



Record Keeping Systems for Small and Medium Livestock Farms with Associated 'Top Ten' Best Management Practices

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Introduction

The 2010 WV legislative session produced a new Concentrated Animal Feeding Operation (CAFO) legislative rule giving the State Department of Environmental Protection (DEP) the framework to issue a WV/NPDES (National Pollution Discharge Elimination System) permit for CAFOs. Concentrated Animal Feeding Operations (CAFOs) are animal feeding operations containing animal numbers above a defined threshold or have been determined to be a significant contributor of nonpoint source pollutants to waters of the United States. Nonpoint source pollution is “Water contamination that occurs when rainwater, snow, or ice melt washes over the land or seeps through the ground, picking up pollutants and depositing them in rivers, lakes, or streams. Agricultural nonpoint source pollution can include excess fertilizers, pesticides, bacteria, and nutrients from livestock waste, or sediment resulting from erosion of crop or pasture lands” (WV Conservation Agency NRCS). A NPDES permit aims to manage and control pollutant discharges to protect water quality in WV.

The permitting process is confined to medium and large animal producers having a potential to discharge from the production area, and includes an exemption for agricultural storm water discharges provided the operation is implementing a current Comprehensive Nutrient Management Plan (CNMP). Small animal feeding operations (AFOs) and pasture-based operations will not require a CAFO permit, but may be designated a CAFO if determined to be a significant contributor of pollution. These operations can avoid the permitting process if they voluntarily undertake proactive best management practices to reduce nonpoint source pollution, and more importantly, provide evidence of these actions to regulatory agencies.

This publication provides guidance to implementing some basic best management practices (BMPs) that landowners of small-sized animal feeding operations and pasture-based operations (small and medium farms that do or do not confine animals) can use to reduce nonpoint source pollution (adapted from the WV Conservation Agency and the USDA-NRCS¹).

¹ West Virginia Conservation Agency Natural Resources Conservation Service NRCS). 2009. West Virginia Best Management Practices of Conservation Practice Standards, 2nd edition. Accessed February 01, 2011. http://www.wvca.us/news/upload/wwwrc_publications/2299.Ag%20BMP%20Manual%20Revised.pdf.

BMPs are management strategies that, when implemented correctly, address, reduce or control a potential water quality problem. Practicing these BMPs can improve the efficiency and productivity of your operation, but can also help to safeguard water quality by reducing soil erosion and sedimentation, reducing nutrients and bacteria from animal manures and chemical fertilizers, and reducing chemical pollutants from pesticides and herbicides.

The publication also provides the related record-keeping forms for documenting your progress towards implementing these BMPs. Completing these forms can serve as your best defense if regulatory agencies or concerned citizens should question your progress towards reducing nonpoint source pollution.

This booklet is presented in two sections:

- Section A – This section outlines the Top 10 Best Management Practices that landowners of small-sized animal feeding operations and pasture-based operations can use to reduce nonpoint source pollution; and
- Section B – Associated Record-Keeping Forms to document compliance with these best management practices. An electronic version of these record forms is accessible at <http://anr.ext.wvu.edu/livestock/cafo>. These record-keeping forms can be downloaded and modified to fit your specific farm needs.

Additional detailed information on BMPs can be obtained at http://www.wvca.us/news/upload/wvwc_publications/2299.Ag%20BMP%20Manual%20Revised.pdf and at <http://www.nrcs.usda.gov/technical/standards/nhcp.html>.

Section A – Top 10 Best Management Practices¹

1. Maintaining Riparian Buffers, Vegetative filter strips or Buffer Strips (*Record Form #1: Map of Farm*)

Maintaining a vegetated or buffer strip between any groundwater source or body of water and cropping fields, grazing pastures or pastures to which manure is being applied is imperative for protecting water quality. These strips act to intercept, store and utilize nutrients or pathogens that may migrate from fields to which manure is applied. Buffer strips include at least 30 feet of dense vegetative growth that allows uniform runoff flow through the buffer. General AFO/CAFO rules and additional general BMP recommendations for riparian buffers or vegetative filter strips, on relatively flat land, are as follows:

- 50 ft. between litter/manure application sites and all surface water sources such as ponds, lakes, streams, sinkholes, springs, wetlands;
- 100 ft. from wells or Outstanding National Resource Waters (NRCS BMP recommends 300 ft. upslope from wells and 150 ft. downslope);
- 50 ft. for solid wastes and 100 ft. for wastewater between application sites and any public road;
- 100 ft. from someone else's house; and
- 25 ft. from property line (unless neighbor agrees to less).

