

Land and Materials Administration • Resource Management Program

Poultry Growers: Working with MDE during Catastrophic Poultry Mortalities

Occasionally poultry operations incur catastrophic mortalities due to excessive heat, fires, or disease. Catastrophic mortalities are infrequent and involve a large number of animals, far exceeding the capacity of the existing mortality management system of an animal feeding operation. The Maryland Department of the Environment ("MDE") has regulations that assure that the management of the catastrophic mortality does not affect the State's environment or public health. This fact sheet will offer a procedure for operators of poultry animal feeding operations to communicate with MDE and receive the needed emergency authorizations to reduce the potential impact on the environment and public health.

General Considerations

- To minimize the spread of disease, infected animals should be managed at or near the site where they are located. Transportation to other sites, especially over great distances, should be avoided if at all possible. If the catastrophic mortality is due to excessive heat, fire or other non-disease causes, the same disposal options should be used and care should still be taken to avoid the propagation of any disease.

- The most common methods of management include:
 - 1. Composting, preferably inside the poultry house rather than outside;
 - 2. Open pit burning;
 - 3. Incineration at a permitted facility;
 - 4. Disposal at a permitted municipal landfill; and
 - 5. Burial onsite or at locations other than permitted municipal landfills, such as a field located away from surface waters of the State.

- Factors to consider when selecting a management method:
 - Numbers of animals – hundreds, thousands, or millions;
 - Size of the affected area;
 - Carcass size and weight;
 - Risk of communicability of any disease to humans and other farms;
 - Quarantine and biosecurity requirements;
 - Type and capacity of disposal facilities available;
 - Proximity of management sites and the site's ability to receive large capacity vehicles;
 - Proximity of management sites to reservoirs, wells, high density housing, and underground structures;
 - Suitability of the site in terms of soil conditions and depth to groundwater;
 - Availability of necessary equipment to perform the disposal properly; and
 - Cost of disposal.

- It is important to consult with the MDE and local health departments to minimize any negative environmental effects associated with the management of mortalities.

Regulatory Requirements:

The General Discharge Permit for Animal Feeding Operations states on Page 14:

- "Ensure proper management of mortalities to prevent the discharge of pollutants into waters of the State. Do not dispose of mortalities in an animal waste or other storage or treatment system that is not specifically designed to treat animal mortalities, without written permission from the Department, which may be granted if the Department determines catastrophic circumstances."

State Landfill Regulations do not allow burying mortalities on site:

- Code of Maryland Regulations (COMAR) 26.04.07.03B(4) states "Operating an Open Dump. Solid waste may not be disposed of by any person in an open dump. A person may not cause, suffer, allow, or permit open dumping on his property."
- COMAR 26.04.07.02B(19) defines "open dump" as "... a land disposal site which is operated after the effective date of these regulations and is not designed or operated in accordance with the requirements for a sanitary landfill in these regulations." COMAR 26.04.07 became effective March 7, 1988.
- COMAR 26.13.02.02 defines solid waste as "... any discarded material that is not excluded by Regulation .04 of this chapter or that is not excluded by a variance granted under COMAR 26.13.01.04D and E." It further states that "A discarded material is any material which is: Abandoned which means "Disposed of..."

Therefore, burying poultry on a farm, without a Refuse Disposal Permit or unless otherwise authorized by MDE, would be considered open dumping. There is an exemption to the permit requirement for land disposal of agricultural waste, but that exemption applies only to domestic animal manure or residuals generated in the production of poultry, livestock, fur-bearing animals, or their products.

Other Information

- If other management options such as composting on site are inadequate, MDE can be contacted and may consider an emergency order to facilitate disposal. Contact Ed Dexter at 410-537-3315, if necessary.
- *Biosecurity:* In the case of an outbreak of avian influenza or other communicable diseases, it is important to move the mortality as little as possible to prevent the spreading of the disease and ensure biosecurity of other poultry houses and neighboring farms.

1. Composting:

Composting is MDE's preferred bio-secure method of addressing catastrophic mortalities.

