



# A Review of Georgia's Animal Feeding Operation Regulations

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## Introduction

The past several years have seen many changes in the way animal feeding operations are regulated in Georgia. These changes are largely driven by an increasing focus on agriculture as a source of non-point source pollution. Since the U.S. Clean Water Act was passed in early 1970, tremendous resources have been put into cleaning up point source pollution from municipalities and industries through the National Pollutant Discharge Elimination System (NPDES). Large confined animal feeding operations (CAFOs) are regulated under the NPDES program. Because the program has been successful in reducing much of the nation's point source pollution, attention has now turned to non-point sources such as urban stormwater runoff, construction related erosion and agricultural runoff.

As part of the focus on agricultural sources of pollution, the United States Environmental Protection Agency (EPA) and the United States Department of Agriculture (USDA) have developed a *Unified National Strategy for Animal Feeding Operations*. An Animal Feeding Operation (AFO) is defined as an operation that confines animals for feeding for 45 days or more during a year in an area that does not support vegetation. At this time pastures are not considered part of an AFO. The unified strategy focuses on using Comprehensive Nutrient Management Plans (CNMPs) to reduce the risk of excess nitrogen and phosphorus entering our surface and ground waters.

The national focus on animal feeding operations (AFOs) increased pressure for Georgia to develop regulations for these operations. In Georgia, the NPDES program is administered by the Georgia Department of Natural Resources, Environmental Protection Division (EPD); by law, the state regulations must be at least as stringent as the federal regulations.



In 1999, the Georgia Department of Natural Resources proposed new regulations for the swine industry. These rules were finalized in April of 2000. In December of 2000, new rules and regulations were proposed for non-swine animal feeding operations. These regulations were approved in January of 2001 and only applied to operations with liquid manure handling systems. In fall, 2003, dry litter poultry operations were added to the rule. Both the swine and non-swine regulations are amendments to Georgia's Rules for Water Quality Control, Chapter 391-3-6.

The approach to regulating AFOs is designed to target the largest operations on the assumption that larger operations pose a greater pollution "risk." Consequently, operations are regulated according to the number of "animal units." An animal unit (A.U.) is the method that EPA originally used to standardize the regulations across animal species. Different regulations apply for AFOs with 300 A.U. or fewer, 301-1,000 A.U., 1,001-3,000 A.U. and more than 3,000 A.U. Table 1 gives the number of animals of different species in these categories.

**Table 1. Animal unit equivalents for different species.**

Animal Type	300 A.U.	1000 A.U.	3000 A.U.
Beef cattle	300	1,000	3,000
Dairy cattle (milked or dry)	200	700	2,100
Heifers	300	1,000	3,000
Swine (> 55 lbs)	750	2,500	7,500
Swine (< 55 lbs)	N/A	10,000	30,000
Poultry (dry)	37,500	125,000	375,000
Laying Hens (non-liquid)	25,000	82,000	246,000
Laying Hens (liquid)	9,000	30,000	90,000
Horses	150	500	1,500

For other species or unique production, consult the full regulation.

Although small operations (<300 A.U.) are not subject to these state regulations, they are subject to the Clean Water Act. They are not allowed to have discharge to surface waters and should use nutrient management planning. Remember, there is evidence of pollution, even a small operation can be designated by EPD for permitting, and would be subject to the Georgia animal waste regulations.

Several items are common to the swine and non-swine regulations. Both regulations focus on the operations developing and following a CNMP and having a Certified Operator. Smaller operations (301 to 1,000 A.U.) with liquid manure handling systems must apply for a state Land Application System Permit (LAS), and all larger operations (1,000+ A.U., liquid and dry) must obtain the more detailed NPDES permit. Both these permits must be obtained from EPD. Some significant dry litter poultry exceptions are discussed on page 3. A brief summary of the regulations follows. A complete copy is on the AWARE website: <http://www.agp2.org>, then click on "Animal Waste Management."

## Swine Feeding Operation Permit Requirements

Some of the important regulations that an existing swine producer needs to be aware of are listed below. The deadlines for these requirements have all passed.

Operations with 750 to 2,500 head that are more than 55 lbs:

- submit registration form
- submit and implement CNMP
- train and certify at least one operator

Registration forms and NPDES permit forms are available from EPD. The NPDES forms are also available online from USEPA - <http://cfpub.epa.gov/npdes/>.

