



Environmental Issues for Small Swine Farmers

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Introduction

Hog farming today is comprised of two different production systems. The predominant production system is a confined animal feeding operation (CAFO) in which large numbers of hogs are produced for market. The less dominant, but equally important, production system involves the sustainable production of a small number of hogs and is referred to in this fact sheet as an AFO or animal feeding operation. This fact sheet examines regulatory issues that small hog farmers may encounter related to AFOs. Issues include avoidance of public nuisance problems, surface water pollution and space requirements for small hog farms.

AFO or CAFO?

An AFO is any animal feeding operation confining animals for at least 45 days during any 12-month

period. An AFO may have up to 2,499 hogs weighing at least 55 pounds.

A CAFO is a confined animal feeding operation confining animals for at least 45 days during any 12-month period. A CAFO can have 2,500 or more hogs weighing at least 55 pounds.

CAFOs fall under Regulation 5 of the Arkansas Pollution Control and Ecology Commission because of the large amount of waste produced. CAFOs must have a liquid animal waste disposal permit issued by the Arkansas Department of Environmental Quality (ADEQ) and a nutrient management plan developed by the Natural Resource Conservation Service (NRCS).

AFOs

AFOs cannot be surrounded by tall, growing vegetation around manure pits. The vegetation must be



trimmed to allow air to circulate. However, proper vegetation, 50 percent vegetated groundcover on hog lots, must be maintained on pasture where hogs are raised. No permit is required by the Arkansas Department of Environmental Quality. Although AFOs may be small in comparison to CAFOs, AFOs can be made to obtain a permit if waste becomes liquid. A pasture management plan is highly recommended to ensure that the proper vegetation is maintained. The University of Arkansas Cooperative Extension Service and NRCS can assist farmers with pasture management plans.

A simple plan should be devised to dispose of solid, dry waste in an environmentally friendly manner. As long as waste is dry, AFOs are not under Regulation 5; however, AFOs may be regulated by the Arkansas Health Department.

Once waste becomes wet (liquid) from rain, washing or other means, it has the potential to pollute the waters of the state, and the swine operation automatically becomes a CAFO and subject to regulation by ADEQ.

Issues

According to the Arkansas State Board of Health, Environmental Health Services, *Environmental Health Protection's Rules and Regulations Pertaining to General Sanitation*, creating, permitting, maintaining or continuing any public nuisance is prohibited. A public nuisance may include creating a breeding ground for flies, mosquitoes and rodents, along with sewage, due to how waste and/or food are handled. Hog farmers must be careful to ensure that their swine operations do not fall into one of the abovementioned nuisance categories.

Smells can be a nuisance, but not necessarily one that can be regulated. Farmers are urged to consider neighbors and the direction of the wind when placing and constructing AFOs. No laws regulate odor, but there are laws that regulate air quality.

All local and county health department, state (ADEQ) and federal (Environmental Protection Agency) laws must be followed.

Proximity to Neighbors

There is no regulation by ADEQ on how close a swine operation can be to a neighbor's house, yard or property; however, there may be a city ordinance against having hogs inside city limits or being next to or behind a house.

Prevent Water Pollution

No matter what size or classification of hog production system you have, the waters of the state cannot be polluted. A swine operation should be at least 100 feet from a well or waters of the state. A permit must be obtained any time there is a chance for pollution of state waters.



The pollution of surface and groundwater is prohibited. No sewage, food, garbage or drainage from swine is to be discharged or disposed of by means or manner that jeopardizes groundwater quality or waters of the state.

Waters of the state include all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private waters, which are contained within, flow through, or border upon this state or any portion of this state.

Space Requirements for Hogs

The amount of space needed per pig for optimal performance is an important planning and management consideration for modern production systems. The results of overcrowding may include tail biting or cannibalism, reduced weight gain, increased feed required per unit gain and gastric ulcers, and additive stress factors may cause increased susceptibility to disease or other adverse effects on performance or reproduction.

Producers who provide 150 to 200 square feet per pig on dirt lots should provide 400 to 800 square feet or more per pig under pasture conditions. When pigs are managed in conditions other than pasture settings, space per pig is a secondary consideration to



the condition of the space. Good judgment and the ability to adjust to changing conditions is good management. Appropriate slopes are necessary for swine production. Slopes less than 2 percent are most often considered insufficient, while slopes over 5 percent may be excessive. Remember to maintain at least 50 percent vegetated groundcover on hog lots. Shaded and nonshaded space requirements differ; suggested space requirements are listed in Table 1 below.

Table 1. Space Requirements for Hogs in Shaded and Nonshaded Areas

Pasture Space	Shade Space
(depends upon rainfall, soil fertility and plant growth)	15-20 sq ft/sow
10 gestating sows/acre	20-30 sq ft/sow and litter
7 sows with litters/acre	4 sq ft/pig to 100 lb
50 to 100 growing-finishing pigs/acre	6 sq ft/pig over 100 lb

For More Information

- www.adeg.state.ar.us
To obtain a copy of Arkansas Pollution Control and Ecology Commission - Regulation 5.
- <http://www.epa.gov/npdes/caforule/>
To obtain copy of regulations.

- http://cfpub.epa.gov/npdes/contacts.cfm?program_id=7&type=REGION/ -
To obtain EPA Region Animal Feeding Operation contacts.
- www.sosweb.state.ar.us/elections/elections_pdfs/.../007.14.04-001.pdf
To obtain Arkansas State Board of Health, Environmental Health Services, Environmental Health Protection - Rules and Regulations to General Sanitation.
- <http://www.google.com/u/purdueagriculture?q=Pork+Industry+Handbook>
To obtain Pork Industry Handbook and space requirements for swine.
- www.ar.nrcs.usda.gov
www.uaex.uada.edu
For help developing waste and pasture management plans, contact the Natural Resource Conservation Service, Cooperative Extension Service or the University of Arkansas at Pine Bluff.

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