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Animal Waste Management

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Animal Waste Management

The goal of animal waste management is to make best use of the nutrients in manure while protecting natural resources.

When managed properly, manure can be a valuable resource on a farm. It can be a source of nutrients for crop production and can improve soil quality. However, if there is insufficient land to use the amount of manure that is produced or if manure is mismanaged, then risks to water supplies and the environment could result.

New Jersey Requirements

The State of New Jersey requires that all livestock farms proactively address and manage non-point source pollution that may originate from livestock operations. All livestock producers must meet the requirements of the Animal Waste Management Rule. See [Agricultural Management Practices](#) to learn more.

As a result of this rule many New Jersey livestock farmers are required to develop Animal Waste Management Plans (AWMPs). For assistance in completing an AWMP please contact your [local County Extension office](#).

Educational Meetings

Rutgers Cooperative Extension will provide educational support for those needing to complete AWMPs. Educational meetings around the state about Animal Waste Management Plans (AWMPs) will be scheduled as needed. Please contact [local County Extension office](#) for assistance.

<https://njaes.rutgers.edu/animal-waste-management/>



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Startup Resources

[Before You Start \(88k PDF\)](#)

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[Farm Map Templates \(1196k PDF\)](#)

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[Operator Declaration \(43k PDF\)](#)

[Manure Sampling and Analysis](#)

[Soil Sampling Instructions - Field, Commercial Vegetable and Fruit, or Nursery Crops \(32k PDF\)](#)

NJ Animal Waste Management Rules

- The New Jersey Department of Agriculture (NJDA) was authorized by the Legislature to develop Criteria and Standards for Animal Waste Management (NJAC 2:91). The NJDA has developed rules to proactively address non-point source pollution that may originate from livestock operations.
- All agricultural animal operations must follow the General Requirements of the rules within 12 months of establishment

General Requirements of the Rules

1. Agricultural animal operations shall not allow animals in confined areas to have uncontrolled access to waters of the state
2. Manure storage areas shall be located at least 100 linear feet from waters of the state
3. Land application of animal waste shall be performed in accordance with the principles of the NJDA Best Management Practices (BMP) Manual
4. Dead animals and related animal waste resulting from a reportable contagious disease or an act of bio-terrorism shall not be disposed of without first contacting the State Veterinarian
5. Any person entering a farm to conduct official business related to these rules shall follow bio-security protocol

Who Must Complete an Animal Waste Management Plan?

- **All Farms must follow the Animal Waste Management Rules**
- AWMP not required for:
 - 1-7 Animal Units (AU*) – *A self-certified AWMP is encouraged but not required*
 - Receiving Manure < 142 tons of manure per year – *A self-certified AWMP is encouraged but not required*
- Self-certified AWMP required for:
 - 8-299 AUs w/densities < 1AU/acre
 - Receiving Manure > 142 tons of manure per year
- AWMP must be reviewed by a conservation professional for:
 - 8-299 AUs w/densities > 1AU/acre
- Comprehensive Nutrient Management Plan (CNMP) must be certified by NJDA for:
 - 300+ AUs, regardless of density
- * 1 AU = 1,000 pounds of live animal weight

Table 1. Animal units for specific livestock categories

Livestock	Life Stage	Weight (pounds)	Animal Units
Horses	All Breeds: 6 months or older	1,000	1
	All Breeds: Under 6 months	500	½
Dairy	1 year or older	1,000	1
	Under 1 year	500	½
Beef	1 year or older	1,000	1
	Under 1 year	500	½
Steers	1 year or older	1,000	1
	Under 1 year	500	½
Bulls	1 year or older	2,000	2
	Under 1 year	750	¾
Sheep/Goats	1 year or older	100	1/10
	Lambs over 3 months	50	1/20
Swine	Over 1 year	500	½
	3 months to 1 year	250	¼

How Many Animals in an Animal Unit?

