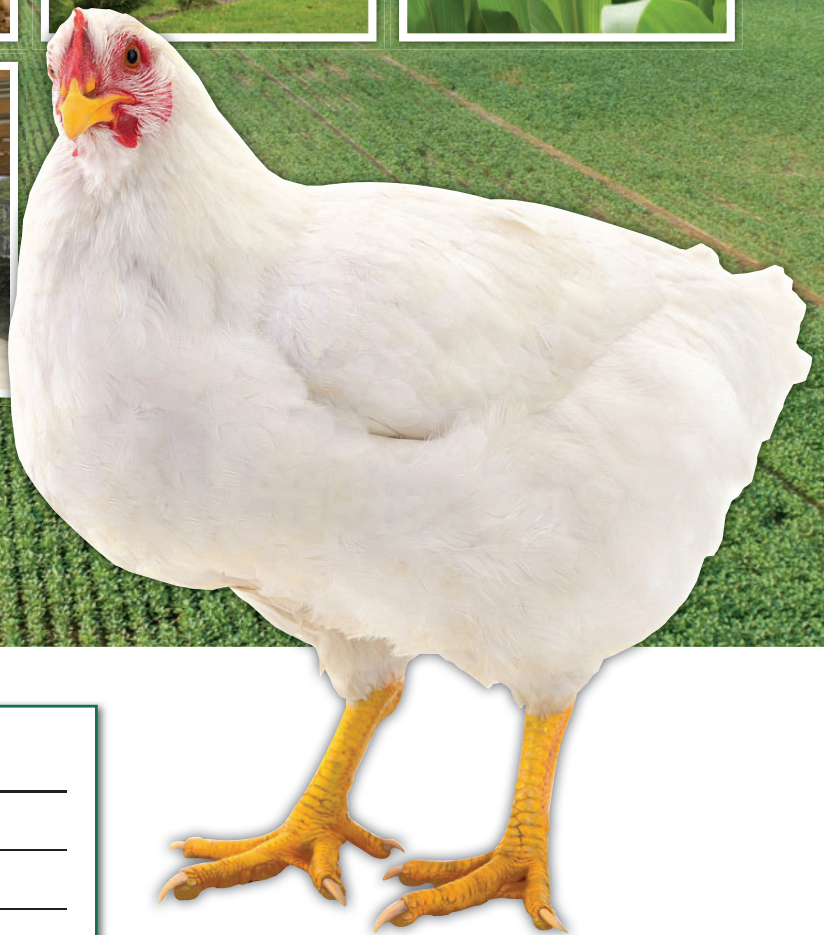
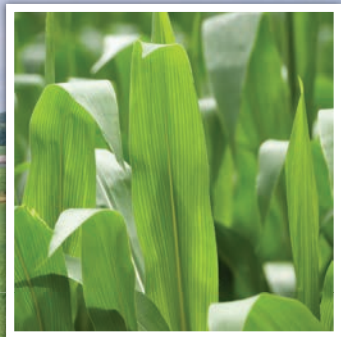




# Poultry Operation Record Keeping Guide & QUICK REFERENCE BOOKLET



Farm Name: \_\_\_\_\_

Operator Name: \_\_\_\_\_

NPDES Permit Number: \_\_\_\_\_

Reporting Period: \_\_\_\_\_ To: \_\_\_\_\_

*2021 Edition*





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## Common Abbreviations Associated with Poultry Operations

AC	Acre
AFO	Animal Feeding Operation
AI#	Maryland Dept. of the Environment Agency Interest #
AIR	Annual Implementation Report
BMPs	Best Management Practices
Bu	Bushel
CAFO	Confined Animal Feeding Operation
CBWI	Chesapeake Bay Watershed Initiative
CCD	CAFO Chicken Dry Manure
CNMP	Comprehensive Nutrient Management Plan
Cu Ft or CF or Ft <sup>3</sup>	Cubic Feet
Cu Yd or CY or Yd <sup>3</sup>	Cubic Yard
DBCF	Dead Bird Composting Facility
DNR	Maryland Department of Natural Resources
EQIP	Environmental Quality Incentives Program
FSA	Farm Service Agency
GDP or PERMIT	General Discharge Permit
HUA	Heavy Use Area Protection
K	Potassium
K <sub>2</sub> O	Potassium Oxide
lbs or #	Pounds
Ln Ft or LF or Ft	Linear Feet
MACS	Maryland Agricultural Water Quality Cost-Share Program
MAFO	Maryland Animal Feeding Operation
MCD	MAFO Chicken Dry Manure
MDA	Maryland Department of Agriculture
MDE	Maryland Department of the Environment
mg/L	Milligrams Per Liter
MTP	Manure Transport Program
N	Nitrogen
NH <sub>4</sub> <sup>+</sup>	Ammonium
NM	Nutrient Management
NMP	Nutrient Management Plan
NO <sub>3</sub> <sup>-</sup>	Nitrate
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O&M	Operation and Maintenance Plan
OM	Organic Matter
P	Phosphorus
P <sub>2</sub> O <sub>5</sub>	Phosphorus Oxide
PA	Production Area
ppm	Parts Per Million
PWSS	Poultry Waste Storage Structure
RUSLE 2	Revised Universal Soil Loss Equation 2
SCD	Soil Conservation District
SCWQP or CP	Soil Conservation and Water Quality Plan
Sq Ft or SF or Ft <sup>2</sup>	Square Feet
T/AC	Tons Per Acre
TMDL	Total Maximum Daily Load
UME	University of Maryland Extension
USDA	United States Department of Agriculture
WIP	Watershed Implementation Plan
WMSP	Waste Management Systems Plan
WSS	Waste Storage Structure



# Introduction

Poultry production is important to Maryland's economy and the Eastern Shore way of life. In addition to managing flocks and maintaining their farms, poultry growers are required to comply with a range of environmental regulations aimed at protecting water quality in Maryland's Chesapeake and Atlantic coastal bays.

