

# Nutrient Management in Texas

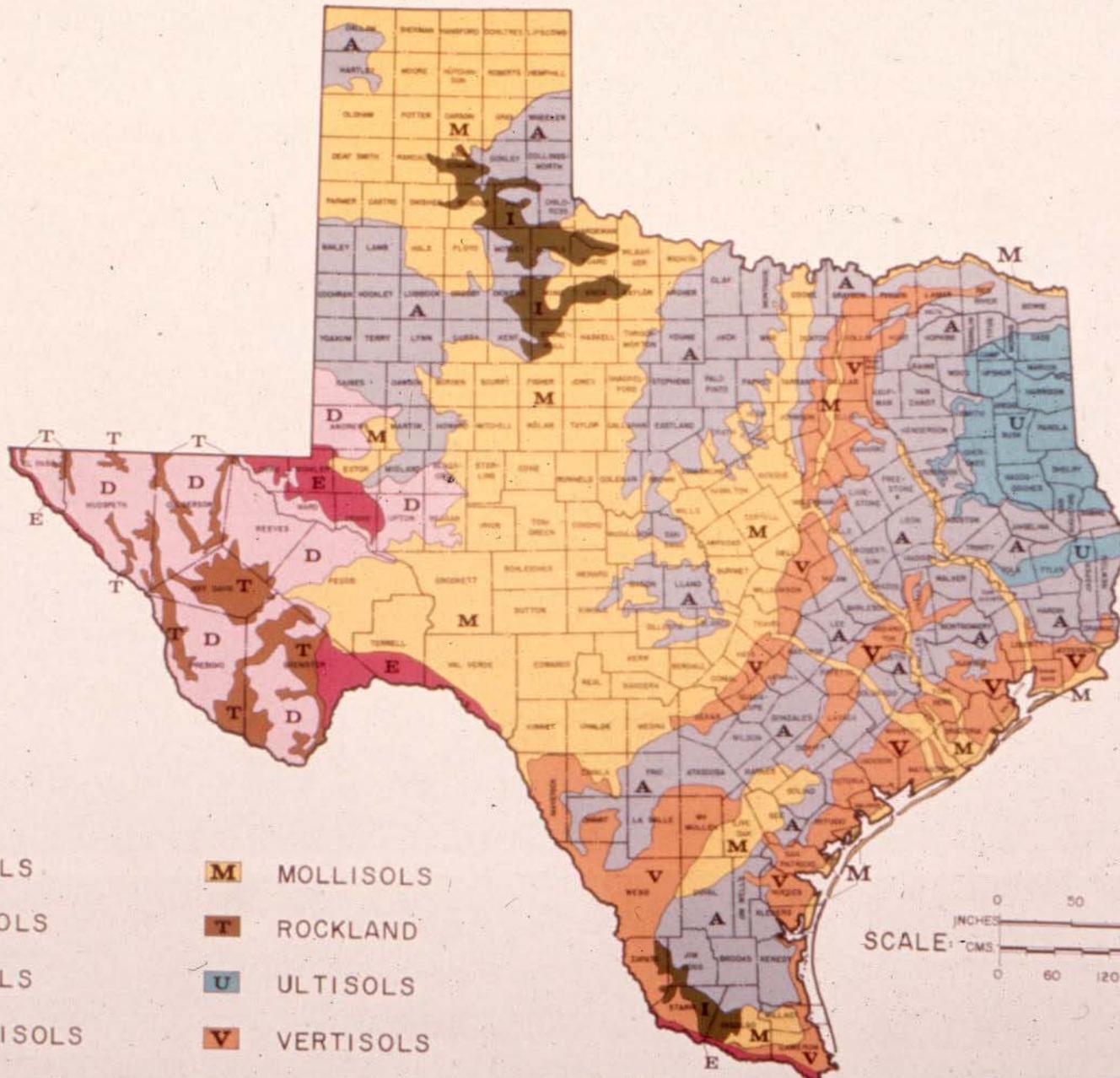
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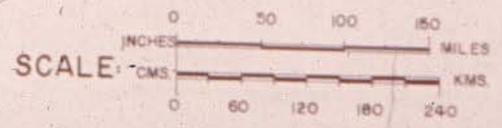
# Objectives

- 1. Describe the Nutrient Management Practice Standard process in Texas
- 2. Nutrient management tools and software
- 3. Discuss the types of nutrient management plans
- 4. Nutrient management research in Texas
- 5. Nutrient management training

# SOIL ORDERS IN TEXAS



- |                      |                    |
|----------------------|--------------------|
| <b>A</b> ALFISOLS    | <b>M</b> MOLLISOLS |
| <b>D</b> ARIDISOLS   | <b>T</b> ROCKLAND  |
| <b>E</b> ENTISOLS    | <b>U</b> ULTISOLS  |
| <b>I</b> INCEPTISOLS | <b>V</b> VERTISOLS |



# Nutrient Management Practice Standard Process

- 1. National Nutrient Management Policy reviewed and approved in August 1999.
- 2. Texas Nutrient Management Plan
  - NRCS and TCE developed a draft practice standard
  - Published in the Texas Registry
  - Reviewed comments
  - Finalized and published in June 2000