Composting within poultry houses is preferred to outdoor composting. Composting indoors reduces the need to move contaminated carcasses and minimizes contact with potential vectors, such as wild birds. Good management is required, including monitoring of the temperature, regular mixing, and addition of materials such as sawdust to facilitate the composting process. Overheating and fire is not common, but can occur if the pile is not properly attended.

Follow this procedure:

1. The operator should contact MDE's Land Management Administration by phone (410-537-4423), followed by an e-mail to Gary Kelman (gkelman@mde.state.md.us) or a letter (to: MDE, Land Management Administration, 1800 Washington Blvd., Suite 610, Baltimore, MD 21230-1719) with the following information:
 - a. Name of Farm;
 - b. Address of Farm;
 - c. Contact Name (operator and land owner);
 - d. Contact Phone;
 - e. Approximate number of mortalities;
 - f. Date of mortalities; and
 - g. Plans for management of mortalities (person responsible for composting operation; under cover or out in open; length of time windrow will be operating; plans for management of compost); location of windrows (where on farm; proximity to nearest ditch, swale, or surface water).



2. MDE will give verbal instructions, followed by a letter to the operator with temporary permission to compost the mortalities at that location, although the location is not specifically designed to treat animal mortalities;
3. Maryland Department of Agriculture ("MDA") should also be contacted for their requirements. Contact Dave Mister at 410-677-0802 or misterdj@mda.state.md.us;
4. The local health department may also have requirements, particularly when a disease is involved, so they should also be contacted. Contact numbers can be found in the local telephone directory or the MDE website, www.mde.state.md.us;
5. Contract growers should contact their companies before taking action.

Other information on setting up your temporary catastrophic mortality composting facility. If composting within the chicken house is not feasible:

- From MDA's Fact Sheet:
 - "For Poultry: ... First recommendation is to compost dead birds in the manure storage facility. Second is to compost outside with appropriate set backs from surface water. University of Maryland Extension Fact Sheets provide instruction on this process. If these procedures are not an option, land filling and commercial composting can be considered with appropriate permitting and/or direction from local officials." See www.mda.state.md.us/pdf/umdfs-2.pdf.
- If permission is received from MDE for temporary composting outside, the following applies. Site-specific information will be provided by MDE:
 - Siting of the outside temporary compost facility is very important:
 - The windrows cannot be placed too near (within 200 feet) a ditch, swale or other conduit to surface waters since this would be considered a discharge (placing in a position likely to pollute).
 - NRCS Standard 316 requires siting down gradient of springs or wells and at least 100 feet from wells. It also requires the facility to be outside of the 100 year/24 hour floodplain and also protected from inundation by a 25 year/24 hour flood event.
- UMD Extension Fact Sheets:
 - [Composting for Catastrophic Event Poultry Mortality,](http://www.mda.state.md.us/pdf/compostpoultrycatastrophe-umd.pdf)
 - [Guidelines for In-House Composting of Catastrophic Poultry Mortality.,](http://www.mda.state.md.us/pdf/compostpoultrycatastropheinhouse-umd.pdf)
- NRCS Maryland Conservation Practice Standard, Animal Mortality Facility, Code 316. This reference states, "Catastrophic mortality composting shall be in either passive piles or windrows as described in National Engineering Handbook Part 637, Chapter 2 - Composting (NEH 637.0210 and NEH 637.0211. Composting mortality shall be protected from precipitation as necessary, or provisions made for collecting contaminated runoff. Static piles or windrows covered with sawdust, finished compost, or other benign material will not need further protection."

2. Open Pit Burning:

- This option may be necessary if the magnitude of the mortalities is large and the time frame for action is short, due to disease, etc.
- Pits or trenches should not be used in high water table areas or where sandy soil conditions exist. Commercial above ground, self-contained skid-mounted systems for air curtain destruction are also on the market, but may be too heavy to be carried into some locations.
- Approval: Open burning is not allowed without an open burning permit issued by local or county governments. A copy of the open burning permit should be sent to MDE, Land Management Administration, AFO Section. The ash from the open burning should be taken to a permitted

municipal landfill. MDA's guidance for managing animal carcasses (e.g., disposal at a permitted landfill, composted, etc.) is described in MDA's fact sheet located on their website at <http://www.mda.state.md.us/article.php?i=23841>.