Record keeping is a major aspect of a poultry grower's job. This guide is designed to assist all types of poultry operations, including Animal Feeding Operations (AFOs), Maryland Animal Feeding Operations (MAFOs) and Concentrated Animal Feeding Operations (CAFOs) in complying with record keeping requirements specified by the Maryland Department of the Environment (MDE) and the Maryland Department of Agriculture (MDA).

Included in this guide are examples of the types of records poultry growers are required to keep for MDE's programs and the National Pollutant Discharge Elimination System (NPDES) permit. In addition, record keeping examples are provided for compliance with MDA's Nutrient Management Program.

Information on best management practices (BMPs), public access, common sense approaches to biosecurity and new regulations regarding the temporary stockpiling of manure along with land application setbacks is included in this guide. Finally, this guide has contact information for local soil conservation districts, MDA Nutrient Management Program regional offices, University of Maryland Extension offices and other agencies that can assist poultry growers in complying with current and future environmental regulations.





## Required Records for Poultry Growers

- 1 Documentation for all manure and litter transferred**  
(Importing/exporting of manure and litter)  
(MDA & MDE requirement)
- 2 Manure/litter land application record**  
(MDA & MDE requirement)
- 3 Manure application equipment inspection and calibration record**  
(MDA & MDE requirement)
- 4 Unpermitted nutrient discharges**  
(MDE requirement)
- 5 Weekly inspection of manure storage structure and composter**
- 6 Daily water line inspection**
- 7 Weekly inspection of wastewater and/or stormwater facilities**



# 1

## Documentation for All Manure and Litter Transferred

Date (M/D/Y)	Removed From	Sent To/Receiver	Quantity Estimate (tons or cu. yds.)
<i>Example: 2/5/21</i>	<i>Houses 1 &amp; 2 crust out</i>	<i>Waste Storage Structure</i>	<i>12 tons</i>
<i>Example: 3/25/21</i>	<i>Waste Storage Structure</i>	<i>Green Farms, 123 Green Farm Ln, Salisbury, MD 21801</i>	<i>100 tons</i>
<i>Example: 3/25/21</i>	<i>Waste Storage Structure</i>	<i>Tract 12345, Field 2</i>	<i>30 tons</i>
<i>Example: 3/25/21</i>	<i>Houses 3 &amp; 4 total cleanout</i>	<i>Green Farms, 123 Green Farm Ln, Salisbury, MD 21801</i>	<i>400 tons</i>

**Manure Estimation:**

1 cu. ft. = 27-35 lbs., 27 cu. ft. = 1 cu. yd., 2,000 lbs. = 1 ton, for weight purposes, a 5 gallon bucket = 0.67 cu. ft.  
 Example: 1,000 cu. ft. x 31 lbs./cu. ft. = 31,000 lbs. = 15.5 tons; 1,000 cu. ft. x 1 cu. yd./27 cu. ft. = 37 cu. yd.



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Example: 1,000 cu. ft. x 31 lbs./cu. ft. = 31,000 lbs. = 15.5 tons; 1,000 cu. ft. x 1 cu. yd./27 cu. ft. = 37 cu. yd.

# 2

## Manure/Litter Land Application Record

Date (M/D/Y)	Field ID	Method (surface w/ incorporation as required by MDA)	Actual Application Rate	Acres Applied	Plant Avail- able Nitrogen (PAN) Applied (lbs.)	Total P <sub>2</sub> O <sub>5</sub> Applied (lbs.)
Example: 3/30/21	Tr12345 F2	surface w/ incorporation	2.0 t/ac	15.0	See Nutrient Management Plan	1,800



## Manure/Litter Land Application Record

Date (M/D/Y)	Field ID	Method (surface w/ incorporation as required by MDA)	Actual Application Rate	Acres Applied	Plant Available Nitrogen (PAN) Applied (lbs.)	Total P <sub>2</sub> O <sub>5</sub> Applied (lbs.)



# Manure/Litter Land Application Record

Date (M/D/Y)	Field ID	Method (surface w/ incorporation as required by MDA)	Actual Application Rate	Acres Applied	Plant Avail- able Nitrogen (PAN) Applied (lbs.)	Total P <sub>2</sub> O <sub>5</sub> Applied (lbs.)



## Manure/Litter Land Application Record

Date (M/D/Y)	Field ID	Method (surface w/ incorporation as required by MDA)	Actual Application Rate	Acres Applied	Plant Avail- able Nitrogen (PAN) Applied (lbs.)	Total P <sub>2</sub> O <sub>5</sub> Applied (lbs.)



## Manure/Litter Land Application Record

Date (M/D/Y)	Field ID	Method (surface w/ incorporation as required by MDA)	Actual Application Rate	Acres Applied	Plant Avail- able Nitrogen (PAN) Applied (lbs.)	Total P <sub>2</sub> O <sub>5</sub> Applied (lbs.)



# 3

## Manure Application Equipment Inspection & Calibration Record\*

Date (M/D/Y)	Inspection/Calibration Results	Re-Calibration Date (M/D/Y)
Example: 3/30/21	<i>Litter Spreader Calibrated at 2.0 t/ac</i>	N/A

\*Local University of Maryland Extension (UME) offices can assist poultry growers in calibrating manure application equipment. Visit <http://extension.umd.edu/anmp> for fact sheets on how to calibrate manure application equipment.

# 4

## Unpermitted Nutrient Discharges\*

Date (M/D/Y)	Time	Quantity	Source (chicken house, manure shed, swale between chicken houses, etc.)
Example: 5/2/21	10:00pm	1/2 ton	Manure shed

\*List all times that unpermitted discharges of contaminated water occurred from the production area to surface waters.