For your records, it is recommended a keep a map of your farm identifying fields and buildings and clearly showing buffer zones and spreadable acres (See Record Form #1).

If you required specific recommendations for buffer widths considering a specific soil types or slope of the land, it is best to consult with a conservation professional for assistance. Alternatively, the following link offers some design guidance for buffer widths with soil type and slope considerations (<http://www.jswconline.org/content/66/1/29.full.pdf+html>).

¹ Adapted from Koelsch, R. and J. Benning, 2006, and West Virginia Conservation Agency NRCS. 20009.

2. Dry Litter/Manure Handling and Application (*Record Form #2: Nutrient Land Application Log Sheet*)

Farms that produce litter and manure can benefit from these by-products. Litter/manure can be a low-cost alternative to commercial fertilizer for improving soil properties. Alternatively, these by-products can generate additional income if sold to neighboring farmers.

If applying manure/litter to cropland, record your efforts using Record Form #2 and be sure to follow these guidelines:

- Apply only on actively growing crops, and only in amounts that can be fully utilized before crop dies, is harvested, or becomes dormant.
- Do not apply on frozen or saturated soil, during rain, or when the National Weather Service forecast/extended forecast is for more than 50 percent rain probability within the next 3 days.
- Do not apply when wind is high or direction is toward neighboring farms and not on weekends when neighbors may be participating in outdoor activities. Unpleasant odors are the number one reason neighbors complain about AFOs so do everything operationally possible to keep manure odors to a minimum. Also, maintain open communication with neighbors so complaints come directly to you instead of local authorities.
- Apply only on fields where there are adequate buffer zones between the fields and any water source and do not apply on land with steep slopes or poor vegetative growth.
- Apply according to recommended application rates - based on what is needed by the crop and the results of the soil test and manure/litter test.
- Other important actions to take include informing neighbors of plans to apply litter/manure, covering trucks that haul litter/manure, soil testing at least every 3 years, and keeping records of when, where, and how much litter/manure was applied and/or sold (and to whom it was sold).

3. Nutrient Management (*Record Form #3(a): Soil Analysis Recordkeeping Form OR Record Form #3(b): Crop, Soil, and Water Nutrient Status Indicators Log Sheet, AND Record Form #4: Litter Analysis Recordkeeping Form AND Record Form #5: Solid Manure Spreader Calibration and Maintenance AND Record Form # 6: Manure or Litter Transfer Record Form*)

Nutrient Management involves managing the amount, placement, and timing of plant nutrients to obtain optimum yields and minimize the risk of surface and groundwater pollution. Effective nutrient management requires you to consider two issues before making any decision to apply additional animal waste, crop residue or commercial fertilizer to your fields. Considerations for appropriate land application should include:

- **Nutrient Balance** - The primary purpose of nutrient management is to achieve the level of nutrients required to grow the planned crop by balancing the nutrients that are already in the soil and other sources with those that will be applied in manure, biosolids and fertilizer. At a minimum, nutrient management should prevent the application of nutrients at rates that will exceed the capacity of the soil and planned crops to assimilate the manure nutrients. Soils and manure should be tested to determine nutrient content before any further addition of soil nutrients¹ (Use Record Form #3(a) or #39b) and Record Form #4). After receiving your test report, you will know how much fertilizer to apply, which can save you money and protect the environment from over-application of nutrients.
- **Timing and Method of Application** - Care must be taken when land-applying manure to prevent it from entering streams, other water bodies, or environmentally sensitive areas (See Record Form # 2). Proper rates, placement, and timing of animal waste and fertilizer application can greatly reduce the loss of nutrients into the ground or surface water as well as the atmosphere. Careful planning to determine proper timing and amounts of animal waste or fertilizer application in relation to storm events and seasons will minimize the length of time that nutrients are available for loss to surface or groundwater. It is also important to have correctly calibrated equipment; knowing the rate of manure application to land is critical information for effectively utilizing manure as a crop nutrient while reducing fertilizer inputs, and also helps in applying a uniform layer of manure (Use Record Form #5).

¹ The WVU soil testing laboratory and the West Virginia Department of Agriculture Water Quality Lab provide free soil testing and manure analysis to producers in the state. Soil test kits and manure sample containers are available by request at many local WVU County Extension Offices.

- Nutrient Transfer – Excess litter or manure can be transferred to neighboring farms to be used as a low-cost alternative to commercial fertilizer. Care must be taken to keep track of all manure or litter generated at your farm that you transfer to other persons, that is, manure or litter transferred for use or disposal not under the control of your farm (Use Record Form # 6). All transfer of manure to a third party must include providing this third party representative with an information sheet that included the most recent manure analysis for the manure being transferred and a statement that manure/litter must not enter waters of the state. For your record, have the recipient sign the form indicating they have received the nutrient analysis and environmental statement.

