent air and water pollution. And it is usually too late to calmly consider all the options. If an emergency plan hasn’t been worked out in advance, hasty decisions, often based on incorrect assumptions, can lead to costly and sometimes long-term mistakes.



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Here are five common and incorrect assumptions about emergency disposal that you may want to consider as you develop an emergency disposal plan for your operation.

Misconception 1. Landfills will always accept animal losses in an emergency.

A recent survey conducted by the Iowa Department of Natural Resources (DNR) found that, of 46 Iowa landfill operators surveyed, 30 percent said they do not accept animal mortalities. Another 26 percent indicated that they would accept carcasses only when certain criteria are met.

Examples of the types of criteria mentioned included:

- Having a pre-arranged agreement with the landfill;
- Filing an advanced notice of “intent to deliver”—including information on the quantity and condition of the waste to be disposed;
- Pre-arranging a delivery schedule;
- Bagging the carcasses or delivering them in leak-proof containers;
- Passing a paint filter test; and
- Passing visual inspection by landfill staff.

So if your emergency disposal plan relies on your local landfill, be sure to talk with landfill staff now, to avoid surprises later on.

Misconception 2. I can always bury them on my farm.

Burying large quantities of carcasses in a concentrated area poses significant pollution risks to shallow groundwater and nearby streams. To protect these natural resources, DNR has developed a burial zone map identifying locations with highly permeable soils, shallow groundwater, steep slopes, or that are close to lakes, streams, or sensitive public areas. About 30 percent of Iowa falls into these categories. If your farm is in one of these zones, then emergency burial may not be approved. Check the DNR burial zone map on the web at www.iowadnr.gov/mapping/maps/livestock_burial_zones.html or contact your DNR regional office to determine if there are areas on your farm that can be approved for mass burial. Also keep in mind that DNR requires mass burial sites to be recorded on the deed to your property, and groundwater monitoring wells also must be installed near these sites and sampled periodically.

Misconception 3. The rendering plant will always take large numbers of carcasses in an emergency.

Iowa is fortunate to have five rendering plants. But these operations have a fixed capacity and many customers with service contracts. So on the day when you need emergency service, much will depend on the number of animals you have lost, and whether the plant has **excess** transportation and processing capacity available at that time. If your emergency disposal plan will rely on rendering, contact your rendering service before disaster strikes to discuss their ability to handle all, or a significant portion, of your herd or flock.

Misconception 4. Carcasses can be incinerated in an emergency.

Iowa air pollution regulations require carcass incineration to be done using engineered incinerators equipped with afterburners, or other approved incineration devices that meet smoke emission limits set by DNR. If you plan to rely on incineration for emergency disposal, you'll need to invest in approved high-capacity high-temperature incineration equipment, or establish a contract with an emergency service provider that has mobile equipment of this type.

Misconception 5. Windrow composting practices can be used to rapidly cover and decompose carcasses during an emergency.

Windrow composting has been used successfully during emergencies around the U.S. and in Iowa. But the quantity of cover material needed is large, particularly when composting large carcasses. Emergency composting research done by Iowa State University for the DNR showed that about 1 ton of ground straw, or 1.4 tons of ground corn-stalks, are needed for each 1,000 pounds of large carcasses. So if composting is part of your emergency disposal plan, stockpiling baled straw or stalks, or contracting with someone who can supply them quickly in an emergency, is essential. Also keep in mind that these materials must be run through a grinder to work effectively.

Two state agencies regulate and provide assistance with livestock disposal in Iowa. The Animal Industry Bureau of the Iowa Department of Agriculture & Land Stewardship (515-281-8601) handles animal health and diseases control issues. The Iowa Department of Natural Resources handles environmental protection aspects of carcass disposal. Contact your regional DNR field office for advice on local conditions affecting animal disposal.



New FDA Rules Could Limit Rendering Options

Effective April 27, 2009, new rules from the Food and Drug Administration (FDA) will prohibit the use of carcasses of cattle that are over 30 months of age in food or feed of all animals. Please see: <http://www.fda.gov/OHRMS/DOCKETS/98fr/08-1180.pdf>

Due to the economic impacts of additional processing, renderers in some areas may choose to no longer process these animals. Those who continue to accept them will likely find it necessary to charge higher fees to cover their costs. Producers are encouraged to contact their rendering facility to determine if animals greater than 30 months are still accepted and what, if any documentation the farmer will have to provide the rendering plant regarding the age of the cattle mortalities.