# 5

## Weekly Inspection of Manure Storage Structure and Composter

Date (M/D/Y)	Visible Damage	Damage Location (if applicable)	Date of Repair
Example: 6/1/21	Yes	West side - Broken board near base	6/1/21
Example: 6/8/21	Yes	East side - Hole in metal siding	6/15/21



## Weekly Inspection of Manure Storage Structure and Composter

Date (M/D/Y)	Visible Damage	Damage Location (if applicable)	Date of Repair



## Weekly Inspection of Manure Storage Structure and Composter

Date (M/D/Y)	Visible Damage	Damage Location (if applicable)	Date of Repair



# Weekly Inspection of Manure Storage Structure and Composter

Date (M/D/Y)	Visible Damage	Damage Location (if applicable)	Date of Repair



## Weekly Inspection of Manure Storage Structure and Composter

<b>Date (M/D/Y)</b>	<b>Visible Damage</b>	<b>Damage Location (if applicable)</b>	<b>Date of Repair</b>

# 6

## Weekly Wastewater and/or Stormwater Facilities Inspections Log Sheet

Facility Name: \_\_\_\_\_ NPDES Permit No.: \_\_\_\_\_

**Instructions:**

Use this form to keep records of weekly visual inspections of your wastewater facilities (including pumps, stormwater and runoff diversion devices, and devices used to channel contaminated stormwater to a wastewater storage or containment structure).

*\*Any deficiencies observed must be corrected within 30 days*

**List the items that need to be inspected below:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

	Date	Initials	OK (√ if no problems)	Description of any Deficiencies Observed (put "N/A" if none observed)	Date Deficiency Corrected*
Week 1					
Week 2					
Week 3					
Week 4					
Week 5					
Week 6					



Weekly Wastewater and/or Stormwater Facilities Inspections Log Sheet

	<b>Date</b>	<b>Initials</b>	<b>OK</b> (√ if no problems)	<b>Description of any Deficiencies Observed</b> (put "N/A" if none observed)	<b>Date Deficiency Corrected*</b>
Week 7					
Week 8					
Week 9					
Week 10					
Week 11					
Week 12					
Week 13					
Week 14					
Week 15					
Week 16					
Week 17					
Week 18					
Week 19					
Week 20					

Weekly Wastewater and/or Stormwater Facilities Inspections Log Sheet

	<b>Date</b>	<b>Initials</b>	<b>OK</b> (√ if no problems)	<b>Description of any Deficiencies Observed</b> (put "N/A" if none observed)	<b>Date Deficiency Corrected*</b>
Week 21					
Week 22					
Week 23					
Week 24					
Week 25					
Week 26					
Week 27					
Week 28					
Week 29					
Week 30					
Week 31					
Week 32					
Week 33					
Week 34					

Weekly Wastewater and/or Stormwater Facilities Inspections Log Sheet

	<b>Date</b>	<b>Initials</b>	<b>OK</b> (√ if no problems)	<b>Description of any Deficiencies Observed</b> (put "N/A" if none observed)	<b>Date Deficiency Corrected*</b>
Week 35					
Week 36					
Week 37					
Week 38					
Week 39					
Week 40					
Week 41					
Week 42					
Week 43					
Week 44					
Week 45					
Week 46					
Week 47					
Week 48					

Weekly Wastewater and/or Stormwater Facilities Inspections Log Sheet

	<b>Date</b>	<b>Initials</b>	<b>OK</b> (√ if no problems)	<b>Description of any Deficiencies Observed</b> (put "N/A" if none observed)	<b>Date Deficiency Corrected*</b>
Week 49					
Week 50					
Week 51					
Week 52					

# 7

## Daily Water Line Inspection Log Sheet

Facility Name: \_\_\_\_\_ NPDES Permit No.: \_\_\_\_\_

**Instructions:**

- Initial the form *each day* after the inspection is complete
- If a leak is detected, place a check in the “leak detected” column

January, 20__		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		

14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

29		
30		
31		
February, 20__		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

## Daily Water Line Inspection Log Sheet

11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
<b>March, 20__</b>		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		

7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
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20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
<b>April, 20__</b>		
Day	Initials	√ if Leak Detected

1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
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21		
22		
23		
24		
25		
26		
27		
28		

## Daily Water Line Inspection Log Sheet

29		
30		
<b>May, 20__</b>		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
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18		
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20		
21		
22		
23		
24		

25		
26		
27		
28		
29		
30		
31		
<b>June, 20__</b>		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		

20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
<b>July, 20__</b>		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

## Daily Water Line Inspection Log Sheet

16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
<b>August, 20__</b>		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

11		
12		
13		
14		
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22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
<b>September, 20__</b>		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		

6		
7		
8		
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11		
12		
13		
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29		
30		



## Daily Water Line Inspection Log Sheet

October, 20__		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		

27		
28		
29		
30		
31		
November, 20__		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		

22		
23		
24		
25		
26		
27		
28		
29		
30		
December, 20__		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
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12		
13		
14		
15		
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17		

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## Daily Water Line Inspection Log Sheet

18		
19		
20		
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25		
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28		
29		
30		
31		





# Maryland Department of the Environment Inspection and Record-keeping Requirements

GENERAL DISCHARGE PERMIT FOR ANIMAL FEEDING OPERATIONS  
MARYLAND PERMIT NO. 19AF, NPDES PERMIT NO. MDG01      Effective Date: 7.8.2020 Expiration Date: 7.7.2025

*Table 3: Self - Inspection and Recordkeeping Requirements for Land Operations:*

Parameter	Frequency	Applicable to Liquid/Dry Manure Handling or Both
<b>Maintain Records of:</b>		
<p>a) Any transfers of manure, litter, and process wastewater, including the following information:</p> <ul style="list-style-type: none"> <li>i. Name and address of recipient</li> <li>ii. Date and quantity transferred</li> </ul> <p>The permittee shall supply the recipient of the animal waste with the most recent annual nutrient analysis of the manure, litter, or process wastewater. If the recipient performs the analysis, the permittee shall obtain a copy and maintain it as part of the permittee's records.</p>	Each occurrence	Both
<p>b) Each application event where manure, litter, or process wastewater is applied:</p> <ul style="list-style-type: none"> <li>i. Fields where animal waste is distributed, using field names consistent with those in the required plan;</li> <li>ii. Application method, rate, time and date;</li> <li>iii. Soil conditions, including instances of ponding or runoff, saturated soil, and frozen ground or snow covered ground; and</li> <li>iv. Weather conditions, including precipitation and temperature at the time of application and precipitation 24 hours prior to, and following, application</li> </ul>	Each land application event	Both
c) Mortality disposal including date, numbers of animals, and method of disposal	As necessary	Both
d) Inspections conducted, including date, of the animal waste storage areas	Weekly	Both
<p>e) The results of manure samples and soil samples, including the following information:</p> <ul style="list-style-type: none"> <li>i. Date sample taken;</li> <li>ii. Test methods used to sample and analyze manure, litter, process wastewater, and soil;</li> <li>iii. Results from manure, litter, process wastewater, and soil sampling; and</li> <li>iv. Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied</li> </ul>	Annually for manure samples, at least once every three years for soil samples	Both
<p>f) Manure application equipment inspections, including the following information:</p> <ul style="list-style-type: none"> <li>i. Date inspection conducted;</li> <li>ii. Calibration date; and</li> </ul>	At least annually	Both