4. Dead Bird/Animal Disposal (Use Record Form #7: Animal Inventory and Mortality Log Sheet)

Proper disposal of dead birds or other animals must be carefully planned ahead of time and carried out promptly to reduce the threat of disease, protect water quality, and prevent unpleasant odors. Disposal of mortalities is also important in nutrient planning to prevent nutrient overload.

Several methods are available for routine disposal of animal mortalities, which are environmentally safe when done properly and in accordance with applicable WVDEP regulations:

- Composting - stacking the materials in piles to decompose over a long period of time with little agitation and management;
- Boiling the carcass and all its parts and products in water, or heating the same with steam at the temperature of boiling water, continuously for at least two hours;
- Rendering - usually freezing carcasses immediately for pickup by a rendering contractor;
- Incineration - equipment must be registered with WVDEP; and
- Burial – Bury under a 3-foot minimum of well-packed earth and at least one hundred feet from any watercourse, well, or spring, public highway, house or stable.

Approval from a state's veterinarian is needed for disposal in emergency situations of flock depopulation, abnormal death losses or serious disease outbreak.

5. Fencing

Fence, when properly constructed and maintained protects water quality by limiting livestock access to streams, reduces bacteria from animal waste, and reduces erosion of nutrients. This practice may be applied to any area where livestock and/or wildlife control is needed. A wide variety of types of fencing are available. However, fencing material and construction quality is always designed and installed to assure the fence will meet the intended purpose and longevity requirements of the farm and landowner.

The standard fence is constructed of either barbed or smooth wire suspended by posts with support structures. Other types include woven wire for small animals, electric fence as a cost efficient alternative and suspension fences which are designed with heavy but widely spaced posts and support structures. Things to consider when planning a fence include the following:

- For ease of maintenance purposes avoid as much irregular terrain as possible;
- Wildlife movement needs should be considered;
- Consider livestock handling, watering, and feeding requirements when locating fences;
- Consider soil erosion potential and feasibility of fence construction when planning fences on steep or irregular terrain; and
- State and local laws may apply to boundary fences

6. Livestock Winter Feeding Area Management (*Use Record Form # 8: Animal Confinement Log Sheet*)

Livestock are generally wintered in one of three ways, each with associated water quality risks.

- Livestock are grazed in a dispersed manner on range or pasture throughout the winter, with minimal supplement feeding;
- Livestock are placed in a confined area such as a feedlot or drylot, and given supplemental feed for all of their nutritional needs; or
- Livestock are wintered in a pasture consisting of native range, tame pasture or crop stubble and given supplemental feed. Hay, straw, protein supplement, and/or grain constitute most or all of their nutritional needs. The livestock thus “concentrate” on the same area they are being fed, but not to the extent they would in a feedlot or drylot.

For pasture-based systems, livestock must not be housed or fed in a confined area for more than 45 days in any 12-month period. Additionally, the animal confinement area must sustain crops, pasture, or residue (incidental vegetation does not count) when animals are confined. For confinement-based systems such as open lots, roofed animal housing or barns, there must be no contact with surface water running through the area where animals are confined. There must be no man-made ditch or pipe carrying manure or wastewater from animal housing or feeding area to surface water.

As a related concern, roof runoff from these wintering structures should be prevented from flowing across concentrated waste areas, barnyards, roads and alleys. A suitable roof runoff or water diversion structure should be constructed for collecting, controlling, and disposing of runoff water from roofs. This practice reduces pollution, flooding, and erosion, and also improves water quality and drainage. The water from roof runoff can be stored and reused for cleaning and other purposes.

7. Prescribed Grazing

Prescribed Grazing minimizes concentrated livestock areas, trailing, and trampling to reduce soil compaction, excess runoff, and erosion. This practice may be applied on all lands where grazing and/or browsing animals are managed. The objective is to ensure that enough vegetation is left to prevent accelerated soil erosion and manage for deposition of fecal material away from water bodies (see record Form #8). The duration and intensity of grazing necessary to manage the optimum level of vegetation will differ for each farm depending on the following considerations:

- Rate of growth and physiological condition of forage;
- Numbers and kinds of animals utilizing available forage, and
- Whether supplemental feed is provided.

A grazing schedule should be developed for livestock, after considering the above, showing periods of grazing, rest, and other activities for all fields and pastures included in the grazing plan. Duration and intensity of grazing should be based on desired plant health and expected productivity of the forage species to meet management objectives.