Table 2. Poultry Bird Units for Use With Home Animal Agriculture

	Maximum Number of Birds	
	Average Weight (pounds)	Number of birds per animal unit
Chickens (mature)	8	125
Broilers and Fryers	5	200
Ducks	15	67
Turkeys	25	40
Geese	20	50
Pigeons or Squabs	3	333

Frequently Asked Questions

Do the rules require any permits?

No. However, farms with 300 or more AUs are required to be certified by the NJDA. The NJDA will issue a certification once the required CNMP is approved by the district and submitted to the NJDA.

Do the rules require any fees?

No. There are no fees involved with these rules.

Are there any penalties for rule violations?

Yes, there are penalty provisions in the rules. When non-compliance is found, the NJDA may allow the owner/operator up to 60 days to take corrective action. The NJDA will consider the seriousness of the violation, the conduct of the operator and the type of plan required when determining penalties.

Animal Waste Management Plan AWMP

An animal waste management plan consists of information about manure production, storage, and use.

Manure can be disposed off site.

All manure remaining on the farm should be spread according to a plan that distributes nutrients in manure on land according to the uptake rate of the various crops or grasses on the farm.



The goal of animal waste management is to make best use of the nutrients in manure while protecting natural resources.

When managed properly, manure can be a valuable resource on a farm. It can be a source of nutrients for crop production and can improve soil quality. However, if there is insufficient land to use the amount of manure that is produced or if manure is mismanaged, then risks to water supplies and the environment could result.



Animal Unit Equivalents and Manure Production

All Values Calculated from Midwest Plan Service - MWPS-18, 2000 (by the American Society of Agricultural Engineers)

Note: Animals not identified in the list shall be calculated based on species, production goals, breed or accepted species weights as determined by RCE.

Animal	Weight Pounds	Number of Animals / 1000 Pounds	Number of Animals to Equal			Manure	Pounds/Year	Pounds/Year/Unit	Manure Tons/Year		
			8 AU	10 AU	12 AU				8 AU	10 AU	12 AU
<u>Dairy</u>											
Dairy	150	6.7	53.3	66.7	80.0						
	250	4.0	32.0	40.0	48.0						
Heifer	750	1.3	10.7	13.3	16.0	Solid	13000	17333.3	69.3	86.7	104.0
Lactating	1000	1.0	8.0	10.0	12.0	Solid	19992	19992.0	80.0	100.0	120.0
	1400	0.7	5.7	7.1	8.6	Solid	28000	20000.0	80.0	100.0	120.0
	1000	1.0	8.0	10.0	12.0	Liquid	38856	38856.0	155.4	194.3	233.1
	1400	0.7	5.7	7.1	8.6	Liquid	54000	38571.4	154.3	192.9	231.4
Dry Cow	1000	1.0	8.0	10.0	12.0						
	1400	0.7	5.7	7.1	8.6						
Veal	250	4.0	32.0	40.0	48.0	Solid	2200	8800.0	35.2	44.0	52.8
Veal	250	4.0	32.0	40.0	48.0	Liquid	3500	14000.0	56.0	70.0	84.0
<u>Beef</u>											
Calf	500	2.0	16.0	20.0	24	Solid	7000	14000.0	56.0	70.0	84.0
Finishing	750	1.3	10.7	13.3	16	Solid	11800	15733.3	62.9	78.7	94.4
Cow	1000	1.0	8.0	10.0	12	Solid	13400	13400.0	53.6	67.0	80.4
<u>Swine</u>											
Nursery	25	40.0	320.0	400.0	480.0	Solid	480	19200.0	76.8	96.0	115.2
Grow/Finish	150	6.7	53.3	66.7	80.0	Solid	2100	14000.0	56.0	70.0	84.0
Gestation	275	3.6	29.1	36.4	43.6	Solid	2000	7272.7	29.1	36.4	43.6
Lactating	375	2.7	21.3	26.7	32.0	Solid	4540	12106.7	48.4	60.5	72.6
Boar	350	2.9	22.9	28.6	34.3						
<u>Sheep</u>											
	100	10.0	80.0	100.0	120	Solid	1460	14600.0	58.4	73.0	87.6
	200	5.0	40.0	50.0	60	Solid					
<u>Poultry</u>											
Layer	4	250.0	2000.0	2500.0	3000	Solid	39	9750.0	39.0	48.8	58.5
Broiler	2	500.0	4000.0	5000.0	6000	Solid	18	9000.0	36.0	45.0	54.0
Turkey	20	50.0	400.0	500.0	600	Solid	46	2300.0	9.2	11.5	13.8
Duck	6	166.7	1333.3	1666.7	2000	Solid	60	10000.0	40.0	50.0	60.0
<u>Horse</u>											
	1000	1.0	8.0	10.0	12.0	Solid	18250	18250.0	73.0	91.3	109.5