Maryland Department of the Environment Inspection  
and Record-keeping Requirements

<p><i>GENERAL DISCHARGE PERMIT FOR ANIMAL FEEDING OPERATIONS</i>  <b>MARYLAND PERMIT NO. 19AF, NPDES PERMIT NO. MDG01</b>      <i>Effective Date: 7.8.2020 Expiration Date: 7.7.2025</i></p>
--

iii. Maintenance of equipment used for manure application		
g) Inspections, including date, of the storm water routing structures	Weekly	Both
h) Inspections, including date, for all indoor and outdoor water lines, including drinking or cooling water lines	Daily	Both
i) The depth of manure and process wastewater, including date of reading, as indicated by the depth marker in all liquid animal waste impoundments	Weekly	Liquid
j) Inspections, including date, of all wastewater operations and pumps	Weekly	Liquid
k) All manure, litter, and wastewater storage structures including the following information:  i. Date inspection conducted; ii. Volume for solids accumulation; iii. Design treatment volume; iv. Total design storage volume; v. Days of storage capacity; and vi. Structural stability inspection of all earthen embankment structures	As necessary	Liquid
l) Any additional self – inspection and recordkeeping activities required by this General Permit	As necessary	Both

6. Self-Inspection and Recordkeeping for CAFOs/MAFOs that DO NOT Land Apply (No-Land Operations): The permittee that transports all and/or some of its manure, litter, or process wastewater to an area that is not under the control of the owner or operator of the no-land operation shall maintain no-land operation records on-site for five years. The records shall be available for inspection by Department personnel upon request. The record shall include a notation of periods when the facility is not in operation (out of production), and shall describe the following information (indicated in Table 4 below) for all periods when the CAFO/MAFO is operating, with records of operational data for each day that the facility maintains animals:

Maryland Department of the Environment Inspection  
and Record-keeping Requirements

<p><i>GENERAL DISCHARGE PERMIT FOR ANIMAL FEEDING OPERATIONS</i>  <b>MARYLAND PERMIT NO. 19AF, NPDES PERMIT NO. MDG01</b>      <i>Effective Date: 7.8.2020 Expiration Date: 7.7.2025</i></p>
--

*Table 4: Self - Inspection and Recordkeeping Requirements for No - Land Operations:*

Parameter	Frequency	Applicable to Liquid/Dry Manure Handling or Both
<b>Maintain Records of:</b>		
<p>a) All transfers of manure, litter, and process wastewater, including the following information:</p> <p style="margin-left: 40px;">iii. Name and address of recipient iv. Date and quantity transferred</p> <p>The permittee shall supply the recipient of the animal waste with the most recent annual nutrient analysis of the manure, litter, or process wastewater. If the recipient performs the analysis, the permittee shall obtain a copy and maintain it as part of the permittee's records.</p>	Each occurrence	Both
<p>b) Manure samples shall include the following information:</p> <p style="margin-left: 40px;">i. Date sample taken; ii. Test methods used to sample and analyze manure, litter, and process wastewater; and iii. Results from manure, litter, and process wastewater sampling</p>	Annually	Both
c) Mortality disposal including date, number of animals, and method of disposal	As necessary	Both
d) Inspections conducted, including date, of the animal waste storage areas	Weekly	Both
e) Inspections, including date, for all indoor and outdoor water lines, including drinking or cooling water lines	Daily	Both
f) Inspections, including date, of the storm water routing structures	Weekly	Both
g) The depth of manure and process wastewater, including date of reading, as indicated by the depth marker in all liquid animal waste impoundments	Weekly	Liquid
h) Inspections, including date, of all wastewater operations and pumps	Weekly	Liquid
<p>i) All manure, litter, and wastewater storage structures including the following information:</p> <p style="margin-left: 40px;">i. Date inspection conducted; ii. Volume for solids accumulation; iii. Design treatment volume; iv. Total design storage volume; v. Days of storage capacity; and vi. Structural stability inspection of all earthen embankments structures</p>	As necessary	Liquid
j) Any additional self – inspection and recordkeeping activities required by this General Permit	As necessary	Both



**OPERATION AND MAINTENANCE  
OF BEST MANAGEMENT PRACTICES**



## Poultry Waste Storage Structure

- Keep wet manure separate from dry manure. Keep composted material separate from manure. Avoid compaction of the manure. Avoid stacking manure against the side walls. These activities will reduce the risk of fires. (see page 49).
  - The maximum suggested stacking height is *eight feet* in the center of the pile.
  - Schedule manure removal from the structure at proper times (usually spring when it can be used for crop production) to allow for adequate storage during the winter and the growing season.
  - Check backfill areas around structure often for excessive settlement. Make repairs as necessary.
  - Check walls and floors often – at least after each flock – for broken or missing boards, rusted or damaged metal sheeting and/or low spots in the floor and along the walls. Make needed repairs *immediately*.
  - Remove any woody vegetation and/or noxious weeds growing around the structure.
  - Check frequently for burrowing animals around buildings, structures, berms and backfill. Remove the animals and repair any damage.
  - Inspect haul roads and approaches to and from the storage facility frequently to determine the need for stone, gravel or other stabilizing material.
  - Do not allow runoff from loading areas or spills to flow into streams or drainage or road ditches.
  - Mobile farm equipment may be *temporarily* stored within the structure as long as no manure is located outside the structure. No other equipment or items (hay, straw, boats, recreational vehicles, buses, etc.) are permitted in the structure at any time.
- 
- No composting of mortalities is permitted in the structure except for a catastrophic loss. *MDE permitted MAFO/CAFO operations must notify MDE when composting a catastrophic loss in the waste storage structure.* Other requirements apply. See page 38.
  - No manure may be stockpiled outside of the structure in the production area. Operators should contact their local soil conservation district for guidance on where to locate the stockpile.
  - Manure added to or removed from the waste storage structure is required to be documented by origination, amount, date and destination (see page 5).
  - Any modifications, changes or additions to the structure require prior approval of the local soil conservation district, the Natural Resources Conservation Service, and MDA if state cost-share funds were used in its construction.
  - Landowners should notify the local soil conservation district of any major problems or repairs that are needed.