8. Stream Crossing

A Stream Crossing is a stabilized area or structure constructed across a stream to provide a travel way for people, livestock, equipment and vehicles. This practice applies to all land uses where an intermittent or perennial watercourse exists and a ford, bridge, or culvert type crossing is desired for livestock, people, and / or equipment. Stream crossings are located in areas where the streambed is stable or where grade control can be provided to create a stable condition. Avoid sites where channel grade or alignment changes abruptly, excessive seepage or instability is evident, or where large tributaries enter the stream. A properly designed and installed stream crossing provides a way for normal passage of water, fish, and other aquatic animals within the channel during all seasons of the year.

9. Waste Storage Facility (*Use Record Form #9: Manure, Litter, and/or Process Wastewater Storage Area Recordkeeping Form*)

Since land application can take place only under certain circumstances, the operator may have to store waste such as manure, wastewater, and contaminated runoff. In order to minimize the potential for contamination of streams, waste storage facilities must be planned, designed, and constructed to meet all federal, state, and local laws and regulations.

Generally, all litter/manure that is stockpiled or retained on site prior to land application must be (1) located with adequate separation from adjacent property and water sources, (2) stored under roof or plastic cover to protect from rainfall, and (3) placed on clay or concrete to prevent seepage into the ground. All waste storage facilities should be located outside of floodplains. The minimum storage period shall be based on the timing required for environmentally safe waste utilization considering the climate, crops, soil, equipment and local, state, and federal regulations. Waste Storage Facilities should be located as close to the source of waste and pollution runoff as practical.

10. Watering Facility

A Water Facility is a device (tank, trough, or other watertight container) to provide watering for livestock and/or wildlife at selected locations in order to:

- ☐ Protect and enhance vegetative cover through proper distribution of grazing;
- ☐ Provide erosion control through better grassland management; OR
- ☐ Protect streams, ponds, and water supplies from contamination by providing alternative access to water.

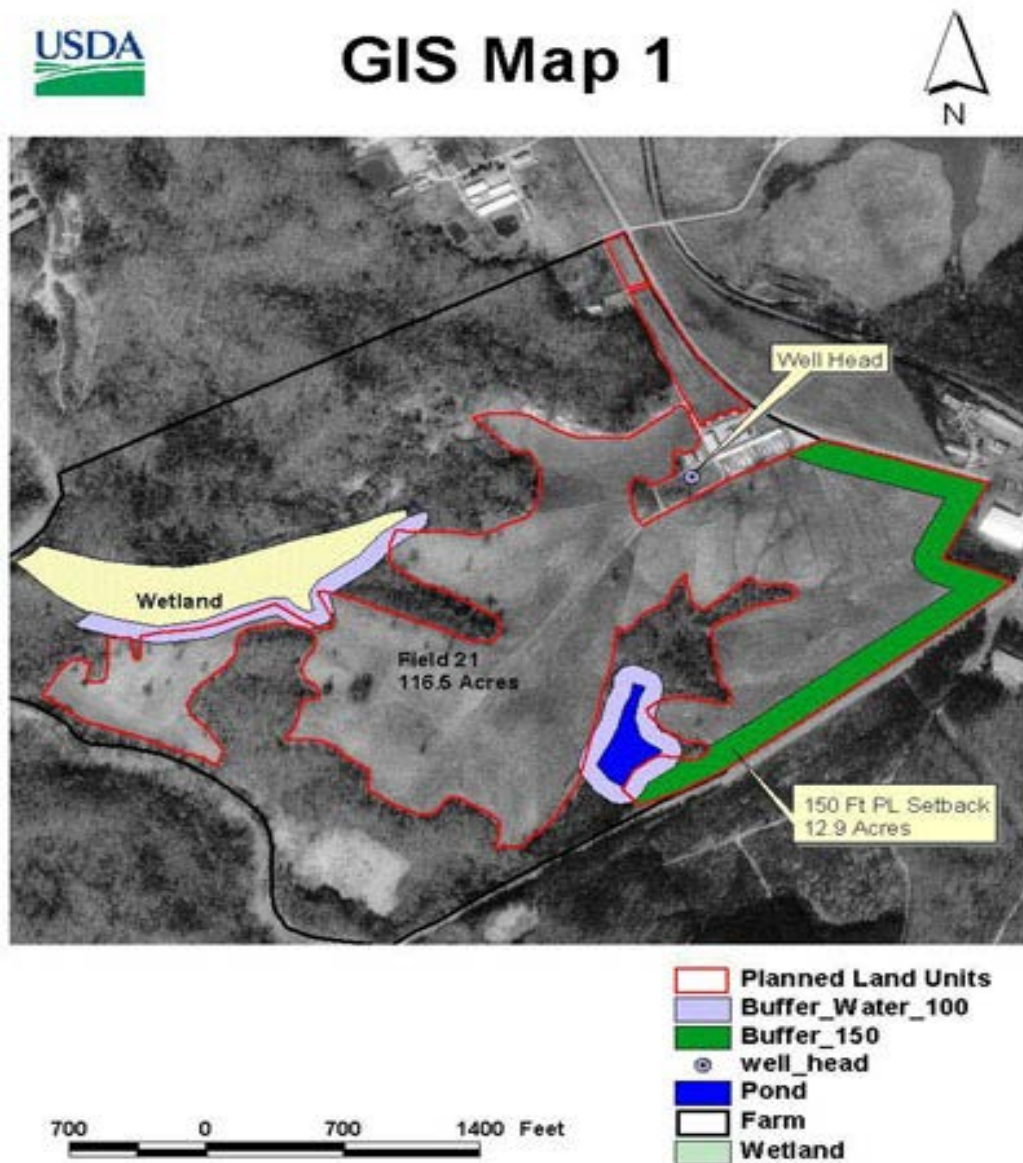
Providing water for agriculture use may incorporate several practices. These include the development of a water source or a combination of sources such as springs, wells, streams, ponds, public water, and/or catchments to accommodate needs and match available resources. The conveyance of the water through pipelines to storage tanks, cisterns, or watering troughs is another factor considered when developing a watering facility. Gravity fed systems are installed where possible but pumping stations may be necessary and are part of some projects to convey water to the location or locations that best serve the farming operation's management scheme. Pump systems may be powered by water, wind, photo voltaic cells (solar) or traditional electrical sources. Remember that wells are in direct contact with ground water and can easily cause contamination when animals mill around them, particularly old, shallow, or abandoned wells.