- Contact: For additional regulatory information, contact Frank Courtright, Air Quality Compliance Program, 410-537-3220, fcourtright@mde.state.md.us, or Jay Bozman, Eastern Shore Regional Office, MDE, 410-543-6913, jbozman@mde.state.md.us.

3. Incineration

- Total incinerator capacity on the Eastern Shore is limited in comparison to potential need. Current capacity is 44,400 pounds per day, or approximately 10,608 birds/day. See the following table.
- The incinerator feed rate will be limited to the capacity of the incinerator, particularly in terms of time needed for a proper burn.
- Variables, such as the feed rate of the incinerator, the size of the carcass, and the inherent efficiency of the incineration unit, may need to be considered to ensure the unit is effectively operated.
- If the incinerator is not on site where the infected birds are located, this may create potential exposure problems if the mortality is due to disease, since infected birds may have to be transported to the incinerator. Mobile incinerators should be used for infected birds if at all possible. (Contact David Mister of MDA at 410-677-0802 for more information on mobile incinerators.);
- Approval: Incinerators must meet MDE standards for emissions control and for the purposes in which they will operate. Separate construction and operating permits are required for incinerator operators from MDE. Permitted incinerators on the Eastern Shore that can accept bird carcasses without further regulatory approval include the following:

County	Name	Pounds per day	Birds per day
Caroline	Caroline County Humane Society	1800	360
Cecil	Cecil County SPCA	1320	264
Dorchester	Greenlawn Cemetary	3600	720
Kent	Humane Society of Kent County	1200	240
Queen Anne's	Maryland State Highway Chesapeake Cremation Center	6000	1200
Somerset	Perdue Farm #15	1320	264
	Perdue Farm #17	1320	264
Talbot	Talbot County Humane	1920	384
	Wildlife International	1440	288
Wicomico	Maryland Dept Agriculture	5760	1152
	Holloway Funeral Home	2400	480
	Humane Society of Wicomico Co	3600	720
Worcester	Perdue Farm #16	1320	264
	Merial Select	720	144
	Worcester County Sheriff's Office	2040	408
	Perdue Farms #4	1680	336
	Perdue Farms #22	1320	264
	Worcester County Pet Crematory	3600	720

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4. Disposal at a permitted municipal landfill:

- Permitted municipal landfills can be an acceptable method of disposal. Modern municipal landfills have liners and leachate collection systems to protect groundwater, and have procedures and equipment in place to minimize odors and nuisances. It is advised that carcasses be immediately covered with soil to reduce contact with scavenging birds.
- Additional information: Locations and contact information for permitted municipal landfills are attached. Information is also available on MDE's website: http://www.mde.state.md.us/programs/Land/SolidWaste/PermittedFacilities/Pages/Programs/LandPr ograms/Solid_Waste/facilities/index.aspx.
- **Approval:** No new permit is required to transport carcasses to permitted municipal landfills, however, on advice from the State Veterinarian, special decontamination procedures for trucks at the landfills may be required to prevent cross-contamination of clean farms.
- **Contact:** For questions regarding the disposal of animal carcasses at permitted municipal landfills, contact Ed Dexter, Administrator, Solid Waste Program, MDE, 410-537-3376, edexter@mde.state.md.us, Brian Coblenz, MDE, 410-537-4175, bcoblenz@mde.state.md.us, or Brian Littlefield, Eastern Shore Regional Representative, MDE, 410-537-3007, blittlefield@mde.state.md.us.