## Dead Bird Composting Facility - DBCF

**Normal Mortality** - Animal mortality facilities will normally be operated or used on a daily basis. At each operation or use, the facility shall be inspected to note any maintenance needs (repair or replace any broken/damaged boards, metal sheeting and guttering) or indicators of operation problems (improper temperatures, black liquid seepage, varmints, flies, odors, etc.). See page 41.

- Daily mortalities should be covered as they are placed in the facility and a composting recipe should be followed. See page 39.
- Temperatures should be monitored daily with a composting thermometer. A temperature log is recommended.
- The bin/pile should be turned following the recipe. The second turn can be placed in the secondary alleyway of the facility or the waste storage structure. Do not place composted material against stored litter. This decreases the risk of fire.
  - ◆ Composted material, mortalities, manure, bulking agent, etc. spilling outside of the bins/channels of the facility must be cleaned up immediately.
  - ◆ Nothing is permitted to be stored in the facility with the exception of straw or other bulking agent used in the composting process.
  - ◆ Any modifications, changes or additions to the facility require prior approval from the local soil conservation district, Natural Resources Conservation Service, and MDA if state cost-share funds were used in its construction.
  - ◆ Landowners should notify the local soil conservation district when major problems or repairs are made or needed.



**Catastrophic Mortality\*** - Composting catastrophic mortality due to heat, mechanical failure or weather events should be conducted in the waste storage structure. Any MDE permitted MAFO/CAFO operation must notify MDE when composting a catastrophic loss in the waste storage structure.

*\*Any catastrophic mortality caused by disease shall be composted within the poultry house. Your poultry company should contact the Maryland Department of Agriculture's Animal Health Office.*





## Recipe for Composting Mortalities

A close-up photograph of a white chicken's head and neck, showing its comb and wattle. The chicken is looking slightly to the right.

### Recipe

**Ingredients:**

One 5-gallon bucket of birds

Two 5-gallon buckets of litter

One 5-gallon bucket of bulking agent (sawdust, shavings, straw, grass clippings, leaves, etc.)

Water (saturate feathers)

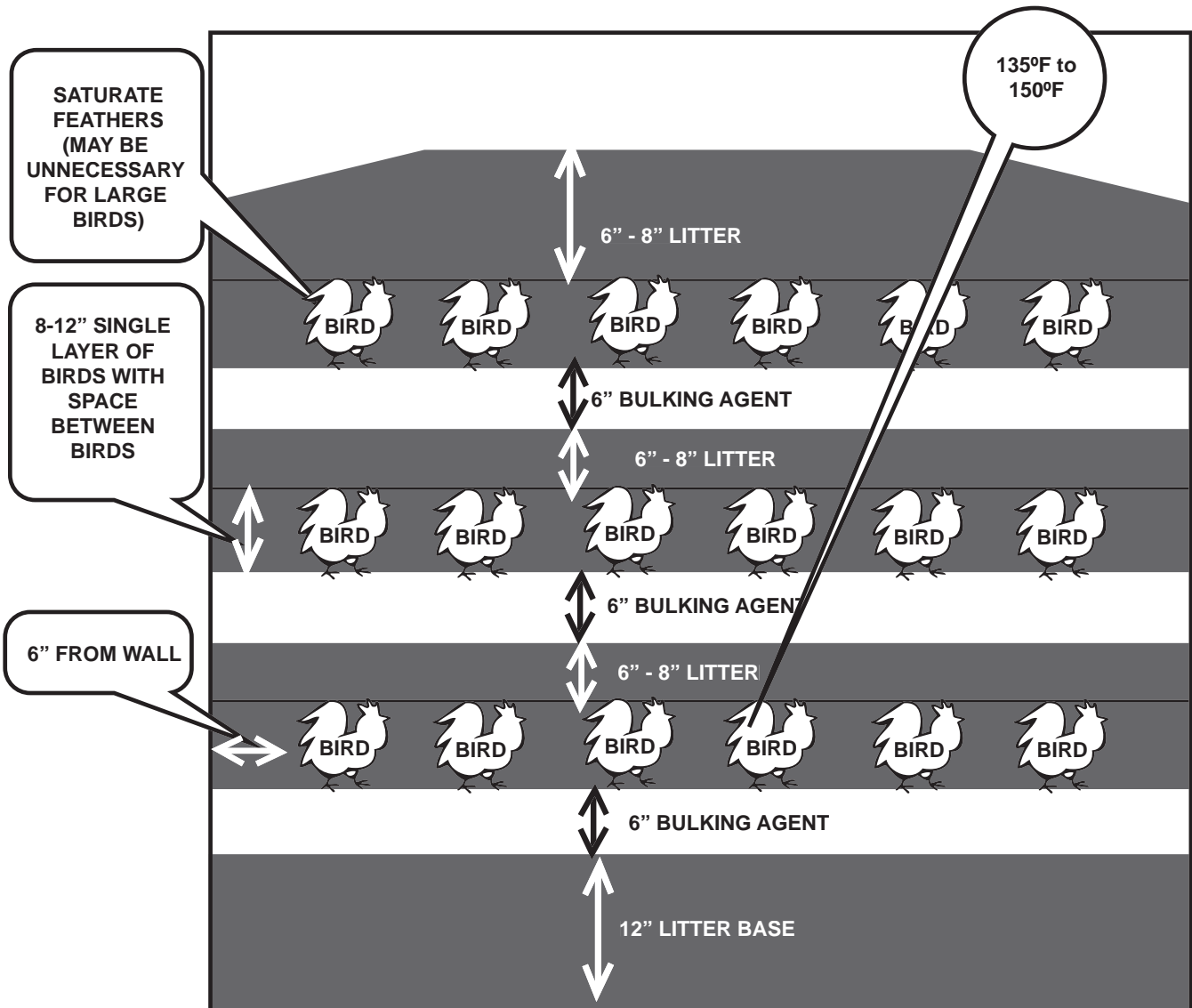
36" composting thermometer (temperature should reach 135°F to 150°F within 3 to 4 days)