Requirements for existing swine operations with more than 2,500 head that are 55 lbs or more include all of the requirements above and an individual or general NPDES permit. This permit was required by October 31, 2000. If you are in this category and did not apply for the NPDES permit, you should do so immediately. These operations will have to develop a groundwater monitoring plan for lagoons. EPD will decide whether to issue the individual or general permit.

Requirements for new operations are more stringent than existing operations. The swine regulations are summarized in Tables 2a and 2b on pages 5 and 6.

## Non-Swine Feeding Operations Liquid Manure Systems

The non-swine regulations are similar to the swine regulations. The deadlines for these requirements have all passed. Important requirements for existing operations are listed below:

### Operations with 301-1,000 A.U.:

- apply for LAS permit
- submit and implement CNMP
- train and certify an operator

### Operations greater than 1,000 A.U. must meet the requirements above and:

- apply for NPDES permit that includes a public notification.



- install at least one down-gradient well for each lagoon.
- monitor effluent and wells semi-annually.
- submit documentation of lagoon closure when it occurs.

**Again, requirements for new operations are more stringent.** In addition to the above requirements new operations:

- must have waste handling and storage facilities that meet Natural Resources Conservation Service (NRCS) design criteria.
- cannot locate lagoon or building in the 100-year flood plain.
- must maintain 2 feet of freeboard in the lagoon.
- must maintain buffers in the land application area.
- must meet all requirements and be approved *before* expansion or start up.

## Non-Swine Feeding Operations Dry Poultry Differences

There are some major differences in the way the non-swine regulations apply to poultry operations with dry manure or litter based systems. Due to the large number of farms, the industry has implemented its own regulations on small farms. Requirements for small farms vary from integrator to integrator.

### Operations with less than 1,000 A.U.

- complete a nutrient management plan with the help of a trained planner and file onsite.
- attend a voluntary educational program on nutrient management.
- deadlines and other requirements vary by poultry integrator.

**CAFOs, farms greater than 1,000 A.U., follow these EPD regulations:**

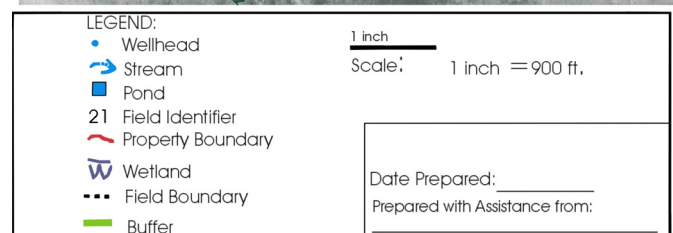
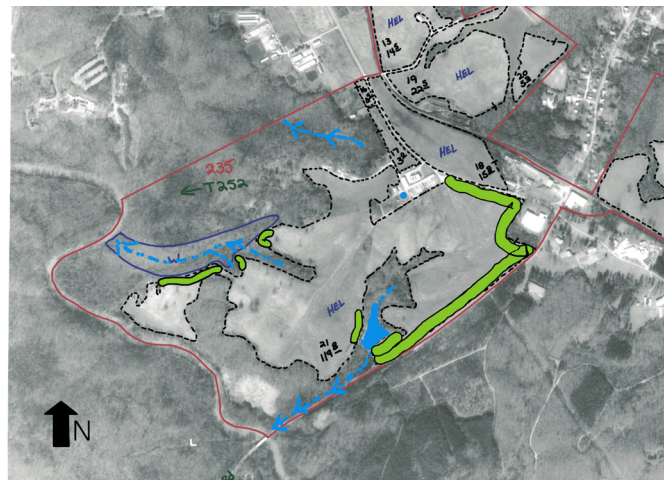
- apply for NPDES permit that includes a public notification by October 31, 2005.
- complete a nutrient management plan (NMP) with the help of a trained planner and file onsite.
- attend a voluntary educational program on nutrient management.
- implement NMP by October 31, 2006
- maintain 100ft setback or 35ft vegetated buffer between all land application areas and waters of the state

The non-swine regulations are summarized in Table 3 on page 7.

