

**STATEMENT OF WORK**  
**Comprehensive Nutrient Management Plan**  
**MISSOURI**

## PLANNING

---

### Deliverables:

These deliverables apply to this individual planning activity. When specific conservation practices are utilized, refer to the appropriate Statements of Work.

*A comprehensive nutrient management plan (CNMP) shall address all land units that the animal feeding operation (AFO) owner and/or operator owns or has decision-making authority over and on which manure and organic by-products will be generated, handled, stored, or applied. The CNMP shall address all manure produced by the livestock operation, including manure applied to land that is part of the operation as well as manure transported off-site.*

1. Document the AFO owner's/operator's consideration of the six CNMP elements. It is recognized that a CNMP may not contain all six elements; however, they need to be considered by the AFO owner/operator during development of the CNMP, and the decisions regarding each must be documented. These elements are:
  - a. Manure and Wastewater Handling and Storage
  - b. Land Treatment Practices
  - c. Nutrient Management
  - d. Record Keeping
  - e. Feed Management
  - f. Other Utilization Activities
  - i. **NOTE: Each CNMP element must meet the specific criteria provided in Section 600.54 of the National Planning Procedures Handbook (NPPH).**
  - ii. CNMPs will contain actions that address water quality criteria for the livestock production area, and land on which the manure and organic by-products will be applied (i.e., as a minimum address CNMP elements A, B, C, and D listed in item 1 above). This includes addressing soil erosion to reduce the transport of nutrients within or off of a field to which manure is applied. For AFO owners and/or operators who do not land-apply any manure or organic by-products, the CNMP will address only the livestock production areas (i.e., address CNMP elements A, D, E, and F listed in item 1 above).
2. Provide documentation that addresses the following items:
  - a. **General Site Information and Plan**
    - i. Names, phone numbers, and addresses of the AFO owner(s) and operator(s)
    - ii. Location of production site: legal description, driving instructions from nearest post office, and the emergency 911 coordinates
    - iii. Plat map or local proximity map
    - iv. Farmstead sketch showing the proximity of animal production facilities and manure storage structures. Include applicable storage profile drawings that will aid the operator in managing manure storage and withdrawals.
    - v. Summary of procedures specific to the animal feeding operation, including producer objectives, production site operation, manure storage, crop production, manure application, and land treatment practices. This should be in narrative form and should describe the operation comprehensively, but succinctly.
    - vi. Existing documentation of present facility components that would aid in evaluating existing conditions, capacities, etc. (i.e., as-built plans, year installed, number of animals a component was originally designed for).

**STATEMENT OF WORK**  
**Comprehensive Nutrient Management Plan**  
**MISSOURI**

- vii. Applicable permits or certifications
  - 1. Federal, Tribal, State or local permits and/or ordinances
  - 2. Operator or manager certifications
  - 3. Manure applicator certifications
  - 4. Written manure application agreements (where applicable)
    - (a) Signed spreading agreements
    - (b) Spreading easements as required
  - 5. Record of inspections or site assessments
  - 6. Record of changes made to CNMP. Include:
    - (a) Name of the planner making the change
    - (b) Date of change
- b. **Sustainability/Feasibility Evaluation for the Operation**
  - i. Whole-farm nutrient balance
  - ii. Manure hauling/application requirements for animal feeding operation (loads/yr given available equipment.)
  - iii. Estimate of acres needed to apply manure generated on this site respecting nitrogen or phosphorus soil loading limits. Must consider anticipated crops and use current removal rates.
  - iv. Expected times suitable for application and estimated days of application per season. A calendar is the preferred format for this information.
  - v. Estimate of soil test phosphorus at end of current planning period
- c. **General description of the livestock production system**
  - i. Animal types, phases of production, and length of confinement for each type at this site
  - ii. Animal count and average weight for each phase of production on this site
  - iii. Calculated or measured manure and wastewater volumes for this site
  - iv. Manure storage type, volume, and approximate length of storage
  - v. Manure transfer facilities and (or) equipment, if applicable
  - vi. Other utilization activities for manure (composting, pelleting, etc.), if applicable
  - vii. Balance of manure produced and manure distributed for land application or off-site use
  - viii. Animal mortality management system
    - 1. System for managing typical mortalities
    - 2. Plan for managing catastrophic mortality events
  - ix. Operation & Maintenance activities applicable to the livestock production system, especially those related to manure storage, transfer, modification, and land application
- d. **Land Application Site Information**
  - i. General description of the fields and locations for land application
    - 1. Designated land use for planning period (e.g., row crop, pasture, hayland)
  - ii. Aerial maps of land application areas with field acreage designated
  - iii. Individual field maps with marked setbacks, buffers, and waterways, environmentally sensitive areas, such as sinkholes, wells, gullies, tile inlets, etc. Identify spreadable acreage available.
  - iv. Legal description of land application sites, including watershed codes
  - v. Specific and unique field identification codes
  - vi. Soil map, with appropriate interpretations
  - vii. Land treatment practices planned and applied, and level of treatment they provide on field-by-field basis
  - viii. Operation & Maintenance activities applicable to the land treatment practices, especially those related to practices that reduce overland movement of water and manure
- e. **Regularly Recurring Activities Related to Land Application of Manure**
  - i. Current soil tests – not more than 4 years old from an approved laboratory. Soil tests shall be less than two years old for a new plan.
  - ii. Risk assessments for potential nitrogen and phosphorus losses from fields (Missouri Leaching Index and Missouri Phosphorus Index)