**Instructions:**

- Turn pile when temperature drops in 10 to 15 days by moving compost to a secondary bin or pile
- Mix the compost (most of the flesh should be composted with only bones and feathers remaining)
- Add litter to cover carcasses
- Raise temperature to 135°F to 150°F
- Compost should be complete in 10 to 15 more days
- Place composted material in waste storage structure
- To prevent fire risk, do not store finished compost with dry litter



# Daily Mortality Composting Diagram





## Common Problems

**Improper temperatures** can be caused by a pile that is too wet or dry, inactive litter (lack of microbes) or lack of oxygen.

- Add an additional carbon source (bulking agent) for a pile that is too wet.
- Add water to a pile that is too dry.
- Add fresh litter if the current litter is inactive.
- Turn the pile or add more bulking agent to increase oxygen content.

**Black liquid seepage** can be caused by several factors.

- Carcasses may have been layered too deep or too close to the edge of the pile.
- Too much water may have been added to the mix. The litter used may have been too wet.

**Odors, flies and varmints** are common problems associated with poor management of composted mortalities.

- Improper mixes or mixes that are too wet can contribute to these problems.
- Follow the recipe and cover the carcasses with litter daily to alleviate this problem.

## Catastrophic Mortality Events

Catastrophic mortality events should be handled as stated in the operation's CNMP. The most common method for handling catastrophic mortalities is to windrow compost in the waste storage structure. For permitted operations, any composting within the waste storage structure **MUST** have prior approval of MDE. To receive approval, please call MDE at 410-537-4423 or MDA at 410-677-0802, ext. 6. Additional reporting requirements apply. See page 38.

## Composting Fact Sheets

- UME FS 717 *Composting Animal Mortalities on the Farm*
- UME FS 723 *Composting Catastrophic Event Poultry Mortalities*
- UME FS 801 *Guidelines for In-House Composting of Catastrophic Poultry Mortality*
- UME MEP 324 *In-House Composting of Poultry Mortalities Due to Catastrophic Disease*



## Heavy Use Area Protection - HUA

- Scrape or sweep the surface after each live haul or manure removal event to remove excess manure and/or sediment. Use of a power washer or blower is not permitted.
- Inspect the heavy use area after each live haul or manure removal event.
- Repair paved areas by patching holes and replacing paving materials.
- Replace loose surfacing material such as gravel, cinders, stone, clam shells, etc., as needed, around the area when removed by equipment traffic or by scraping.
- Maintain all vegetation that is established as part of the HUA by fertilizing and liming according to soil test recommendations and reseeding or replanting as necessary.
- No manure may be stockpiled on the heavy use area at any time.
- Any modifications, changes or additions to the structure require prior approval of the local soil conservation district, the Natural Resources Conservation Service, and MDA if state cost-share funds were used in its construction.
- Landowners should notify the local soil conservation district concerning major problems.





## Roadways, Swales, Grass and Vegetative Buffers

- *Roadways* should be maintained. Any puddles and potholes should be filled and graded to decrease the possibility of manure coming in contact with ponded water.
- *Swales* should be well vegetated and have a positive grade to allow stormwater to be filtered as it leaves the site. Swales should be mowed at a height that allows the grass to act as a filter during dry spells. Herbicides should not be used in the swales, however, they may be used around the houses, fuel tanks and other structures.
- *All other grass* on site should be mowed to a height that allows it to filter stormwater.
- *Vegetative buffers* around the perimeter of the site and near the fans should be maintained to act as a visual barrier and to collect exhaust from the poultry house fans. Any trees or grasses in the buffer that die should be replaced as soon as the planting season allows.





## **REFERENCE MATERIAL**



## Maryland Department of the Environment NOI and Fee Reminder

According to state law and regulation, MDE is legally required to collect fees for Concentrated Animal Feeding Operations (CAFOs). In September 2019, MDE proposed draft regulations that would have reduced GD Permit fees for CAFOs, however, the Office of the Attorney General and a committee within the Maryland General Assembly recently informed MDE that it may not adopt its lower fee proposal. Due to these actions, the following fees will be applicable to CAFOs applying for the GD Permit:

### **CAFOs with Total House Capacity of 350,000 ft<sup>2</sup> or More:**

- A proposed new CAFO or modification of an existing CAFO to expand its house capacity to 350,000 ft<sup>2</sup> or more must pay a one-time application fee of \$2,000 upon submission of the Notice of Intent (NOI) form.
- An existing CAFO must pay an annual permit fee of \$1,200

### **CAFOs with Total House Capacity of LESS than 350,000 ft<sup>2</sup>:**

- A CAFO must pay an annual permit fee in the amount below, based upon the size category:

<b>CAFO Size</b>	<b>Fee</b>
<b>Small</b>	\$120
<b>Medium</b>	\$600
<b>Large</b>	\$1200

As notified previously, the deadline to submit a NOI and Comprehensive Nutrient Management Plan (CNMP) for coverage under the new GD Permit was September 6, 2020. CNMPs only need to be submitted with the NOI if MDE does not already have a current one on file. If you have not yet submitted your NOI and CNMP, please do so promptly. After these items are received, MDE will send you an invoice for the appropriate fee amount.