Section B – Basic Record-Keeping Forms to Supplement the Prescribed Best Management Practices

RECORD FORM #1: Map showing Fields, Building, Buffers and Spreadable Acres.¹

Farm Name/Owner's Name: _____

Instructions: Insert a map of your farm identifying pastures, planting fields and buildings and clearly showing buffer zones and spreadable acres. See an example below.



¹ Bass, B. M. and J. W. Gaskin, 2009.

RECORD FORM #2: Nutrient Land Application Log Sheet* (Year: 20__)¹

Farm Name/Owner's Name: _____

Instructions: Use this form to keep records of your land application activities. For each land application event for each field, provide the following information in the table below:

- ✚ Date: the date that you applied manure, litter, or other materials to the field.
- ✚ Field: Identify the field and number of spreadable acres where you applied manure, litter, or other materials. Use the same field identification numbers (or other means of identification) that are used in your nutrient management plan.
- ✚ Method: the method you used to apply the manure, litter, or other materials to the field.
- ✚ Weather Conditions: the weather conditions 24 hours before, during, and 24 hours after the land application event.
- ✚ Amount Applied: the total amount of manure, litter or other materials you applied to the field.
- ✚ Operator's Initials: the initials of the equipment operator.

Date	Field		Application Method	Weather Conditions			Amount Applied				Application Equipment Inspection Date and Results
	ID	Spreadable Acres		24 hours before	During	24 hours after	Manure (tons)	Litter (tons)	Other (tons/gallons)	Amount per Acre	
01-01-11	Home 21	3.5	Spreader and Incorporate	Dry	Dry	0.6 inch rain	3.5	NA	NA		01-01-11; okay

*Use additional sheets as necessary.

¹ Source – Mississippi Farm Bureau Federation, Record Keeping Forms for CAFO Facilities

RECORD FORM #3(b): Crop and Soil Nutrient Status Indicators Log Sheet* (Year: 20__)¹

Instructions: Use this form to document relevant information below that may provide insight as to the nitrogen status of the crop or soil.

Field ID or Management Area	Pre-Sidedress Soil Nitrate Test		Chlorophyll meter readings				Post-Season Stalk Tissue		Other Observations or Field Test	
	Date	Content (ppm)	Date	Growth Stage	Reading	Reading - % of Reference	Date	Nitrate Conc. (ppm)	Date	Observation
Pasture 21	6/10	15	7/15	V18	45	98	10/1	1500	8/15	Lower 3 leaves slightly yellow

* Use additional sheets as necessary.

¹ Source: Koelsch, R. and J. Benning, 2006

RECORD Form #4: Litter Analysis Recordkeeping Form (Year: 20__)¹

Farm Name/Owner's Name: _____

Instructions: Use this form to document date and location of annual manure, litter, and/or wastewater sample collection and analytical results.
(Insert lab reports behind recordkeeping form).

