



## Litter/Dry Manure AFO/CAFO Records to Demonstrate Good Environmental Stewardship

Ted W. Tyson, PE, CID, Extension Biosystems Engineer & Professor  
Charles C. Mitchell, Ph.D., Extension Agronomist-Soils & Professor

BSEN-04C1 Jun2004

Good environmental stewardship dictates recording actions taken by an animal feeding operation to "meet or exceed" ADEM AFO/CAFO NPDES RULES, NRCS technical standards and guidelines, and Extension Recommendations dealing with management of animal mortality and animal manure generated by the operation. **Accurate and complete records demonstrate good faith in environmental stewardship.**

This publication contains Record Form R-1, Litter/Dry Manure Solids Clean-Out/Transfer Record and Record Form R-2, Litter/Dry Manure Solids Field Application Record. These can be used to record most of the actions taken by the AFO/CAFO operator to handle litter/manure generated on the farm according to the in-place management plan. Diligent use of these forms will help the AFO/CAFO operator do a better job of meeting "good sense" management objectives of managing manure to protect the environment and meet regulatory requirements. Guidance for the documentation of dead bird/animal disposal and chemical handling practices is also addressed in this publication.

Actions involving litter/dry manure solids for which records are required:

1. ANNUAL LITTER/DRY MANURE SOLIDS TESTS. Sample and analyze at least yearly for: pH, total N, ammonium N, total P (and selected metals, e.g. zinc, copper, arsenic, etc., as directed by your DC, County Agent, or Qualified Credentialed Professional (QCP) or an ADEM Director representative). NRCS approved average nutrient/component values can be used to plan the first year; but actual testing should be done frequently enough to ensure "plan" values match actual values of your manure or litter. The Auburn University (AU) Soil Testing Lab routinely tests poultry litter/dry manure.
2. FIELD SPECIFIC SOIL TESTS, PHOSPHORUS INDEX, & CROP FERTILIZER RECOMMENDATIONS. AU Soil Testing Lab or other labs recognized by the AU Soil Testing Lab must do soil testing at least every 3 years. A Phosphorus Index will be calculated for each field. Litter/dry manure nutrient (nitrogen and phosphorus) application rates should be based on AU Soil Testing Lab fertilizer recommendations (including soil pH and lime) for the specific field/soil and crop grown where manure is spread, the Alabama PHOSPHORUS INDEX, AND litter/dry manure nutrient tests (Item 1) above. NRCS 590 Standard has non-soil-specific AU nitrogen recommendations as a guide.

3. LITTER/DRY MANURE SOLIDS CLEAN OUT AND TRANSFER. Whether transported by a Certified Animal Waste Vendor (CAWV), given away or sold, or applied to owner-controlled land, etc., details of all transfers of litter or dry manure solids must be recorded. Record Form R-1 can be used for this.

4. LITTER/DRY MANURE SOLIDS LAND APPLICATION. Details of all land application must be recorded. Record Form R-2 can be used for most of these details. Records should also include maps showing SPREADABLE ACRES in each application field after applying ALL APPLICABLE BUFFERS. Application must be based on crop grown; soil test results not more than 3 years old, Alabama Phosphorus Index, and AU Soil Testing Lab recommendations. These records must be kept by the producer when the application occurs on producer controlled land even when using a CAWV.

Also, 72-hour National Weather Service (NWS) weather forecasts, available on the Internet at <http://www.srh.noaa.gov/bmx/data/forecasts/CurrentForecasts.swf>, must be recorded for any land application of manure. Litter or manure should not be applied within three days of a NWS forecast indicating a 50% or greater chance of rain (**rain predicted as likely, periods of rain, occasional rain, or 50% or more probability**) UNLESS the "FARMERS MAP" shows the location of the planned land application field in WHITE.

The "FARMERS MAP" is a NWS forecast product, which indicates that the predicted amount, intensity, or nature of the expected rainfall should not cause runoff of wastes provided proper application rates and buffers are followed. The map is available on the Internet at [http://www.srh.noaa.gov/bmx/data/FARMERS\\_MAP/farmers\\_map.html](http://www.srh.noaa.gov/bmx/data/FARMERS_MAP/farmers_map.html). A copy of the FARMERS MAP should be kept for any land application event that was made while a 50% or more rain forecast was in effect for the land application location.