MDE is prohibited from issuing permit coverage under the new GD Permit until the applicable fee is paid. Please keep in mind, if you are an existing operation that was registered under the prior (14AF/AFA) GD Permit, and you submitted the Notice of Continued Operation (NOCO) form as well as your NOI and CNMP within the designated timeframes- you are still covered under the prior GD Permit



## Biosecurity Guidelines for Poultry Farms

- Maintain lockable gates or barriers and post *Restricted Entry, Authorized Personnel Only, or Do Not Enter - Biosecurity in Effect* signs at driveway entrances.
- Keep poultry houses locked; secure from the inside when working inside.
- The resident flock manager should have protective clothing (including shoes, boots, hat and gloves) when caring for flocks separate from clothing worn off the farm.
- The flock manager and other caretakers should not visit other poultry farms/ flocks without taking adequate biosecurity measures.
- Do not allow visitors in or near the poultry houses.
- Essential visitors such as poultry catchers, repairmen and service personnel must put on protective outer clothing, including boots and head gear, before they are allowed near the flocks. Tools and equipment carried into the poultry houses should be cleaned and disinfected before entering or leaving.
- Keep a record (log) of visitors, indicating their names, company or affiliation, address, telephone and last place visited.
- After caring for the flock, change clothes and wash hands and arms before leaving premises.
- Monitor vehicles entering the premises for poultry pickup or delivery, feed delivery, fuel delivery, etc., to determine if they have been scrubbed down and the undercarriage and tires spray-disinfected. If the vehicle does not appear to be properly sanitized, do not admit it to the property.



- Do not go to auctions or sales where chickens and other poultry species are being displayed or sold. These birds could carry AI, LT, MG, MS and other infectious and economically devastating diseases.
- Avoid contact with wild waterfowl and backyard chicken flocks.
- All coops, crates and poultry containers or equipment must be cleaned and disinfected before and after use.
- Sick or dying birds should be submitted to a state/university laboratory for diagnosis. Contact your flock supervisor.
- Dead birds must be properly disposed of by composting or incineration.
- When attending essential grower meetings or seminars:
  - If you have had poultry house contact, shower and change your clothing and footwear before attending the meeting.
  - Travel to the seminar in a vehicle that is not used on your farm.
  - After returning from the meeting, disinfect footwear and vehicle floor mats and change your clothing. Use different clothing, footwear and vehicle to re-enter your poultry operation.

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Source: University of Maryland Extension  
 "Poultry Perspectives: Volume 2, Number 1; Table 2"





## Public Access

- Post “No Trespassing” signs at all farm entrances.
- Ask all trespassers to leave. If they do not agree to leave after the first request, write down their names and/or license plate numbers and report them to the sheriff’s department. You can use your cell phone camera to take a picture of the trespasser or license plate.
- Have all visitors provide identification. If visitors cannot produce identification, ask them to leave and schedule a time when they can come back with identification, if their reasons are valid.
- Have all visitors sign in. Write down the date and nature of their visits and whether or not they will be entering the poultry house(s).
- Have all visitors practice biosecurity measures. See page 46.
- **Don’t be afraid to ask questions.**



## MDA’s Nutrient Management Regulations for Organic Nutrient Sources

- **Manure, biosolids and other organic nutrient sources** must be injected or incorporated into the soil within 48 hours of application. There are exceptions for spray irrigation on a growing crop, permanent pastures, hay production fields and highly erodible fields. Exceptions and guidance can be found at [mda.maryland.gov](http://mda.maryland.gov). Click on Nutrient Management under the “Quick Links” menu.
- **Nutrient applications** are prohibited between December 16 through February 28. This requirement applies to all poultry operations, regardless of size. See MDA’s publication, *Farming with Your Nutrient Management Plan*, for more details.



## Temporary Manure Stockpiling

### MDA'S TEMPORARY MANURE STOCKPILING REGULATIONS

- Available manure storage shall be fully used prior to field stockpiling.
- Temporary stockpiles shall be land applied by the first spring season following the placement of the stockpile.
- Stockpile area:
  - Must be 100 feet from any surface water and irrigation or treatment ditches, or 35 feet away if a vegetative buffer is in place.
  - Must be 150 feet from wells, springs and wetlands.
  - Must be 300 feet away if a well is downhill from the stockpile.
  - Must be at least 200 feet from homes not on the operator's property.
  - Must be outside flood prone areas and areas prone to ponding.
  - Must be no farther than 150 feet from the top of a 3 percent slope with no diversion.
- Spread stockpiled manure on fields no earlier than March 1 the first spring after the stockpile was created. Follow your nutrient management plan.
- After the stockpile is removed, thoroughly scrape or clean the ground and restore the area to its original condition.
- Reseed the area with grass or a crop.



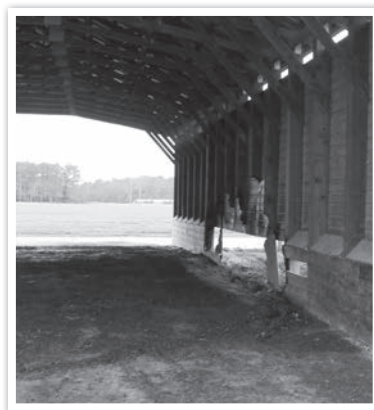


## Preventing Fires in Manure Storage Structures

Fires in poultry waste storage structures are a major risk. Fires are caused by heat and methane gas produced from microbial action within the litter. If the temperature of the litter reaches 190°F, spontaneous combustion may occur. Four main factors contribute to this risk: moisture, layering, compaction and pile size. When dry litter comes into contact with wet litter, the dry litter absorbs moisture and heat is released. This may cause overheating of the litter. When wetter, new litter is pushed against dry, old litter, a heat producing zone is created. When litter is compacted from driving over it, heat becomes trapped within the pile. The larger the pile, the greater the chance of excessive heat buildup.

