

Development of Nutrient Management Plans

Fundamentals of Nutrient Management
Training Course
Jan. 9, 2003

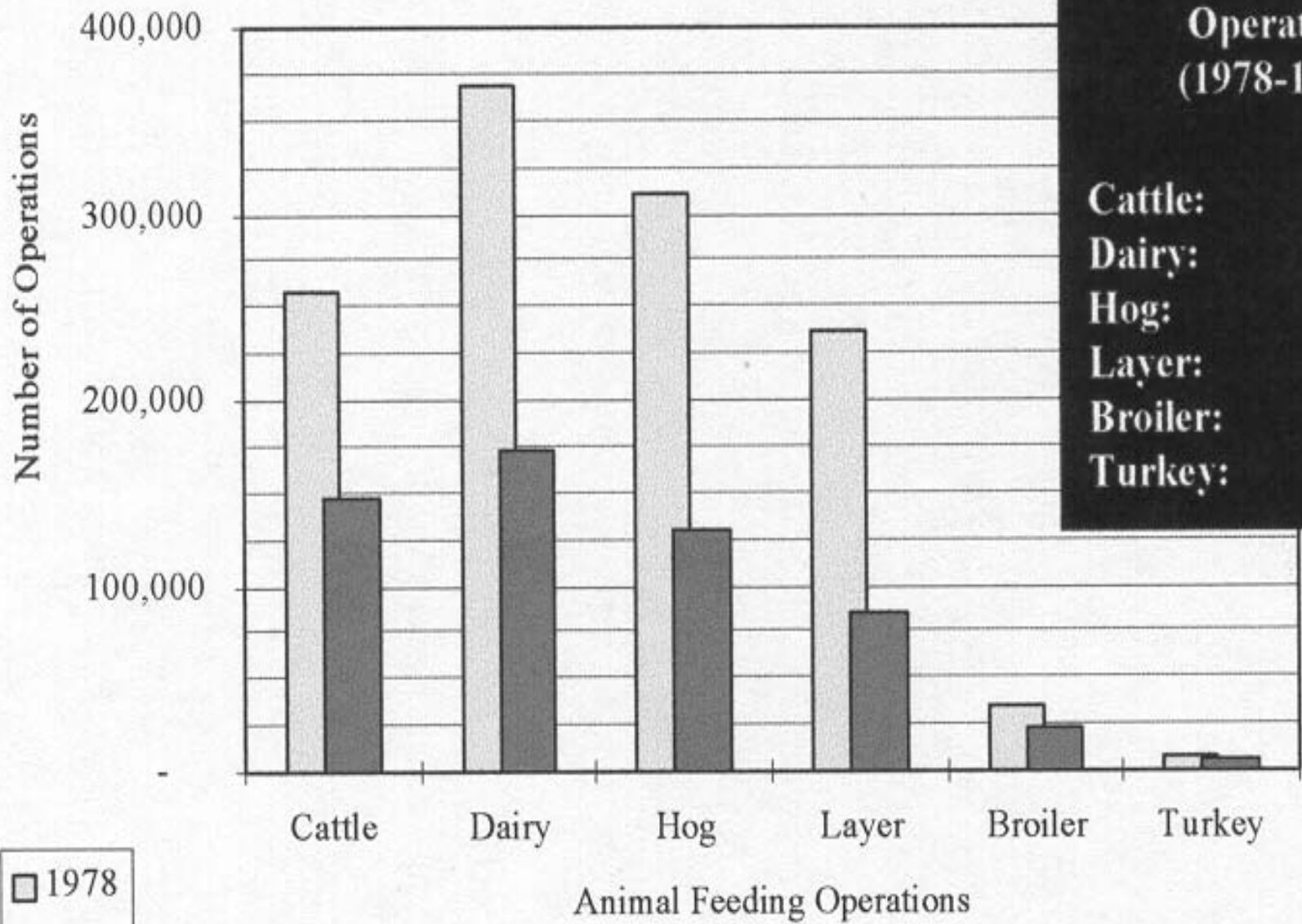
Tom Basden

WVU Extension Service

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%

□ 1978
■ 1992

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 Implimentation
- 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
<http://www.nhq.nrcs.usda.gov/PROGRAMS/ahcwpd/ahCNMP.html>