Manure Handling and Management

- Each farm should have a plan for managing manure including collection, storage, spreading, and disposal. To reduce the amount of manure runoff, cover stockpiled manure and bedding, especially during high rainfall periods. Direct all 'clean' roof runoff and land runoff away from animal barnyards or pastures.
- Collect and store untreated runoff and seepage from manure storage areas
- Store manure and bedding waste before it is spread on fields
- Apply and incorporate manure; spreading rates to be determined by soil testing results
- Manure should not be spread on fields when soil is frozen; soil should be firm enough to prevent tractors and spreaders from packing the soil, and dry enough to avoid manure runoff
- Allow manure to be applied to pastures or crops to meet the plants' fertilizer needs; to prevent seepage into underground water supplies, avoid applying too much manure
- Manure can be disposed off site where it will be beneficially utilized



Where to Store Manure

Store manure in a dry, level, impermeable location, free from storm-water runoff, and out of the food plain. Manure can be composted for better use as a soil amendment.

- Structure with a cover or roof
- Tarp may provide cover with less cost and more labor
- Stack or stockpile in a well-drained area for later hauling
- Drainage from storage should be channeled into a vegetative buffer
- Regulations may require runoff controls



Stormwater Management

- Rainfall can generate significant runoff around your facility that can run off into water bodies and/or produce mud. By implementing some simple stormwater management practices, you can reduce the potential for non-point source pollution and negative water quality impacts. A significant amount of runoff can be diverted away from barnyards, manure storage areas and stall areas reducing the potential for animal waste to be washed away. Several ways to manage stormwater runoff are:
- Install gutters, down spouts and splash blocks on all animal barns and shelters
- Divert all 'clean' water away from 'manure areas'
- Maintain roof gutters/downspouts to flow away from buildings
- Add drains, underground outlets and berms where needed
- Install diversions that direct stormwater containing manure into vegetative buffer areas
- Separate manure storage areas from 'clean water' areas with grass buffer strips





Preparing a Digital Report

You can prepare your report right from your computer. Just download the file below, unzip it, and double-click on the RutgersAWMPReportCreator.exe file.

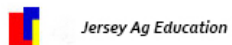
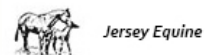
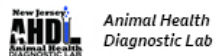
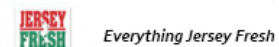
[RutgersAWMPReportCreator.zip \(95MB\)](#)

Preparing a Paper Copy Report

The book [On-Farm Strategies to Protect Water Quality](#) will describe how to prepare an Animal Waste Management Plan (AWMP). It will also include an example of a template for you to follow in preparing your plan.



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Animal Waste Management

The New Jersey Department of Agriculture maintains Animal Waste Management regulations. All Livestock Farms, which includes equine operations, are required to follow the 5 General Requirements:

1. Animals in confinement areas shall only have controlled access to waters of the state;
2. Manure storage areas must be 100-feet from waters of the State, and on slopes less than 5 percent;
3. Land application of manure must follow Best Management Practices;
4. Livestock contagious disease must be reported to the State Vet; and
5. State Officials must follow bio-security protocols.