Date Sample Collected	Sample Location	Date Analysis Received	Analytical Results __N__P__K

¹ Source – Mississippi Farm Bureau Federation, Record Keeping Forms for CAFO Facilities

**RECORD FORM #5 (Page 1): Solid Manure Spreader Calibration and Maintenance for _____ equipment
(Year: 20__)¹ (Use Poultry Calibration Guide on following pages)**

Calibration Log *Date:* _____ *Calibration Completed by:* _____

Tractor Gear/RPM	Spreader Setting	Spreader Capacity is Unknown:	Spreader Capacity is Known:	Calculated Application Rate (ton/ac)
/		Area of plastic sheet: _____ ft ² Net Manure Weight on: Sheet 1: _____ lbs Sheet 2: _____ lbs Sheet 3: _____ lbs	Net Manure Weight on Spreader: _____ tons Width of Spread Pattern: _____ ft Travel Distance to Empty Spreader: _____ ft	
/		Area of plastic sheet: _____ ft ² Net Manure Weight on: Sheet 1: _____ lbs Sheet 2: _____ lbs Sheet 3: _____ lbs	Net Manure Weight on Spreader: _____ tons Width of Spread Pattern: _____ ft Travel Distance to Empty Spreader: _____ ft	
/		Area of plastic sheet: _____ ft ² Net Manure Weight on: Sheet 1: _____ lbs Sheet 2: _____ lbs Sheet 3: _____ lbs	Net Manure Weight on Spreader: _____ tons Width of Spread Pattern: _____ ft Travel Distance to Empty Spreader: _____ ft	

Inspection and Maintenance Log

Inspection Date	Inspected by (initials)	Item Inspected	Is the equipment functioning properly?		Maintenance		
			Yes	No	Date	Action	Initials

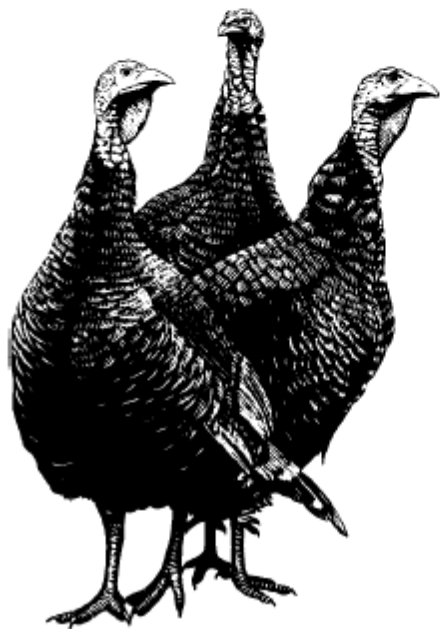
¹ Adapted from Koelsch, R. and J. Bennung, 2006

Poultry manure cannot be utilized effectively if you do not know how much you are applying in the field. Calibrating your spreader is a simple, effective way for you to improve the utilization of the nutrients in the manure. Only by knowing the application rate of your spreader can you correctly apply manure to correspond to crop needs.

Calibration of Solid Manure Spreaders

To calibrate a spreader for solid manure, you will need the following materials:

1. Bucket
2. Collection sheet, which can be a plastic sheet, tarp or old bedsheet (an even size, such as 8 ft. x 8 ft., 10 ft. x 10 ft., 10 ft. x 12 ft., etc., will make calculation easier)
3. Scale



Calibration of Manure Spreaders

Pounds of Manure Applied to Collection Sheet	Size of Collection Sheet		
	8' x 8'	10' x 10'	10' x 12'
	Tons of Manure Applied Per Acre		
1	0.34	0.22	0.18
2	0.68	0.44	0.36
3	1.02	0.65	0.54
4	1.36	0.87	0.73
5	1.70	1.09	0.91
6	2.04	1.31	1.09
7	2.38	1.52	1.27
8	2.72	1.74	1.45
9	3.06	1.96	1.63
10	3.40	2.18	1.83
11	3.74	2.40	2.00
12	4.08	2.61	2.18
13	4.42	2.83	2.36
14	4.76	3.05	2.54
15	5.10	3.27	2.72
16	5.45	3.48	2.90
17	5.79	3.70	3.09
18	6.13	3.92	3.27
19	6.47	4.14	3.45
20	6.81	4.36	3.63
21	7.15	4.57	3.81
22	7.49	4.79	3.99

If the size of your sheet is not listed, use the following equation to determine manure application per acre.

$$\frac{\text{Lbs. of manure collected on sheet} \times 21.78}{\text{Area of sheet, sq. ft.}} = \text{Tons/acre}$$

