MANURE MANAGEMENT EVALUATION FORM

Source: Maryland Department of Agriculture, 1999.
Adapted from University of Maryland Cooperative Extension Fact Sheet 294, 1981

Animal production systems can be sources of water pollution through direct discharge, diffuse runoff, seepage or percolation of pollutants to surface or ground water. Manure is one potentially large source of pollutants on most animal operations. Manure and animal management and handling are important parts of water quality improvement. Animals can be confined in buildings, grass pastures, on earthen lots, on concrete lots or some combination of these areas. Manure can be handled in many different ways. The questions on the following evaluation form and your answers will give an indication of where you stand with respect to the effectiveness of manure management on your farm.

COMAR 15.20.07 requires agricultural operators to implement manure management that protects water quality and improves manure use. It further requires that manure management:

- Encompass all land where animals are kept and all land used for manure storage, treatment, or use that is under the control of the agricultural operator,
- Contain or manage manure to minimize the potential for nutrient loss or runoff before export to other agricultural operations or receiving facilities when agricultural operators have insufficient land to use manure and waste nutrients associated with animal production, and,
- Minimize the potential for nutrient loss or runoff prior, during, and after application when an agricultural operator imports animal manure or waste nutrients associated with animal production for nutrient application on the operator's land.

COMAR 15.20.08.04I requires a consultant to:

- Take into account the current manure management measures being used to store, stockpile, and handle animal manure and waste nutrients associated with animal production in order to make appropriate recommendations for application rates, timing, and methods and
- Evaluate existing conditions and procedures and advise the operator when manure management changes, such as improved stockpiling or storage facilities, would minimize the potential for nutrient loss or runoff or improve nutrient use efficiency and proper timing of manure utilization.

This evaluation form is a tool to help agricultural operators and consultants identify areas where potential problems could occur. The resultant score for each situation is linked to an interpretation of areas for pollution concern. Agricultural operators shall implement measures to address any conditions found to be impacting water quality. Your local soil conservation district can provide technical assistance in managing manure to minimize the potential for nutrient loss or runoff.

SECTION 1. MANURE AND WASTE MANAGEMENT METHODS

Manure is handled many different ways, which may vary season to season. Under each question, more than one situation may be applicable to your farm. Enter the numerical value for each item that applies to your farm in the rightmost column.

Method(s) used	**Value(s)**
A. Manure collected on concrete areas is:	
1. captured and stored or removed daily	_____
2. removed on a regular basis but not daily	_____
3. removed two or three times a year	_____
4. removed by rainfall runoff	_____

Method(s) used	Value(s)
B. Manure is stored in	
1. a structure made for manure storage	_____
2. a covered pile on concrete	_____
3. an open pile on concrete	_____
4. an open pile in a field	_____
5. an open pile in a field near a stream or drainage ditch	_____
C. Runoff from my concrete lot or manure storage area	
1. is captured in a lagoon or settling basin and field spread	_____
2. flows across a grassed area or into a treatment wetland	_____
3. is captured in a grassed waterway or diversion, but runs out the other end	_____
4. is uncontrolled	_____
D. I spread or use manure from storage	
1. in accordance with a nutrient management plan	_____
2. whenever possible, to keep storage space available	_____
3. whenever the storage space becomes full	_____
4. just often enough to keep storage space from overflowing	_____
5. only when I can, even if the storage space overflows	_____
E. In the winter I spread manure on snow covered or frozen fields	
1. never	_____
2. seldom	_____
3. that have moderate slopes with good ground cover or mulch	_____
4. that have no ground cover or mulch	_____
5. that have steep slopes or are next to streams	_____
F. I spread manure from storage	
1. by injecting or incorporating it into the soil	_____
2. as a topdressing on cover crops, small grains, hay, sod or grassland	_____
3. on top of tilled cropland	_____
4. on top of fallow ground	_____
G. I spread manure	
1. at managed rates on fields I know can use the nutrients	_____
2. on fields I know need the nutrients, but I don't know how much I spread or how much I should spread	_____
3. anywhere I can just to get rid of it	_____
4. on the same field almost all of the time	_____
H. I have dairy and milking waste piped to (If no dairy, skip this question)	
1. a specially designed storage area or lagoon for later field spreading	_____
2. a grassed area for seepage into the soil or other approved treatment system	_____
3. an outlet in the cattle lots	_____
4. a nearby ditch or stream	_____
Section 1. Manure and Waste Management Methods Total	_____ Methods