Furthermore, farms with 8 or more Animal Units (1 Animal Unit equals 1,000 pounds), or which import 142 Tons of manure are required to develop and implement an Animal Waste Management Plan (AWMP). For more information please see the links and FAQs below. For assistance please contact NJDA Division of Agricultural and Natural Resources (Phone: 609-913-6492), or your local Rutgers Cooperative Extension Office.

- [Animal Waste Management/Non-Point Source Pollution Control Grants](#)
- [NJDA Animal Waste Management Rules](#)
- [Frequently Asked Questions](#)
- [Bulletins](#)

- **Animal Waste Management/Non-Point Source Pollution Control Grants**

Grant funding is not available at this time.

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- **NJDA Animal Waste Management Rules**

[Animal Waste Management Rule](#)

[BMP Manual](#)
(Includes AWMP instructions on pages 16-22 and the AWMP template on pages 73-107)

[BMP Manual Appendix](#)

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- ▶ CREP Program
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More Information

[Rutgers Animal Waste Management Website](#)
[Manure Management Resources - Northeast Recycling Council](#)

On-Farm Strategies to Protect Water Quality

An Assessment and Planning Tool for Best Management Practices on New Jersey Farms



Prepared by the New Jersey Association of Conservation Districts in Cooperation With:

- State Soil Conservation Committee, New Jersey Department of Agriculture
- Natural Resources Conservation Service, U.S. Department of Agriculture

Preparing Your Animal Waste Management Plan

Before You Start

There are a number of things that you should do before you start completing your plan.

1. Conduct soil tests for any fields on your farm where you plan to spread manure (not actually required by the rule)
2. Sample the nutrient content of the manure in your manure storage or estimate the nutrient content based on published values.
3. Determine the slope of your fields.
4. Prepare a farm map.
5. Determine how many animals you have and how much they weigh.
6. Estimate the amount and type of bedding you use.
7. Find phone and address of your local Public Health officials.

