



ANR-1206

ALABAMA A & M AND AUBURN UNIVERSITIES

The Role of Qualified Credentialed Professionals Under Alabama's AFO/CAFO Rules

Qualified credentialed professionals (QCPs) play an essential role in enabling Alabama livestock feeding operations to comply with current National Pollutant Discharge Elimination System (NPDES) water quality rules. These rules, administered by the Alabama Department of Environmental Management (ADEM), require registration with ADEM by certain animal feeding operations. The registration process includes preparation by one or more qualified credentialed professionals of a waste management system plan (WMSP) that meets or exceeds Natural Resource Conservation Service (NRCS) technical standards and guidelines. A QCP must also be employed in certain aspects of continued management and possible expansion or closure of some animal feeding operation facilities.

The registration requirements apply primarily to animal feeding operations (AFOs) above a certain size (generally 1,000 animal units), which must register with ADEM as a concentrated animal feeding operation (CAFO). Smaller AFOs that have had an animal waste discharge to the waters of the state or that do not implement and maintain effective management practices may also have to register. For more details on registration requirements, see Extension publication ANR-1175, "AFO/CAFO Registration Requirements: Your Questions Answered."

The purpose of this publication is to explain what a qualified credentialed professional is, what kinds of qualified credentialed professional input are required in preparation of a WMSP, and how and where operators should look for and recognize a duly qualified credentialed professional.

Who qualifies as a QCP?

The term *qualified credentialed professional* refers to individuals who are (1) certified and/or licensed (*credentialed*) in an appropriate profession, usually as professional engineer (PE), certified crop advisor (CCA), or certified animal waste vendor (CAWV), and (2), have particular training and experience (*qualified*) in design, implementation, and/or inspection of comprehensive animal waste,

waste product, or dead animal disposal management practices and system plans, including land application practices that meet or exceed NRCS technical standards and guidelines.

Titles such as professional engineer and certified crop advisor are general designations, PEs being licensed by the State of Alabama and CCAs registered by the American Society of Agronomy. Having the general registration as PE or CCA does not mean the individual necessarily has the experience and training needed to fulfill the QCP role for AFO/CAFO purposes. For example, professional engineers specialize in areas such as agricultural, biological, biological systems, industrial, civil, mechanical, and environmental engineering and subfields of each, like surveying.

NRCS has contacts with professional engineers who have the particular qualifications needed for serving as an animal waste management QCP. There is a joint agreement between the Alabama Certified Crop Advisor Program and NRCS to register properly trained and experienced CCAs as qualified nutrient management planners, which is the QCP role filled by CCAs for AFO/CAFO purposes. Certified animal waste vendors (CAWVs) are certified by the Alabama Department of Agriculture and Industries. And in this case, the designation specifically indicates qualification to fulfill a QCP role in animal waste management.

What are the basic functions of QCPs?

As stated above, the primary role of QCPs for an affected AFO is to meet the requirement calling for preparation by one or more qualified credentialed professionals of a waste management system plan that meets or exceeds Natural Resource Conservation Service technical standards and guidelines. For ongoing AFO/CAFO operations, annual certification of the WMSP includes determination by a QCP that effective waste management strategies are properly implemented and regularly maintained according to good engineering or agronomic practices.

The three areas of a WMSP requiring QCP supervision and/or certification are the following:

1. Waste handling and storage (including manure, wastewater, dead animals, etc.)
2. Land treatment practices involving wastes
3. Nutrient management (the accounting for and the proper use and disposal of all nutrients entering and leaving the operation)

The kind of QCP needed may vary according to the type of animal feeding operation and the processes involved. But typically, an animal waste-qualified professional engineer is needed either to take entire responsibility for the WMSP or to play a lead role in the process. A qualified PE is required where any waste storage or other structures are involved and is usually the most generally qualified credentialed professional for WMSP purposes.

The PE, however, may need to call in specialist QCPs to handle particular aspects of the operation, such as nutrient management planning. In some situations, additional specialist QCPs may be needed. For example, a professional geologist must perform a detailed, comprehensive geological investigation that meets or exceeds NRCS requirements for earthen waste containment sites proposed in karst topography.

Where only land application of dry waste such as broiler litter is involved, the primary need is for nutrient management planning. In this situation, a certified crop adviser qualified as a nutrient management planner might be employed as the lead QCP, with input from a PE QCP covering land treatment practices and any storage or other structures involved. If the CCA in this case uses available off-the-shelf NRCS engineering designs covering manure storage, dead animal disposal, and land application of dry waste, PE design input may not be required at all. If dry waste is to be shipped off site, the services of a CAWV will be needed.

How are QCPs located or identified?

AFO/CAFO operators needing to identify and employ QCPs should inquire first at their local Extension, NRCS, or Soil and Water Conservation District offices. Certified crop advisers who are qualified as nutrient management planners are identified on the Web site of the Alabama CCAP; go to <http://www.ag.auburn.edu/accap/index.htm>. For information on certified animal waste vendors, contact the Alabama Department of Agriculture and Industries at 334-240-7255.

NRCS designates certain professionals as third party vendors. This program designates qualified individuals to act for NRCS in certain conservation

activities, including professional preparation of components of a WMSP. These NRCS certified specialists are automatically qualified as QCPs for AFO/CAFO purposes.

However, NRCS certified specialists are not required for preparation of a WMSP. It is the AFO/CAFO operator's responsibility to secure adequate QCP services and be able to present an acceptable waste management system plan that will meet or exceed NRCS standards.