To calibrate your spreader:

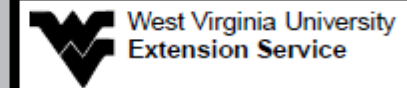
1. Locate a large and reasonably smooth, flat area where manure can be applied.
2. Spread the collection sheet smoothly and evenly on the surface of the test field.
3. Start driving the spreader at the normal application speed toward the collection sheet spread on the ground; allow the manure to begin leaving the spreader at an even, normal rate.
4. Drive over the collection sheet at the normal application speed while continuing to apply manure.
5. Collect all manure spread on the collection sheet and pour it into the bucket.
6. Weigh bucket with manure, then subtract empty-bucket weight. This will give you the pounds of manure applied to the collection sheet.
7. Repeat the procedure three times to get a reliable average.
8. Determine average weight of the three manure applications.
9. Refer to the table for the size of the collection sheet and pounds of manure applied to the collection sheet. Then read "Tons of Manure Applied Per Acre."

This procedure is particularly suitable for dry waste such as broiler and broiler breeder litter. Wet litter or manure is more difficult, but the basic procedure can still be used. A plastic sheet works well to catch wet manure. The main difference in the procedure is that you will place the plastic sheet and the wet manure in the bucket together, then subtract the dry weight of both bucket and plastic sheet as in Step 6. The remaining steps are the same.

This publication was adapted from "Calibration of Manure Spreaders" by Elridge R. Collins, Virginia Polytechnic Institute & State University; and "Calibrating Spreaders for the Application of Poultry Manure" by Charles Goan, University of Tennessee.

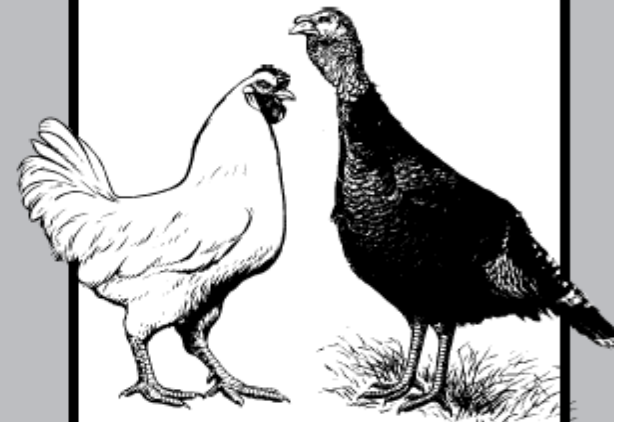
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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Rachel B. Tompkins, Director, Cooperative Extension Service, West Virginia University.



**SPREADER
CALIBRATION
FOR THE
APPLICATION
OF
POULTRY MANURE**

**Casey W. Ritz, Ph.D.
Poultry Program Coordinator**



RECORD FORM # 6: Manure or Litter Transfer Record Form* (Year: 20__)¹

Farm Name/Owner's Name: _____

Instructions: Use this form to keep track of all manure, litter, or other materials generated at your farm that you transfer to other persons (i.e. for use or disposal not under the control of your farm). Have the recipient sign the form indicating they have received the nutrient analysis and environmental statement**.

Date of Transfer	Name & Address of Recipient	Person Making Entry	Amount Transferred		Manure Analysis			Total Nutrient Transfer		Signature of Recipient
			Manure (tons)/ Litter (tons)/ Other (tons/gallons)		N	P ₂ O ₅		N (lbs)	P ₂ O ₅ (lbs)	
04-01-11	Jane Doe Farm, Route 7, Bluefield, WV.	Jane Doe	2,000	<input checked="" type="checkbox"/> Tons <input type="checkbox"/> Gals. <input type="checkbox"/> Ac-In	16	19	<input checked="" type="checkbox"/> Lbs./ton <input type="checkbox"/> Lbs./1000 gal <input type="checkbox"/> Lbs./ac-in	32,000	38,000	
				<input type="checkbox"/> Tons <input type="checkbox"/> Gals. <input type="checkbox"/> Ac-In			<input type="checkbox"/> Lbs./ton <input type="checkbox"/> Lbs./1000 gal <input type="checkbox"/> Lbs./ac-in			
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* Use additional sheets as necessary.

** All transfer of manure to a third party must include providing this third party representative with an information sheet that included the most recent manure analysis for the manure being transferred and a statement that manure/litter must not enter waters of the state.