SECTION 2. ANIMAL AREAS

Animals can be kept in barns or poultry houses, grass pastures, earthen lots or concrete lots. If animals are confined in a barn or poultry house at all times do not complete this section. In some instances animal areas can be a combination of two or all three areas. Answer each question for each area on your farm. For example, if animals are primarily on concrete but sometimes go to pasture, you should answer each question separately for both the concrete lot and the pasture. If your animals are primarily on concrete, but have an earthen exercise area, you should answer each question separately for both the concrete lot and the earthen lot. If some animals are on the concrete all of the time and others are always on pasture or an earthen lot, answer each question separately for each group of animals. If you have more than one type of animal and manage them differently, you should complete this set of questions for each type.

Under each Animal Area column (concrete lot, earthen lot or grass pasture) write the number of the answer that best fits each question. The same answer can be used for more than one area.

Situation	Animal Area		
	Concrete Lot	**Earthen Lot**	**Pasture**
A. My animal area holds 1. less than 30 head per acre 2. 31 to 90 head per acre 3. 91 to 200 head per acre 4. more than 200 head per acre	_____	_____	_____
B. The general slope of my animal area is 1. slight (0-2%) 2. moderate (2-5%) 3. steep (5-15%) 4. very steep (15-25%)	_____	_____	_____
C. My pasture has 85% or more grass cover 1. all of the time 2. most of the time on all areas 3. some of the time on most areas 4. at no time on most areas	_____	_____	_____
D. My animal area has a stream 1. more than 200 feet away 2. 50 to 200 feet away 3. closer than 50 feet 4. at the edge or within the area	_____	_____	_____
E. The land between the nearest stream and my animal area is 1. in permanent sod or woodland 2. in cropland 3. a driveway or road 4. an unfenced swamp, “natural” wetland or stream bank	_____	_____	_____
F. My animals get most of their drinking water from 1. an improved water tank with controlled drainage 2. a water tank with no drainage control 3. limited, managed access to a pond or stream 4. unmanaged access to a pond 5. unmanaged access to a spring seep or stream	_____	_____	_____

Situation	Animal Area		
	Concrete Lot	**Earthen Lot**	**Pasture**
G. Rainfall runoff from fields uphill of animal area 1. does not naturally drain into or through animal areas 2. is totally diverted around the animal area with conservation structures 3. sometimes flows across my animal area when the rainfall is heavy 4. is partially diverted around the animal area 5. crosses my area most of the time	_____	_____	_____
H. Around the buildings on my farmstead 1. all sources of runoff are diverted from entering the animal holding area 2. roof runoff is collected in eaves or gutters, but drains to some portion of the animal holding area 3. roadway runoff flows through some portion of the animal holding area 4. both roadway and roof runoff flow through the animal holding area	_____	_____	_____
I. Runoff from my animal area 1. is controlled by conservation structures within the animal area 2. is collected by conservation structures downslope of my animal area 3. is uncontrolled, but flows from my animal area to cropland, grassland or forest 4. is uncontrolled and flows directly to a ditch or stream	_____	_____	_____
J. I handle animal mortality by 1. sending to a rendering facility 2. composting 3. burying away from sensitive areas 4. burying in marginal land such as woods or wetlands 5. leaving the carcass out for scavenger animals	_____	_____	_____
Section 2. Animal Areas Total Score for each column separately. Do not combine column scores. If separate groups of animals were tested, do not combine the group scores.	_____ Concrete	_____ Earthen	_____ Pasture

YOUR EVALUATION RESULTS

First, transfer the total scores from Sections 1 and 2 to this table.

Total Manure & Waste Management **Methods** Score	Total Animal Area: **Concrete** Lot Score	Total Animal Area: **Earthen** Lot Score	Total Animal Area: **Pasture** Score
_____	_____	_____	_____

Second, evaluate the overall manure management for your farm operation by comparing your totals cores for Manure and Waste Management and for each of the Animal Areas with the table below. Regardless of the total scores, any individual item in sections 1 or 2 that scores 4 or 5 needs attention.

Total Score	**Comment**
9-12	You are in good shape in that area.
13-22	Some things need to be changed or improved. Address high scoring items to assure they meet manure management requirements.
23-30	Seek technical assistance from a qualified professional to complete a comprehensive evaluation of your manure management.
Over 30	It is likely that your system is causing a pollution problem; install best management practices (BMPs) immediately.