Note: USDA/NRCS uses the term Comprehensive Nutrient Management Plan (CNMP), including both nutrient management planning and waste storage, handling, and land application engineering, to describe what ADEM calls a waste management system plan. In addition to certified specialists, NRCS also employs the term certified conservation planner to describe a QCP who takes a lead supervisory role in planning or certifying a WMSP/CNMP. Again, while the WMSP must meet or exceed NRCS standards, qualified professionals other than certified conservation planners might be employed in the lead QCP role.

However a QCP is located, the operator should make sure that the individual's qualifications are demonstrated by current state registration, credential, professional certification, completion of accredited university programs acceptable to ADEM, and by relevant experience and continuing education that enable the individual to make sound professional judgments or recommendations regarding animal waste management practices. The QCP should be familiar with current industry standards and be able to provide a professional vita, listing relevant training and experience, including similar projects taken to completion, and a list of previous clients. Although the AFO/CAFO operator is ultimately responsible for compliance with NPDES rules and regulations, the QCP must recognize and be able to assume professional responsibility and liability for services performed.

What services do QCPs provide?

AFOs and CAFOs using or planning to use liquid systems for waste storage, treatment, handling, and land application will need more professional engineering (PE) services than will those using or planning to use dry waste systems. Poultry dry waste systems, on the other hand, may need only a qualified, certified crop advisor under conditions described above. In addition to designing and planning particular waste management functions included in a WMSP, QCPs are required for annual recertification and other periodic inspections and for occasions such as emergency response, closure, or planned expansions.

Design and certification of waste treatment and storage

Lagoons, storage ponds, and containment structures (embankments, dams, ditches, dikes, or berms, etc.) for fuel, chemical, and other contaminant spill control must be designed and installed with construction oversight by a PE registered in Alabama. The PE must certify that both design and construction meet applicable engineering standards. This includes subsurface soil investigations to at least 2 feet (1 foot in Demopolis or Mooreville Chalk formations) below planned storage pond or lagoon bottom grade for suitability.

Liquid waste storage pits, even those normally considered part of the animal housing structure, must be designed and certified by a qualified PE registered in Alabama.

A detailed, comprehensive geological investigation meeting or exceeding NRCS requirements must be performed for earthen containment sites proposed in karst topography. A professional geologist must perform and certify certain geological services or work.

Dry waste systems such as poultry litter for land application may require weather-protected storage for wastes that must be removed from the houses between appropriate application periods. Any dry waste storage or treatment, such as dead bird composting, must be designed and certified by a qualified PE unless approved NRCS designs are used for these components as part of a CNMP/WMSP written by a qualified CCA.

Design and certification of waste handling, transport, and disposal/utilization

A QCP-approved written plan is required for proper storage pond or lagoon management and the selection of appropriate pumping and irrigation, honey wagon, or injection equipment for land application of liquid wastes. The planning of land application as the final waste treatment step will require agricultural experience. A PE registered in Alabama should certify planned structural system operation conformance to NRCS and ADEM requirements.

A certified crop advisor with waste management training certification should develop the nutrient management portion of the WMSP. The nutrient management plan must account for all waste nutrients and commercial fertilizer used on the land application area. Suitability of soils for land application, appropriate buffers, target crop selection, soil tests, and waste and wastewater testing and application timing must be considered. Calibration of liquid and dry waste application equipment is

important. The QCP will determine how often a representative sample of waste and wastewater to be land applied needs to be collected and analyzed to ensure consistency with NRCS-approved nutrient management standards.

A certified animal waste vendor can receive, transport, and land-apply AFO-generated animal wastes in a manner that complies with ADEM rules, applicable provisions of the Alabama Water Pollution Control Act, Clean Water Act, and NRCS guidelines. An AFO or CAFO plan can include a CAWV to handle animal waste when application of waste on AFO-controlled land is not available.

The handling, transport, and disposal or utilization of dead or diseased animals must comply with regulations and general housekeeping best management practices. Composting, rendering, freezing, or incinerating dead animals all have particular planning and operational details a QCP can provide that are necessary to successful operation that protects environmental quality.

Periodic QCP inspections of WMSP facilities

A QCP must perform an annual inspection of all waste management system facilities, structural controls, and each land application site where waste or wastewater has been applied in the previous year. The QCP will record the inspection date, make a note of findings and actions taken as a result of the inspection, and sign the inspection report.

Every five years a PE or PE-directed structural inspection is required of all embankments, dams, dikes, ditches, or berms associated with lagoons or waste storage ponds or sumps or other structural controls. PE certification is to state that these items have been maintained in accordance with accepted engineering practices in a manner that meets or exceeds NRCS technical standards and guidelines.

Occasional requirements for QCP services

Planned CAFO expansion, in size or animal numbers, above the animal and waste-handling capacity in the existing approved WMSP, requires a QCP-revised and ADEM-approved WMSP to handle additional generated waste. Implementation of the revised WMSP must be certified by the appropriate QCP before the actual expansion begins.

Whenever an unpermitted discharge occurs, emergency response by a QCP is required to collect samples for lab analysis and required ADEM reports. Immediate engineering evaluation of any mechanical or erosive structural damage to a storage pond or lagoon liner must be performed by an appropriate QCP, in no case later than three days after the damage.

CAFO operation closure requires submitting, at least 30 days prior to final day of operation, a QCP-prepared closure plan for the waste system storage and treatment structure(s). The closure plan must, at a minimum, address maintenance of the facility until proper closure is completed and include a proposed schedule for closure activities, typically within 180 days. Actual facility closure, according to the plan, must be certified to ADEM by a QCP.

NOTE: This publication is intended and should be used as a general guide to interpretation of regulations, not as legal advice nor in any way a substitution for or contravention of any official statements or actual regulations on this subject.

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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