**STATEMENT OF WORK**  
**Comprehensive Nutrient Management Plan**  
**MISSOURI**

1. Field-by-field risk assessments
2. Provide an interpretation of the risk assessments
3. List actions to be taken as a result of field risk assessment
- iii. Current manure test for each individual manure storage containment (sampled annually)
- iv. Desired conditions during nutrient application (weather, soil moisture, etc.)
- v. Past crops and actual yield data
- vi. Provide recordkeeping forms for:
  1. Actual weather and soil conditions during manure application
  2. Actual crops planted, dates planted and harvested, and yields achieved
- vii. Emergency Action Plan for land application of manure resulting from chronic/catastrophic storm events
- viii. Operation & Maintenance activities applicable to the land application of manure including soil testing, manure testing, risk assessment, crop history data collection, and weather data collection
- f. **Field-by-Field Nutrient Application Plans for length of the planning period (usually the soil test cycle)**
  - i. Brief general description of the nutrient management objectives for the operation
  - ii. Cropping sequence, realistic yield goals, and expected nutrient removal amounts
    1. Provide source of realistic yield goals and nutrient removal amounts
  - iii. Planned rates, methods of application, and timing (month and year) of commercial fertilizer nutrients to be applied for crop use (include all nutrient sources and limestone)
  - iv. Planned and applied rates, methods of application, and timing (month and year) of manure nutrients to be applied for crop use (include all sources)
  - v. Nutrient budget for application and removal of nutrients (N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O) including residual amounts of these nutrients
  - vi. Application equipment descriptions and methods of application (including incorporation) for commercial fertilizer and manure
  - vii. Expected times suitable for application and estimated days of application per season. A calendar is the preferred format for this information (see 2. b. Sustainability/Feasibility)
  - viii. Estimated application amounts per acre (show calculations in gallons or tons per acre, and pounds of plant-available nitrogen, phosphorus as P<sub>2</sub>O<sub>5</sub>, and potassium as K<sub>2</sub>O per acre)
  - ix. Effect of incorporation operations on surface residue and erosion control
  - x. Schedule of land applications for each field by month and year to meet nutrient need
  - xi. Operation & Maintenance activities applicable to manure application planning, including calibration and maintenance of applicators, and recordkeeping guidance for manure applications
- g. **Plan Review with Owner/Operator**
  - i. Review planned treatments step by step, field by field, and year by year with the owner/operator
  - ii. Incorporate revisions suggested by owner/operator
  - iii. Certify that owner/operator understands plan and has knowledge, skill, and ability to apply the scheduled treatments
  - iv. Provide Finalized Plan for Current Year

**Plan Delivery Requirements for CNMP preparers:**

1. **All:** Provide one (1) copy of the CNMP and supporting documents to the client and review materials. The CNMP document shall be reviewed and signed (and dated) by a certified conservation planner.
2. **Technical Service Providers (TSPs):** Deliver one (1) final printed plan and one (1) electronic copy of the CNMP on computer compact disc (CD-ROM) to the local NRCS Field Office by the assigned date. Information used to produce the CNMP document shall be supplied in a format compatible with Manure Management Planner (.mmp). Details on access to Manure Management Planner are provided at the end of this document. The final CNMP shall be free of error and typed in a readable

## STATEMENT OF WORK

### Comprehensive Nutrient Management Plan

### MISSOURI

font. The electronic version of the final CNMP will be compatible with Microsoft Office Word/Excel/Access 2003. Any maps provided will be supplied in a JPEG (.jpg) format.

3. **USDA Service Center personnel:** Develop and record CNMP in NRCS Toolkit, including digitized land units and practice schedule. Information used to produce CNMP information for NRCS Toolkit shall be supplied in a format compatible with Manure Management Planner (.mmp). Details on access to Manure Management Planner are provided at the end of this document.

## FOLLOWUP

---

### Deliverables:

1. Develop and deliver plan(s) to appropriate sources. Review planned treatments step-by-step, field-by-field, year-by-year with client.
2. Review, on-site, the results of the applied management practices outlined in the CNMP
3. Assist client to evaluate both annual and strategic components of the CNMP. Update and (or) revise the CNMP as appropriate.
4. Evaluate the CNMP's effects on soil, water, air, plant, and animal resources.
5. Assist the client to evaluate and assess CNMP record keeping needs.

## SUPPORT REFERENCES

---

- Manure Management Planner (MMP), Purdue University. Free download at [www.agry.purdue.edu/mmp](http://www.agry.purdue.edu/mmp).
- Missouri NRCS Electronic Field Office Technical Guide (eFOTG). Access at <http://www.nrcs.usda.gov/technical/efotg/>.

## REFERENCES

---

- NRCS National Planning Procedures Handbook (CNMP Technical Guidance)
- NRCS National Environmental Compliance Handbook
- NRCS Field Office Technical Guide
- NRCS National Engineering Manual
- NRCS National Agronomy Manual
- NRCS National Cultural Resources Procedures Handbook
- NRCS National Engineering Handbook, part 652, National Irrigation Guide
- Manure Characteristics. Midwest Plan Service. MWPS-18. (2)
- Missouri Department of Natural Resources Manual 121, Design Guidelines for Animal Waste Management for Concentrated Animal Feeding Operations.

## STATE CONTACT

---

Glenn Davis, Missouri NRCS State Nutrient Management Specialist  
601 Business Loop 70W, Ste 250, Columbia, MO 65203  
573-876-0908