*Continued on page 4*





5. LITTER/DRY-MANURE SOLIDS LAND APPLICATION EQUIPMENT CALIBRATION. Equipment should be calibrated and the results recorded at least once per year to ensure uniform distribution at planned rates. Application should not exceed 10% of planned rate. Contact your ACES County Agent for information on litter/dry-manure solids, truck calibration procedures.

6. DEAD BIRD/ANIMAL DISPOSAL. Record rendering agent pick-up volumes and dates, composter loading and unloading and temperature information (Compost Temperature Record Form NRCS AL-ENG-25J may be used), approved incinerator loading rates and operation time and disposition of ashes. Also record any **emergency disposal of dead animals** as directed by the State Veterinarian, Alabama Department of Agriculture and Industries or approved WMSP. NRCS or a specifically trained QCP can assist in PRE-SELECTING A SUITABLE emergency burial SITE.

7. MANURE SPILLS & CORRECTIVE ACTION. If equipment breakdown, rain, human error, improper management, **or any other reason** causes a litter or manure spill, clean it up as soon as possible, recording what happened and what you do. Notify ADEM within 24 hours after becoming aware of a discharge to any waters of the State. If the discharge was caused by rainfall, information from the on-site rain gauge or weather station in close proximity to the spill will be invaluable.

8. CHEMICAL SPILL PREVENTION, CONTROL, AND COUNTERMEASURES. Operators are responsible for taking reasonable precautions to prevent chemical or tractor or truck fuel spills. All decisions in this regard should be recorded. Such procedures and records help demonstrate good faith in environmental stewardship. The same basic common sense actions used for manure spills and corrective actions apply here as well.

9. STORAGE FACILITY AND LAND APPLICATION SITE INSPECTION. The following inspections and written records are required of CAFOs and should be maintained by AFOs in order to document compliance with ADEM Rules:

- a) **annual QCP inspection of all waste management system facilities and structural controls**, and each land application site used the previous year ,
- b) **weekly inspection/evaluation of all waste management system practices, structural controls**,
- b) **daily inspection/evaluation of each land application site during land application**,
- c) **daily rainfall at each application site within 7 days after each application**,

- d) **routine preventative maintenance to waste storage and control structures** as well as inspecting and testing facility equipment and containment structures to uncover conditions that could cause failures which may result in discharge to waters of the State.
- e) **"as-needed" initial and follow-up inspections and written report of each, to assure proper waste management system repair and operation in response to any observed maintenance deficiencies, water line leaks, significant weather events, etc.**

All inspections/reviews should be dated and signed by the person(s) performing the inspection/evaluation. Results of review and follow-up actions should also be recorded.

The ADEM AFO/CAFO Rules require **all size animal feeding operations to meet or exceed** NRCS technical standards and guidelines including NRCS CODE 590, NUTRIENT MANAGEMENT STANDARD. CODE 590 requires records to document implementation of the Standard to be kept for a MINIMUM OF FIVE (5) YEARS. Manure tests and Soil tests by laboratory should be filed with Land Application/Transfer records. Any on-site manure tests for nitrogen should be filed with field specific Land Application Records.

**Abbreviations used in this publication:**

- ADEM - Alabama Department of Environmental Management
- ACES - Alabama Cooperative Extension System
- AFO/CAFO - Animal Feeding Operation/ Concentrated Animal Feeding Operation
- DC - District Coordinator (Soil & Water Conservation District)
- CNMP - Comprehensive Nutrient Management Plan (NRCS)
- WMSP - Waste Management System Plan (ADEM)
- NMP - Nutrient Management Plan
- NPDES - National Pollutant Discharge Elimination System
- NRCS - Natural Resources Conservation Service
- BMP - Best Management Practice
- CAWV - Certified Animal Waste Vendor
- QCP - Qualified Credentialed Professional

**Dry Litter/Manure AFO/CAFO Records to Demonstrate Good Environmental Stewardship**  
**Publication BSEN- 04C1**

By  
Ted W. Tyson, PE, CID, Extension Biosystems  
Engineer & Professor, Auburn University  
Charles C. Mitchell Ph.D., Extension Agronomist-Soils  
& Professor, Auburn University

Issued in furtherance of Cooperative Extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, and other related acts, in cooperation with the Department of Agriculture. The Alabama Cooperative Extension System (Alabama A&M and Auburn University) offers educational programs, materials, and equal opportunity employment to all people without regard to race, color, national origin, sex, religion, age, veteran status, or disability.