## Comprehensive Nutrient Management Plans

CNMPs are the keystone of these regulations. It is a strategy to make wise use of the nutrients on the farm while protecting water quality. It should be noted that the term CNMP has its origins with a specific product produced by NRCS. In Georgia, a permit NMP that contains the following information is required:

- a scaled map of the farm showing information such as property lines, field boundaries, surface water, well locations, and buffers; with the exception that maps for dry litter systems only require site location and field acreage designation. (See the Georgia Extension publication *Maps for CNMPs* for details.)
- nutrients produced from either site-specific data or book values.
- nitrogen available for land application on an annual basis.
- nutrient balance (the amount of nutrients generated on the farm versus the amount of nutrients that can be used by crops on the farm).
- details about the land application system such as the system type, frequency of irrigation, crops, and Best Management Practices used.
- phosphorus risk analysis (P-index) for fields in land application system.
- a mortality management plan for typical annual mortalities and catastrophic mortalities.



- a list of the records kept on the farm.
- an emergency response plan.
- a closure plan.

NMPs must be developed by Certified Planners, with the exception of those for dry litter poultry, which only require the assistance of a trained individual. The Georgia Department of Agriculture certifies planners and maintains a current list. The certified planners include NRCS personnel, county agents, certified crop advisors, and other professionals who have attended the NMP training and demonstrated they can develop an acceptable plan. For NRCS cost share, a full CNMP developed by that agency is required.

## Certified Operators

In addition to the CNMPs, operations greater than 300 A.U., except dry litter poultry, must have Certified Operators. A Certified Operator must attend training and pass an exam. They must also obtain continuing education. The Georgia Department of Agriculture oversees these processes, although they may be conducted by other organizations. Dry litter poultry operators must attend training promoted by Poultry Extension but, due to the simplicity of dry litter management, they do not require certification, regardless of size.

## Summary

The new regulations require changes in the way AFOs do business. The focus on management of nutrients can improve profitability by better use of nutrients produced on the farms and reduced need for fertilizer purchase. There may also be opportunities for composting and/or selling manures for off-farm uses. Although the new regulations require more record keeping, the records may help improve farm management and productivity. While these regulations may appear complex, they are designed to protect both the farmer and the environment. Compliance with these regulations will provide the farmer with documentation that they are making a conscientious effort to operate their farm in a safe and environmentally sound manner.

This document is intended to be an accurate outline of Georgia's Animal Waste Regulations at the time of publication, and is not a comprehensive citation. It is recommended that the complete regulations be consulted before making any decisions regarding the current management, future expansion or new construction of an agricultural operation.

## Resources

Depending on the size of your operation, CNMPs can be complex. There are resources to help you develop your plan. You can obtain assistance from your county extension agent, Soil and Water District, NRCS personnel, and private consultants. There are also various extension publications and web sites that can help. These are listed at the end of this publication.

### Publications

- Cunningham, D.L., and C.W. Ritz, 2003. *Nutrient Management Programs for Georgia Poultry Growers*. The University of Georgia Cooperative Extension Service Bulletin #1226.
- Gaskin, J. W., and G. H. Harris. 1999. *Nutrient Management*. Georgia Farm\*A\*Syst System. Cooperative Extension Bulletin 1152-16. College of Agricultural and Environmental Sciences, University of Georgia, Athens, GA.
- Gaskin, J. W., T.M. Bass, and V. Jones. 2004. *Maps for Comprehensive Nutrient Management Plans*. Cooperative Extension Bulletin 1195. College of Agricultural and Environmental Sciences, University of Georgia, Athens, GA.
- Gould, M. C., L. Guthrie, and W.I. Segars. 1996. *Developing a Nutrient Management Plan for the Dairy Farm*. Cooperative Extension Circular 819-16. College of Agricultural and Environmental Sciences, University of Georgia, Athens, GA.
- Nutrient Management Task Force. 1999. *Nutrient Management for Georgia Agriculture*. Cooperative Extension Bulletin 1185. College of Agricultural and Environmental Sciences, University of Georgia, Athens, GA.
- Plank, C.O. 2000. *Soil Testing*. Leaflet 99, Cooperative Extension Service. University of Georgia, College of Agricultural and Environmental Sciences.
- Risse, L. M., and T. M. Bass (editors). 2004. *Nutrient Management Specialist Course Manual*. Dept of Biological and Agricultural Engineering, College of Agricultural and Environmental Sciences, University of Georgia, Athens, GA.
- Ritz, C.W., and W.C. Merka, 2004. *Maximizing Poultry Manure Utilization Through Nutrient Management Planning*. The University of Georgia Cooperative Extension Service Bulletin #1245.