Options for handling mortalities, including burial, incineration, land filling and composting have been discussed in previous issues of the Odor and Nutrient Management Newsletter, and may be reviewed online in the “Planning Considerations for Livestock and Poultry Mortality Disposal” series at:

Part 1- On-farm Burial

<http://www.extension.iastate.edu/Pages/communications/EPC/Su08/planning.html>

Part 2 - Incineration and Landfilling

<http://www.extension.iastate.edu/Pages/communications/EPC/Fall08/planning.html>

Part 3 – Composting

<http://www.extension.iastate.edu/Pages/communications/EPC/Winter08/mortalitydisposal.html>

Part 4- Emergency Planning

<http://www.extension.iastate.edu/Pages/communications/EPC/>

Upcoming Workshops for Assistance with Manure and Nutrient Management Plans

by Angela Rieck-Hinz, Department of Agronomy and Kapil Arora, Extension Agricultural Engineering Field Specialist

RUSLE2 and Iowa Phosphorus Index Workshop

A RUSLE2 and Iowa Phosphorus Index (P Index) workshop is scheduled for April 1, 2009 from 8:30 a.m. to 4 p.m. at the Polk County Extension Office, in Altoona, Iowa. This workshop will provide training to service providers and livestock producers who are in need of developing nutrient and manure management plans for both the Iowa Department of Natural Resources and the Natural Resource Conservation Service.

Participants will learn where to find the necessary software and how to install it on their computers, how to determine critical areas in the field, how to determine erosion rates using RUSLE2, how to calculate P Index vulnerability ratings and how to incorporate these numbers into manure management plans for confinement facilities or nutrient management plans for open feedlots. Instructors will also discuss soil sampling requirements for manure and nutrient management plans.

This workshop is designed for people with little or no experience in using the RUSLE2 or Iowa P Index software. Registration is limited to 30 people and requires you bring a laptop computer. For a copy of the workshop brochure and registration information as well as computer requirements and directions please see <http://www.ucs.iastate.edu/mnet/rusle2/home.html> or contact Angela Rieck-Hinz at 515-294-9590 or Kapil Arora at 515-382-6551.

Advanced RUSLE2 Workshop

An Advanced RUSLE2 workshop is scheduled for April 2, 2009 from 8:30 a.m. to 4 p.m. at the Polk County Extension Office in Altoona, Iowa. This workshop builds upon the knowledge and principles discussed in the first workshop. This workshop will enable participants to explore practice-based changes that can be designed

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to reduce erosion. It will focus on RUSLE2 principles; dividing fields for RUSLE2; understanding tillage operations, and conservation practices both in RUSLE2 and the Iowa Phosphorus Index; combining soil analytical results; addressing land needs for Iowa Phosphorus Index requirements; and targeting sensitive areas. Registration is currently open only to those participants who have previously attended a RUSLE2 and Iowa Phosphorus Index workshop. Registration is limited to 30 people. For a copy of the workshop brochure and registration information as well as computer requirements please see <http://www.ucs.iastate.edu/mnet/rusle2advanced/home.html> or contact Angela Rieck-Hinz at 515-294-9590 or Kapil Arora at 515-382-6551.

Iowa State University Offers Technical Sessions on Nutrient Management

by Ember Muhlbauer, Department of Agricultural and Biosystems Engineering

Iowa State University Agricultural and Biosystems Engineering Department is offering two national courses in April for consultants working in nutrient management. The first session is the Comprehensive Nutrient Management Plan (CNMP) Development Course, which is scheduled for April 6-8 at the Hotel Fort Des Moines in Des Moines. This course is designed to prepare consultants for U.S. Department of Agriculture certification as Technical Service Providers (TSP). Completion of the CNMP Development Course is required to become certified as a TSP by the Iowa State University's national TSP certification program.

In addition to the CNMP course, a one-day course will be offered on the Environmental Protection Agency's Concentrated Animal Feeding Operation Final Rule. This course will be held following the CNMP course on April 9 at the same location. The special one-day training course, Understanding and Working with Nutrient Management Plans under the Concentrated Animal Feeding Operations (CAFO) Final Rule, was developed to address the updated requirements released on Dec. 22, 2008 for the National Pollutant Discharge Elimination System (NPDES) permit process. Development of a nutrient management plan remains an integral part of the NPDES permit process and also is now a requirement for the "no-discharge" certification option.

Registration for either or both courses is now open. Information about the courses, lodging and registration is available on-line at the following website:

<http://www.ucs.iastate.edu/mnet/cnmp/home.html>

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