5. Burial on-site or at sites other than permitted municipal landfills – least favorable option

- Outside of properly designed and managed municipal landfills, the mass burial of animal carcasses can adversely impact water quality. MDE currently prohibits burial of carcasses when the burial pit is deep enough to enter or approach groundwater, which is likely to be an issue on the Delmarva Peninsula.
- Improper carcass management can lead to nuisances and health threats, including odors and the attraction and spread of disease by vectors, including rats, flies, mosquitoes, and other scavengers including vultures, crows, and seagulls.
- The decomposition of animal carcasses under some improper burial conditions can generate methane at explosive concentrations.
- Although growers may think that on-site burial is cheaper (as they would avoid the landfill tipping fees, which are typically around \$58 per ton unless waived by the County), large burial sites require careful selection, investigation of depth to groundwater and receptors, ongoing post-closure care including groundwater monitoring and possible soil gas monitoring, all of which are expensive. Moreover, farms in close proximity to housing developments would not likely be allowed to bury carcasses on site for public health and safety reasons.
- **Approval:** MDE requires an individual order or agreement for each burial site.
- **Contact:** For advice and regulatory approval of burial of animal carcasses, contact Ed Dexter, Administrator, Solid Waste Program, MDE, 410-537-3376, edexter@mde.state.md.us, Brian Coblenz, MDE, 410-537-4175, bcoblenz@mde.state.md.us or Brian Littlefield, Eastern Shore Regional Representative, MDE, 410-537-3007, blittlefield@mde.state.md.us.

Waste Disposal Landfills for Dead (Non-Diseased) Animals, Eastern Shore Region, Maryland

Owner/Operator Landfill Site/ Address	Current Tipping Fee	Hours of Operation	Ability to Accept/Safely Dispose	Ability to Provide After Hour Service	Out-of-County Out-of-State Emergency Waste Acceptance	Contact / Title	Contact Number
Cecil County, Central Landfill 758 E. Old Philadelphia Rd Elkton, MD 21921	\$57.20/Ton	7:30 a.m. - 3:30 p.m. M-Sat.	Yes, with MDE approval and guidance	Yes, with MDE/County approval of extension of hours	No, must get approval of County Commissioners	Pete Bieniek, Chief Solid Waste Management Division	Office (410) 996-6275 Fax (410) 287-4608
Maryland Environmental Service, Midshore II Regional Solid Waste Facility 12236 River Road Ridgely, MD 21660	\$58/Ton	7:30 a.m. – 3:30 p.m. M-F Saturdays 7:00 a.m.- 12:30 p.m.	Yes, with MDE approval and guidance*	Yes, with MDE/County approval of extension of hours	Unknown, must be approved by MES Board of Directors	David Czawlytko, Deputy Director SW Operations Brian Johnson, Site Manager	Office (410) 634-9304 MES (410-729-8308)
Dorchester County, Beulah Landfill 6815 East New Market, Elwood Road Hurlock, MD 21643	\$55/Ton	7:30 a.m. – 4:30 p.m. M-Sat.	Yes, with MDE approval and guidance	Yes, with MDE/County approval of extension of hours	No, County not willing to accept out-of-County or out-of-State waste	Perry Hall, Landfill Superintendent	Office (410) 943-1700 Fax (410) 943-4150 Dorchester Co. 911
Wicomico County, Newland Park landfill 6948 Brick Kiln Road Salisbury, MD 21801	\$60/Ton	8:00 a.m. – 4:00 p.m. M-F	Yes, with MDE approval and guidance*	Yes, with MDE/County approval of extension of hours	Must gain approval from DPW Director or County Commissioners	Mark Whitelock Act. Superintendent	Office (410) 548-4935 Fax (410) 548-4847
Worcester County, Central Landfill 7091 Central Site Lane Newark, MD 21841	\$65/Ton	7:30 a.m. – 4:00 p.m. M-Sat.	Yes, with MDE approval and guidance*	Yes, with MDE/County approval of extension of hours	No, County not willing to accept out-of-County or out-of-State waste	John Tustin, DPW Director Mike Mitchell, SW Manager	DPW Office (410) 632-5623 Landfill Office (410) 632-3177 Fax (410) 632-3000
Somerset County, Fairmount Road Landfill James Ring Road Westover, MD 21871	\$62/Ton	8:00 a.m. – 4:00 p.m. M-Sat.	Yes, with MDE approval and guidance*	Yes, with MDE/County approval of extension of hours	No, must get approval of County Commissioners	Charles Cavanaugh, Director of Solid Waste	Office (410) 651-9641 Home (410) 968-2141 Somerset County 911

* This facility will accept dead animals on a case-by-case basis dependant on the quantity to be disposed.

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