### Web Resources

Many of the publications and tools described in this bulletin are available on the following web sites:

- Bass, T. M., et. al. AWARE Home Page.  
<http://www.agp2.org>; click on "Animal Waste Management." UGA Cooperative Extension Service and P2AD, GA-DNR.

Cunningham, D.L., et. al. Poultry Extension Home Page.  
[http://department.caes.uga.edu/poultry/extension/ext\\_home.htm](http://department.caes.uga.edu/poultry/extension/ext_home.htm), UGA Cooperative Extension Service  
 U.S. EPA. Animal Feeding Operation Home Page.  
<http://www.epa.gov/npdes/afovirtualcenter>. U.S. EPA, Washington, DC.

## Acknowledgments

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### Regulatory Contacts

Georgia Department of Agriculture, Livestock and Poultry Field Forces: (404) 656-3665  
 Environmental Protection Division, Water Permitting Compliance and Enforcement: (404) 362-2680

**Table 2a. Summary of the swine regulations for existing operations.\***

Existing Operations 300 A.U. or less	Existing Operations 301 A.U. - 1,000 A.U.	Existing Operations 1,1001 A.U. - 3,000 A.U.	Existing Operations >3,000 A.U.
No permit unless facility is defined as CAFO because of individual situation	Submit LAS permit form to the Division by 10/31/2000	Obtain individual or general NPDES permit from Division by 10/31/2000	<b>Same regulations as for existing 1001-3001 AU, with addition of following:</b>
Still subject to applicable sections of the Georgia Water Quality Control Act		Submit permit applications 180 days in advance	Wastewater disposal system not located in flood plain unless designed to hold 25 yr./24 hr. storm
	Submit CNMP to Division, gain approval by July 1, 2002, and implement by October 31, 2002	Submit CNMP to Division, obtain approval by 07/01/2002, and implement plan by 10/31/2002	Submit CNMP to Division, obtain approval by 07/01/2002, and implement plan by 10/31/2002.
	Certified operator by October 31, 2002	Certified operator by October 31, 2002	Certified operator currently in place
	Clay or synthetic liner on new operations	Public notice period in local paper	NRCS design criteria waste management system by 10/31/2002
	New barns and new lagoons cannot be located within 100 year flood plain	Nitrates below 10 mg/l at property lines	No discharge of pollutants to surface waters or ground water
		Ground water monitoring wells required; must be reviewed and approved before permit issued; must be installed within 24 months after permit issuance.	Lagoon designed to hold 25 yr./24 hr. storm; also minimum of 2 feet of freeboard in lagoons required.
		Storage lagoon effluent and ground water monitored semi-annually as delineated in permit	Periodic monitoring of ditches/streams near irrigation fields
		Must notify Division within 3 months of operation closure; all lagoons must be closed within 18 months and the wastewater land applied	
		No discharge of pollutants from operations to surface waters	
		Must repair lagoons to meet NRCS design criteria	

\* It is recommended that the complete regulations be consulted; this is especially true for operations greater than 3,000 AU, which have extensive and very specific requirements.