¹ Adapted from Mississippi Farm Bureau Federation, Record Keeping Forms for CAFO Facilities

RECORD FORM #7: Animal Inventory and Mortality Log Sheet* (Year: 20__)¹

Farm Name/Owner's Name: _____

Mortality Disposal Method A: _____ Mortality Disposal Method B: _____

Date	Animal Facility:				Animal Facility:				Animal Facility:				Initials
	Total Number of Animals	Number Entering Herd (Flock) ^ϕ	Number Exiting Herd (Flock) ^ϕ	Number Mortalities/Method ^ϕ	Total Number of Animals	Number Entering Herd (Flock) ^ϕ	Number Exiting Herd (Flock) ^ϕ	Number Mortalities/Method*	Total Number of Animals	Number Entering Herd (Flock) ^ϕ	Number Exiting Herd (Flock) ^ϕ	Number Mortalities/Method ^ϕ	
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* Use additional sheets as necessary.

ϕ Since last report.

¹ Source: Koelsch, R. and J. Benning, 2006

RECORD FORM #8: Animal Confinement Log Sheet* (Year: 20__)¹

Farm Name/Owner's Name: _____

Instructions: Report the maximum number of each type of animal confined at each farm location at any one time.

Reporting Period (mm/dd/yyyy- mm/dd/yyyy)	No. of Days in Period	Type of Animal	Open Confinement			Housed Under Roof		Initials of Recorder
			Field ID	No. of Head	Vegetation Present at End of Period (Y/N)	Barn ID	No. of Head	

* Use additional sheets as necessary.

¹ Adapted from Koelsch, R. and J. Bennung, 2006

RECORD FORM #9: Manure, Litter, and/or Process Wastewater Storage Area Recordkeeping Form¹ (Year: 20__)**Farm Name/Owner's Name:** _____**Instructions:** Use this form to document weekly inspection of manure, litter, and/or process wastewater storage or containment structure.

Inspection Date	Deficiencies Noted	Corrective Actions Taken and Date ²

¹ Source – Mississippi Farm Bureau Federation, Record Keeping Forms for CAFO Facilities

² Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction.

RECORD FORM #10: Annual Crops Planted Recordkeeping Form (Year: 20__)

Farm Name/Owner's Name: _____

Instructions: Use this form to document planting of annual crops including, corn grain, silage crops, small grain and reseeded hay.

<i>ANNUAL CROPS PLANTED</i>							
Field # Tract #	Date Planted	Crop Grown	Variety	Seed per Acre	Plant pop. Per acre	Row Width	Seed Spacing



References

Bass, B. M. and J. W. Gaskin, 2009. Maps for Nutrient Management Planning. University of Georgia Cooperative Extension Service.

Accessed February 01, 2011.

<http://www.docstoc.com/docs/44090653/Maps-for-Nutrient-Management-Planning>

Daniels, M.B., K. VanDevender and T. Riley. 2004. Nutrient Management Planning for Livestock Operations: An Overview. University of Arkansas Cooperative Extension Service Publication FSA9519.

Daniels, M.B., K. VanDevender and T. Daniel. 2005. Nutrients and Water Quality Concerns. University of Arkansas Cooperative Extension Service Publication FSA9517.

Koelsch, R. and J. Bennung, 2006. Nutrient Management Plan: Records Checklist and Samples for Animal Feeding Operations. The Heartland Regional Water Coordination Initiative, RP 188.

Mississippi Farm Bureau Federation, Record Keeping Forms for CAFO Facilities. Accessed February 1, 2011.

<http://www.msfb.com/programs/record%20keeping%20forms.aspx>

Tyson, T. W. and J. Tredaway Ducar, 2007. Best Management Practices for Broiler Operations. Alabama Cooperative Extension System Publication ANR-1188.

VanDevender, K., and G. Huitink. 2003. Calibrating Poultry Litter Spreader Trucks. University of Arkansas Cooperative Extension Service Publication FSA1040.

VanDevender, K., P. Tacker and J. Langston. 2002. Calibrating Liquid Manure Tank Spreaders. University of Arkansas Cooperative Extension Service Publication FSA1021.

West Virginia Conservation Agency Natural Resources Conservation Agency (NRCS). 2009. West Virginia Best Management Practices of Conservation Practice Standards, 2nd edition. Accessed February 01, 2011.

http://www.wvca.us/news/upload/wvwrc_publications/2299.Ag%20BMP%20Manual%20Revised.pdf.

USDA-NRCS. 2008. National Conservation Practice Standards. <http://www.nrcs.usda.gov/technical/standards/nhcp.html>.

USDA-NRCS. 2008. Conservation Programs Manual. NRCS. Webpage: <http://www.ar.nrcs.usda.gov/programs/eqip/eqip.html>.