Development of Nutrient Management Plans

Fundamentals of Nutrient Management Training Course
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Outline

• Unified AFO Strategy or Comprehensive Nutrient Management Planning
• USDA/NRCS Technical Guidance for Developing CNMP (PC till 03)
• WV Criteria, forms and procedures
Increase in Animal Units per Operation (1978-1992)

- Cattle: 56%
- Dairy: 93%
- Hog: 134%
- Layer: 176%
- Broiler: 148%
- Turkey: 129%
CNMP Definition

• To use nutrients (mainly nitrogen, phosphorus and potassium) wisely for optimum economic benefit to the farmer while minimizing impact on the environment
CNMP

- USDA/NRCS has national responsibility for CNMP policy and procedure.
- Outcome: more certified planners and increased level of assistance
Components of a Comprehensive Nutrient Management Plan

1. Animal outputs: Manure and Wastewater
2. Evaluation and Treatment of CMU
3. Land Application of Nutrients
4. Record Keeping for Implementation
5. Animal Inputs or Feed Management
6. Other Utilization Options
1. Animal Outputs

• This section has options, may include
• Adequate collection, storage and or treatment of Manure and Wastewater
• Water control devices around feeding area
• Disposal of dead animals, medical wastes
• Spills and catastrophic events
• Spoiled feed and other contaminants
1. Animal Outputs continued

- Milk house cleanup water
- Testing of manure and organic sources
- Insect control
- Silage leachates
- Visual improvement
- Off-site considerations
2. Evaluation of Treatment Sites

- This section states that a plan will include
- Potential for loss of N and P from CMU
- Aerial site photos or maps
- Soil features and limitations
- Sensitive areas with setbacks as needed
- Practices to control erosion and water
2. Evaluation of Treatment Sites continued

- Soil test analysis for pH, nutrients, organic
- Identification of pathogens and odors
- Property boundaries and location of streams and other water bodies
- Operation and Maintenance practices
3. Land Application

• The CNMP should include
• Nutrient budget for N, P, K including all sources
• Planned crop sequence
• Current soil test results
• Manure source testing results
• Realistic yield goals
3. Land Application continued

- Crop nutrient use
- Form, source, amount, timing and method of application of nutrients
- Calibration of Equipment
- The potential short and long term impacts of applications must be evaluated
4. Record of Implementation

- A record keeping plan should be implemented
- Nutrient application rates by CMU
- Quantities, analysis and source of nutrients applied
- Weather conditions during application
4. Record of Implementation continued

- Method by which nutrients were applied
- Crops planted, planting and harvest dates
- Dates of review and recommendations
- Equipment calibration activities
- Off-site use of manure
5. Inputs To Animals

• This section states that activities may be used or include strategies such as
  • Phytase enzymes in feed
  • Low phytin P grain (coming soon)
  • Phase feeding, amino acid supplemented low crude protein diets
6. Other Utilization Activities

- This section states that using manure for environmentally safe alternatives should be an integral part of a CNMP
- Transport and safe use off-site
- Power generation
- Converting to high-value product, composting
Effects of This Guidance Document

• Very involved process to develop a CNMP
• Clear format so planners will have a good road map
• Revised Conservation Practice Standards will further improve development of CNMPs
Reference List

• USDA, NRCS Technical Guidance For Developing CNMPs