**Table 2b. Summary of the swine regulations for new and expanding operations.\***

New Operations 300 A.U. or less	New or Expanding Operations 301 A.U. - 1,000 A.U.	New or Expanding Operations 1,1001 A.U. - 3,000 A.U.	New or Expanding Operations >3,000 A.U.
Same regulations as existing operations	Same regulations as existing operations	Same regulations as for existing 1001-3000 AU, with the addition of the following:	Same regulations as for existing > 3000 AU operations, with the addition of the following:
	Must contain all process generated waste waters, plus the run-off from a 25 year, 24 hour storm event without overflow from the waste storage lagoon	Permit application submitted 180 days before opening or expansion of facility	Individual permit application submitted 180 days before opening or expansion of facility; permit must be obtained prior to commencing construction for the operation
	NRCS-designed system for new operations operable by October 31, 2002	No discharge of pollutants to ground waters	Final construction inspection required by Division
	Clay or synthetic liner on new operations	NRCS design criteria waste management system prior to feeding	Certified operator prior to startup
	New barns and new lagoons cannot be located within 100 year flood plain	Certified operator prior to feeding	Notify adjoining property owners of intent to feed swine
	Certified operator prior to feeding	Submit CNMP to Division prior to feeding	NRCS design criteria waste management system and CNMP approved <i>prior</i> to startup
	Requirements met and approved <i>before</i> expansion or start-up	Lagoon designed to hold 25 yr./24 hr. storm; also minimum of 2 feet of freeboard in lagoons required	System must be designed to hold 50 yr./24 hr. storm; lagoons must have synthetic liner to control conductivity
	Submit CNMP to Division prior to feeding		Spray irrigation of lagoon effluent prohibited
		Barns, lagoons and sprayfields cannot be located within 100 year flood plain; buffer zones required as specified by Division	Lagoons must be covered, air-tight, with vents to remove air pollutants, and contain a synthetic liner
			Owner shall provide evidence of financial responsibility in accordance with 391-3-6.20 of the Division's Regulations
			Barns and lagoons cannot be located within 100 year flood plain; buffer zones required as specified by Division

\* It is recommended that the complete regulations be consulted for a full citation; this is especially true for operations greater than 3,000 AU, which have extensive and very specific requirements.

**Table 3. Summary of non-swine regulations.**

Existing Operations 300 A.U. or less	Existing Operations 300 A.U. - 1,000 A.U.	Existing Operations 1,001 A.U. - 3,000 A.U.	Existing Operations >3,000 A.U.
No permit unless facility is defined as a CAFO	Obtain an LAS permit from EPD	Obtain NPDES permit	<b>Same as for 1001-3000 AU operation, with addition of:</b>
Still subject to applicable sections of the Georgia Water Quality Control Act	No discharge	Submit CNMP to DNR by 10/31/2002 and implement by 10/31/2003	Individual NPDES permit may be required, and a 3'x5' sign is required as public notice for individual permit
	CNMP submitted to DNR by 10/31/2002, and implemented by 10/31/2003	Certify operator by 10/31/2002	
	Certified operator by October 31, 2002	Nitrates below 10 mg/l at property lines	
	New barns and new lagoons cannot be located within 100 year flood plain	Monitoring well below lagoon; soil samples in each soil series	
		Monitor waste and wells for TKN and Nitrate N	
		Close out procedure per DNR; 24-month time frame	
		Public notice in local paper	
New Operations 300 A.U. or less	New or Expanding Operations 300 A.U. - 1,000 A.U.	New or Expanding Operations 1,001 A.U. - 3,000 A.U.	New or Expanding Operations >3,000 A.U.
<b>Same as existing operations</b>	<b>Same as existing operations, plus:</b>	Obtain NPDES permit 180 days in advance	Same as for 1001-3000 AU operation, with addition of:
	NRCS design criteria system for new operations	NRCS design criteria waste management system	The addition of 3'x5' sign required as public notice for individual permit
	Clay or synthetic liner required	CNMP completed before opening facility	
	Requirements met and approved <i>before</i> expansion or startup	Certified operator	
		Lagoon designed to hold 25 yr./24 hr. storm	
		Lined lagoons w/2 ft. of freeboard; max size 100 ac-ft; not in flood plain	
		Buffers required 100 ft. from wells and streams, 500 ft. from public wells	

\* It is recommended that the complete regulations be consulted for a full citation; this is especially true for operations greater than 3,000 AU, which have extensive and very specific requirements.

**Table 4. Summary of non-swine regulations specific to *dry litter poultry* operations.**

All Operations 300 A.U. or less	All Operations 300 A.U. - 1,000 A.U.	All Operations 1,001 A.U. - 3,000 A.U.	All Operations > 3,000 A.U.
No permit unless facility is defined as a CAFO	No discharge	Same as for 300-1000 AU operation, with addition of:	Same as for 1001-3000 AU operation, with addition of:
Still subject to applicable sections of the Georgia Water Quality Control Act	NMP requirement varies by integrator	Obtain NPDES permit by October 31, 2005	Individual NPDES permit may be required, and a 3'x5' sign required as public notice for individual permit
	New barns and new lagoons cannot be located within 100 year flood plain	Auditable NMP required on site by October 31, 2006	
		Annual CAFO report required	
		Public notice in local paper?	

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