### Recommendations for preventing fires:

- Never mix moist litter with dry litter.
- Protect litter in the structure from wind driven rain.
- Do not wet down litter.
- Do not add composted birds to old or dry litter.
- Avoid compaction. Never drive equipment over poultry litter piles.
- Limit the pile height to 5 to 7 feet peaked in the middle of the pile and 4 feet against the walls.
- Do not permanently store equipment in the structure.
- Monitor the temperature within the pile. If the temperature reaches 190°F or smoldering occurs, remove the manure from the pile or structure. The fire company should always be called when removing suspected burning litter because when the litter is exposed to air, it may burst into flames.



Source: University of Maryland Extension Fact Sheet 820



## Soil Conservation District Field Offices

<p><b>Caroline SCD</b> 9194 Legion Road, Suite 3 Denton, Maryland 21629 410-479-1202 ext. 3</p>	<p><b>Somerset SCD</b> 30730 Park Dr., Howard H. Anderson Bldg. Princess Anne, Maryland 21853 410-621-9310</p>
<p><b>Cecil SCD</b> 105 Chesapeake Blvd., Suite B-3 Elkton, MD 21921 410-398-4411 ext. 3</p>	<p><b>Talbot SCD</b> 28577 Mary's Court, Suite 3 Easton, Maryland 21601 410-822-1577 ext. 5</p>
<p><b>Dorchester SCD</b> 204 Cedar Street, Suite 200 Cambridge, Maryland 21613 410-228-5640 ext. 3</p>	<p><b>Wicomico SCD</b> 2322-B Goddard Parkway Salisbury, Maryland 21801 410-546-4777 ext. 3</p>
<p><b>Kent SCD</b> 122 Speer Road, Suite 4 Chestertown, Maryland 21620 410-778-5150 ext. 3</p>	<p><b>Worcester SCD</b> 304 Commerce Street Snow Hill, Maryland 21863 410-632-5439 ext. 3</p>
<p><b>Queen Anne's SCD</b> 211 East Water Street Centreville, Maryland 21617 410-758-3136 ext. 3</p>	



## University of Maryland Extension Offices

<p><b>Caroline</b> 9194 Legion Road, Suite 4 Denton, Maryland 21629 410-479-4030</p>	<p><b>University of Maryland Poultry Specialist</b> 27664 Nanticoke Road Salisbury, Maryland 21801-1648 410-742-1178</p>
<p><b>Cecil</b> 200 Chesapeake Blvd., Suite 1500 Elkton, MD 21921 410-996-5280</p>	<p><b>Somerset</b> 30730 Park Dr., Howard H. Anderson Bldg. Princess Anne, Maryland 21853 410-651-1350</p>
<p><b>Dorchester</b> 501 Court Lane, Room 208 Cambridge, Maryland 21613 410-228-8800</p>	<p><b>Talbot</b> 28577 Mary's Court, Suite 1 Easton, Maryland 21601 410-822-1244</p>
<p><b>Kent</b> 709 Morgnec Road, Suite 202 Chestertown, Maryland 21620 410-778-1661</p>	<p><b>Wicomico</b> 28647 Old Quantico Road Salisbury, Maryland 21801 410-749-6141</p>
<p><b>Queen Anne's</b> 505 Railroad Avenue, Suite 4 Centreville, Maryland 21617 410-758-0166</p>	<p><b>Worcester</b> P.O. Box 219, 305 Bank Street Snow Hill, Maryland 21863 410-632-1972</p>



## Maryland Department of Agriculture

50 Harry S. Truman Parkway  
 Annapolis, Maryland 21401  
 410-841-5700  
[mda.maryland.gov](http://mda.maryland.gov)

### Office of Resource Conservation Regional Nutrient Management Offices

**Kent, Queen Anne's and Talbot Counties**

P.O. Box 549  
 Cordova, MD 21625  
 410-279-4003

**Caroline and Dorchester Counties**

P.O. Box 340  
 Marydel, MD 21649  
 410-353-5660

**Somerset, Wicomico and Worcester Counties**

27722 Nanticoke Road, Unit 2  
 Salisbury, Maryland 21801  
 410-507-4949

Animal Health Labs  
 410-841-5810 or 800-492-5590 or  
 emergency after hours 410-841-5971

**Salisbury Office**

27722 Nanticoke Road  
 Salisbury, Maryland 21801  
 410-543-6610

**Frederick Office**

1840 Rosemount Avenue  
 Frederick, Maryland 21702  
 301-600-1548

### Office of Resource Conservation Financial and Technical Assistance

**Maryland Agricultural Water Quality**

**Cost-Share (MACS) Program**

50 Harry S. Truman Parkway  
 Annapolis, Maryland 21401  
 410-841-5864

**Manure Transport Program**

50 Harry S. Truman Parkway  
 Annapolis, Maryland 21401  
 410-841-5864

**Eastern Shore Regional Office**

27722 Nanticoke Road, Unit 2  
 Salisbury, Maryland 21801  
 Regional Coordinator 410-677-0802 ext. 1  
 CAFO/MAFO Coordinator 410-677-0802 ext. 6



## Maryland Department of the Environment

**CAFO/MAFO Program**

1800 Washington Boulevard, Suite 610  
 Baltimore, Maryland 21230-1719  
[mde.maryland.gov](http://mde.maryland.gov)  
 410-537-3314 or 800-633-6101 x3314



# Important Dates and Deadlines

Date

MDA & MDE Annual Reports Due	March 1
Nutrient Management Plan Expires	
Comprehensive Nutrient Management Plan Expires	
CAFO Permit Registration Date	
MDE CAFO Inspection Date	
MDE CAFO Inspection Date	
MDE CAFO Inspection Date	
MDE CAFO Inspection Date	



# Numbers to Know

Emergency	911
Poultry Company	
Service Person	
Feed Mill	
Fire Company	
Ambulance	
County Sheriff's Department	
Poison Control	800-222-1222
Electric Company	
Gas Company	
County Health Department	
Electrician	
Plumber	
Clean Out Operator	
Crust Out Operator	
Nutrient Management Consultant	
Manure Receiver(s)	





**Maryland  
Department of Agriculture**

*Office of Resource Conservation*

**50 Harry S. Truman Parkway  
Annapolis, MD 21401**

**410-841-5865 | [mda.maryland.gov](http://mda.maryland.gov)**