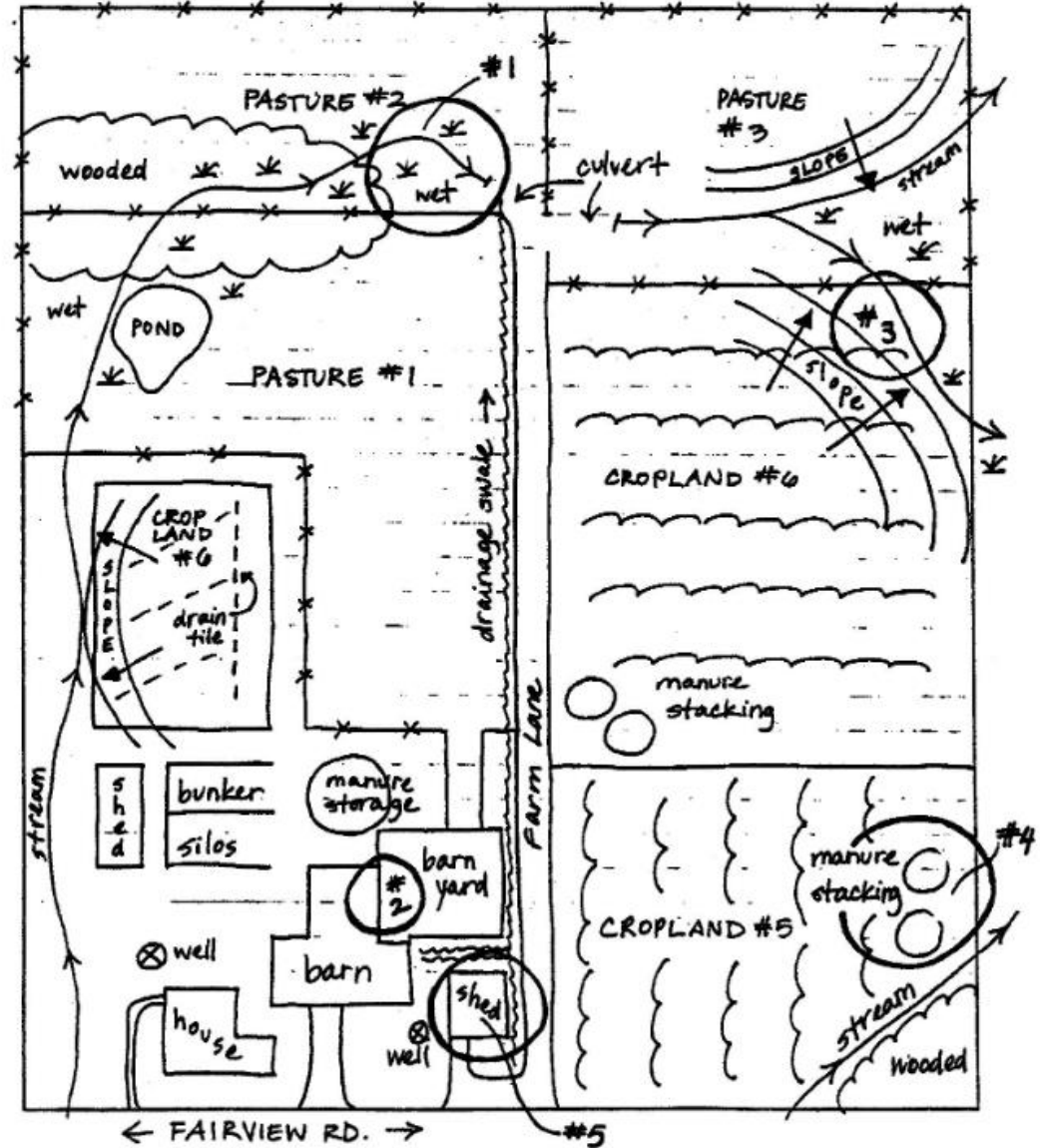


Sample Farm Map

- Buildings
- Fences
- Pastures
- Manure Storage
- Slopes
- Cropland
- Water Sources
- Roads
- Wooded Areas
- Wetlands
- Sensitive Areas

Worksheet A1: Sample Farm Map

NOTE: Numbered circles are examples of known or potential problems or sensitive areas. The numbered areas correspond to examples on Worksheet A3 and Worksheets D1-D5. Not every known or potential problem and sensitive area on this Sample Farm Map has been circled!



Questions to Answer

- Manure Storage

- What is the distance of your manure storage to the nearest open water or wetlands? (<100 Feet)
Distance of manure storage from property line: (<50 Feet)
Distance of manure storage to nearest resident: (<200 Feet)

- Barnyard Waste:

- If storm water is contaminated by barnyard manure, silage, wastewater or feed waste, does it have access to nearby waters?

- Stream Access

- Do your animals have access to streams, lakes or other open waters on your farm?
Are streams, lakes, and other open waters essential on your farm for livestock water consumption?

- Field Evaluation

Do you spread manure on frozen ground during winter months on this field?

WORKSHEET B: FARM ASSESSMENT QUESTIONNAIRE

Category 4 : Barnyard, Manure & Waste Management			
a. Is manure stored in or within 100 feet of any sensitive area?			
b. Is manure spread in any sensitive area?			
c. Is the slope of the storage area greater than 3%? (Note: See "Determining Slope" document in Appendix)			
d. Is manure stored on a pad or other impermeable base?			
e. Are animal wastes composted?			
f. Is barnyard runoff controlled?			
g. Is manure stored and routinely inspected to prevent "leaking"?			
h. Are records kept on the land application of waste and on waste leaving the farm?			
i. Does milkhouse waste or silage leachate directly enter sensitive areas?			
j. Are hazardous materials such as fuels stored in leak proof containers?			
k. Are hazardous wastes being disposed of properly?			
l. Is your septic system functioning properly?			
m. Is your well in good condition and water tested?			

