

## CHAPTER 1

# Confined Animal Feeding Operations - An Overview

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In 1995, a bill was sponsored in the South Carolina House that would have unified the ability of producers to construct poultry facilities throughout the State. South Carolina for years had operated under a very informal permitting system which had its foundation in some provisions of the Federal Clean Water Act, which were loosely incorporated into state regulations under the heading of Confined Animal Feeding Operations. Those regulations applied only to operations which exceeded certain quantities of animals.

The original H.3446 incorporated many of the provisions of SC DHEC's "guidelines" for issuing permits; however in mid-1995, after the original legislation had passed the House, several lagoons in eastern North Carolina failed which resulted in millions of gallons of partially treated swine and poultry effluent flowing into the rivers and down to the sea, with substantial environmental damage along the way. Mismanagement of the lagoons was the primary cause, compounded by unusually heavy rains in June.

Thereafter in August 1995, the Senate Committee on Agriculture and Natural Resources held a public hearing, at which there was considerable opposition to H.3446 as passed by the House. Throughout the next legislative year, there were numerous proposals and amendments until H.3446, as originally constituted, was passed at the very end of the 1996 session by the very narrow margin. Like many laws it was an attempt to balance the rights of the farming community with those of the public at large. (On June 26, 1998 DHEC published the regulation (61.43 - Standards for the Permitting of Agricultural Animal Facilities) which implemented H.3446)

Both the law and the regulation address numerous topics, among which are: odor; surface and groundwater pollution; vectors; waste management; record keeping; permitting procedures; setback distances; monitoring wells; management plans, etc. For examples, both the likelihood of objectionable odor and harmful run-off are reduced by set-back requirements and adherence to a management plan. The likelihood of water pollution is reduced by the requirements for agronomic application of waste to various crops and the requirement for training should make it easier for farmers to comply with the law.

While compliance with the requirements of the new law will lessen the threat of nuisance lawsuits, you do not have protection if the "...nuisance results from the negligent, improper, or illegal operation of an agricultural facility or operation." (SC Code, 46-45-30). Complying with the law, however, is your first line of defense.

The SC DHEC has undertaken the task of promulgating a second version of Regulations 61.43. When eventually passed by the South Carolina Legislature, they will replace the original. There will be differences in the second version that result in a need to adjust information in this manual.

*Editor's note - since John Gentry and John Albrecht wrote this article the second version of Regulation 61.43 has been completed and adopted (June 28, 2002). The changes found in these new regulations are incorporated in this manual.*

# Training Program Overview

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With the population of the United States increasing, the opportunity for interaction between livestock operations and citizens accustomed to living in urban settings has increased. A large segment of the American public objects to odors created by livestock production as well as odors from industrial production. As this segment of the public expands into previously rural areas, pressure on agriculture will become more intense.

An increased population of mobile citizens with ready transportation has also resulted in heavy use of the coastal portion of South Carolina including recreational areas and many forms of water resources. These same water resources are shared by cities throughout North and South Carolina. Urban growth and agricultural production have all contributed to a decline in water quality. Increases in flowing water nutrient content and resulting increase in microbes has created some public health problems in North Carolina and Maryland. These problems have increased the awareness of water quality issues throughout the Atlantic coast.

Areas of urban and industrial development have expanded dramatically in the last ten years. The state's largest cities and their resulting urban sprawl have made large areas unacceptable for confined animal production. The region of South Carolina referred to as the I-85 corridor is rapidly developing and leaving few areas where landowners will approve new facility permits.

Over the last two decades the cost of living has risen dramatically, but the income per unit for agricultural products has not. As the cost of living has increased, animal production units have had to increase in size to generate enough income to make farm payments, pay employees and support a family. Integrators have become prevalent in both poultry and swine production as a means to produce a large volume of uniform and marketable product. The largest concentration of contract livestock production is in the southeast, especially eastern North Carolina.

Efficiency of transportation (cost and time) has resulted in concentrations of production units within a radius from a central feed manufacturing facility. The size of the circle varies between integrators, and between species, but 40 to 50 miles may be a typical radius. As the total poundage in the production has increased in the southeast, more and more grain is transported each year from the central grain producing states to the southeastern states and specifically the land within each radius. Problems are most intense when several production influence areas overlap.

The waste from large confined swine and poultry units must eventually be applied in some form to the land. Since much of the grain fed to swine and poultry in the southeast has been relocated from the grain producing states, more nutrients are available for distribution than were produced on the cropland of most livestock farms in this area. The net increase in certain soil nutrients has occurred. All of these factors increase the risks of undesirable odors, nutrient runoff and groundwater contamination.

Society must now deal with the decline in water quality which is resulted from industry, municipal discharge, urban runoff, agricultural runoff and confined animal waste storage nutrient losses. Each segment of society will be challenged by this need to reduce total contaminants. Murky water and silting has resulted from erosion of construction sites, highways and agricultural fields. These factors decrease the natural cleaning capabilities of our waterways.

## **The South Carolina Confined Animal Waste Managers Certification Program**

Part 100.10.A and 200.10.A., Section 46-7-100 of the SC Code of Laws and Regulations 61-43 express the driving force of the program as being the need to protect the environment and the health and welfare of the citizens of South Carolina. They also address the need to establish a wide variety of standards that confined animal agriculture should adhere to. This program is designed to assist producers to accomplish these requirements.

The intent of the South Carolina Confined Animal Waste Managers Certification Program is to: (1) comply with the Confined Swine Feeding Operation act and Regulations 61-43, (2) address the environmental issues in a straightforward manner, and (3) teach proven scientific principles of waste management. Producers will learn how to calculate waste nutrient quantities produced and how to determine the acreage needed to distribute this waste at agronomic rates. Various methods of storage will be compared for safety, odor potential and cost. Alternative technologies such as bio-conversion and composting will be evaluated. Waste managers will learn how to calibrate the equipment they operate, and learn about alternative technologies available to distribute these nutrients to their crops.

Animal production systems have the potential to propagate nuisances such as flies and rodents. Communities will not tolerate annoyances resulting from careless management of an agricultural operation in their region. Likewise, all production units' reputations are tarnished by the neglect of a few.

Students in this program will learn new methods of dead animal disposal that create less environmental consequences. Facilities management practices that reduce habitat for rodent propagation in reduced odors will be emphasized. Waste handling and storage techniques which may attract and encourage population growth of many species of flies will be identified and alternatives discussed.

Producers will receive instruction on the completion and storage of waste management data. Forms to calculate and store these records will be provided. Additional forms may be obtained from the Natural Resource Conservation Service (NRCS) offices or SC DHEC. All producers will be encouraged to study the following materials and take an examination to prove they have learned the aforementioned skills. Confined Animal Producers will receive a certificate and an identification card indicating they have completed the educational program.

The greatest environmental effects will be obtained when all confined animal managers participate in the certification program. Producers will implement the improved practices as they learn the consequences of inadequate management. Many techniques do not increase costs, but do require attention to detail. Some new technologies will cost more to implement, and must be evaluated on their effectiveness to limit problems, or in extreme cases their ability to enable farms to continue in production.

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