Nutrient Management Summary for the Application of Solid Manure

Operator: _____ Tract: _____ Assisted by: _____ Date: _____

County: _____ Township: _____ Crop Rotation: _____

Type of Manure: _____
 Total Manure Production: _____ pounds/tons
 _____ gallons
 _____ cubic feet
 Amount Disposed Off-Farm _____ %/pounds/tons
 Disposed of On-Farm _____ %/pounds/tons

Manure test level, lbs./ton:

Availability factors:

Pounds of nutrients available in the first year per ton of manure:

Total N	P2O5	K2O
*	90%	95%

* For Nitrogen, see attachment

Manure Tests: Book Value
 Laboratory

Soil Testing Lab: _____

Units: _____ pounds/ppm/percent

Field	Acres	Soil Test Results				Risk Index	Crop	Yield Potential	Rutgers Recommends			Prior N Credit	Fertilizer Nutrients Applied			1.0 * P2O5 Spreading Rate tons/acre	1.5 * P2O5 Spreading Rate tons/acre	Actual Spreading Rate tons/acre	Total Manure Nutrients Applied			Total Tons per Field
		Date	pH	P	K				N	P2O5	K2O		N	P2O5	K2O				N	P2O5	K2O	
Total																						TOTAL TONS:

Submitting Your Report

- Your report is confidential.
- A Declarations page should be submitted to [your Cooperative Extension office](#).
- Your local office does not evaluate or review your plan, but will record that you have completed it.
- File it for safe keeping.
- If you have more than 1 AU/acre you will have to have your plan reviewed by a conservation professional. Please [contact your local Soil Conservation District](#) for assistance.



Plan Number: _____

Date Filed with RCE: _____

Date Filed with NJDA: _____

SELF-CERTIFIED ANIMAL WASTE MANAGEMENT PLAN

Operator Declaration

Farm Name: _____

Farm Address: _____

County: _____ Township: _____

Block: _____ Lot(s): _____

Phone Number: _____

Type Of Livestock (circle appropriate type)

Equine	Swine	Poultry	Other: _____
Cattle	Sheep	Goat	Manure Only (receiving \geq 142 Tons a year)

Type Of Operation: (Describe Farming Operations) _____

Approximate # of Animal Units on Farm: (Annual Average) _____

Acres Used for Farm Operations: _____

Owner/Operator Name: (Name of Individual) _____

Owner/Operator Address: _____

Premises ID Number: (If Applicable) _____

Certification: I hereby certify that I am the operator of the above identified farm, (as defined in N.J.A.C. 2:91). I further certify that I have developed and implemented a Self-Certified Animal Waste Management Plan for this farm in accordance with the requirements of N.J.A.C. 2:91.

I further certify that the foregoing statements made by me are true and the information provided in this document is true, accurate and complete. I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment, including but not limited to the penalties contained in N.J.A.C. 2:91- 4.1.

Signature: _____ Date: _____

File this AWMP declaration page with your County Rutgers Cooperative Extension Office. Contact information can be found at <https://njaes.rutgers.edu/county/>.

For additional assistance, contact the New Jersey Department of Agriculture at 609-292-5540.

Remember...

- **All Farms must follow the Animal Waste Management Rules**
- AWMP not required for:
 - 1-7 Animal Units (AU*) – *A self-certified AWMP is encouraged but not required*
 - Receiving Manure < 142 tons of manure year – *A self-certified AWMP is encouraged but not required*
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- Comprehensive Nutrient Management Plan (CNMP) must be certified by NJDA for:
 - 300+ AUs, regardless of density
- * 1 AU = 1,000 pounds of live animal weight



Thank you!

For information about the criteria and standards for animal waste management, [visit the New Jersey Department of Agriculture Division of Agricultural and Natural Resources](#).

For information about developing animal waste management plans, [contact your local Rutgers Cooperative Extension office](#).

You may also [visit your local Soil Conservation District office](#).



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