# Nutrient Management Tools and Software

- Nutrient Management Plan
- Texas Phosphorus Assessment Tool
- Soil Test Conversion
- Big Gun Application Worksheet
- Waste Utilization Plan – Nutrient Utilization Plan
- NMP for Fertilizers
- Poultry Producer Spreadsheet
- NRCS Core 4
- Liquid-Solid Estimator Worksheet

# Nutrient Management Tools and Software

- TCE Soil, Water and Forage Testing Laboratory
- Partially funded by TCE, mainly revenues
  - ~ 33,000 soil samples per year
  - ~ 10,000 plant samples per year
  - ~ 6,000 water samples per year
  - ~ 1,500 manure and biosolids per year

# Types of Nutrient Management Plans

- NRCS Nutrient Management Plan
- TCEQ Nutrient Utilization Plan
- TSSWCB Water Quality Management Plan
- USDA/NRCS Comprehensive Nutrient Management Plan

# Nutrient Management Research in Texas

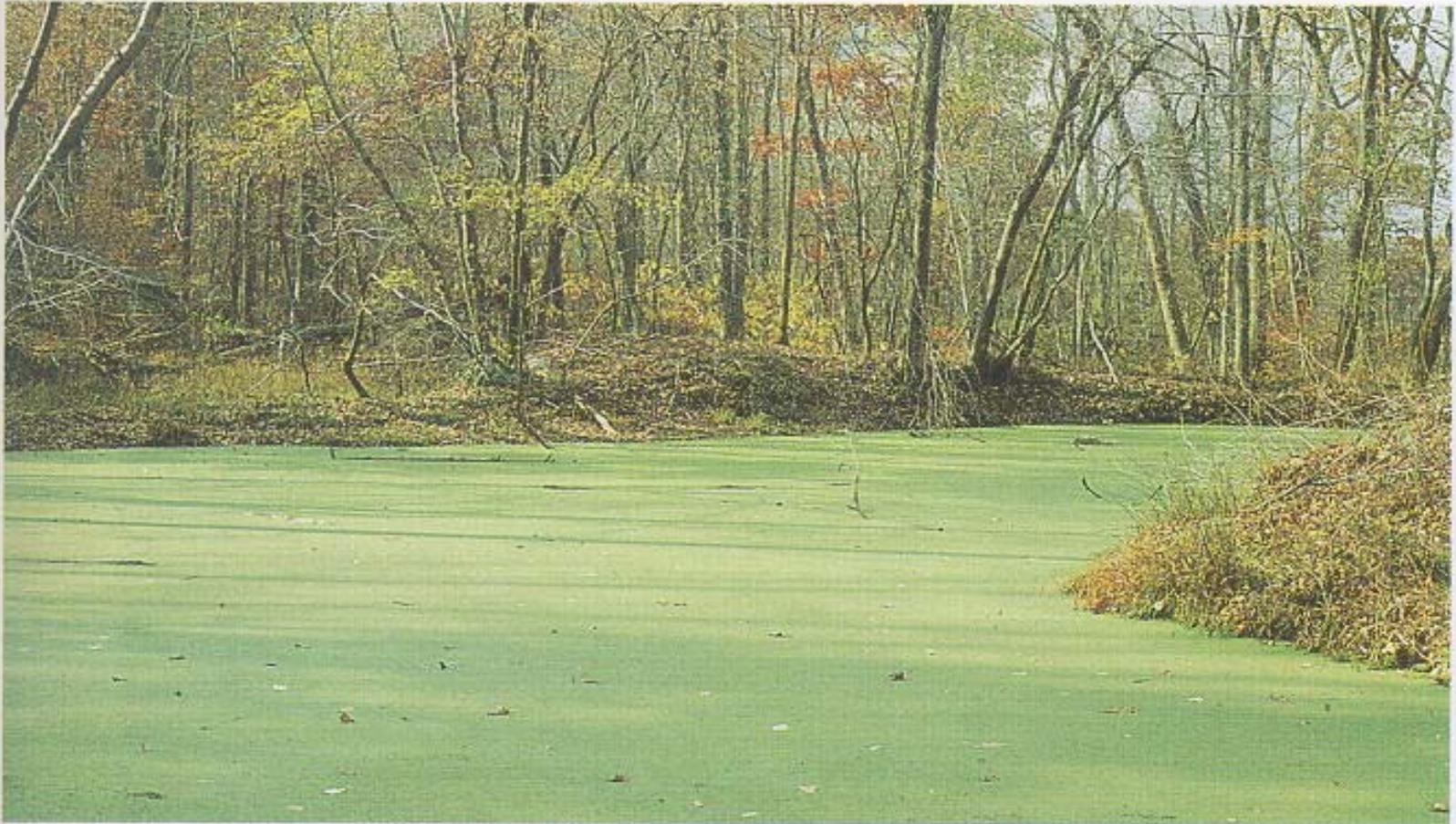
- Number of researchers – 27
- Crops – peanuts, wheat, forage sorghum, cotton, sorghum, corn, corn silage, bermudagrasses, wheatgrass, turf grasses, clovers, ryegrass, alfalfa, sweet potatoes, petunia, roses, blueberry, onion, cauliflower, broccoli, tomato, soybean, switchgrass, kleingrass, rice, cowpea, sorghum-sudan, millet, bluegrass, phasey bean, lablab, tall fescue, Illinois bundleflower, crab grass, partridge pea, sunflower, guar, rice, sugarcane, citrus

# Nutrient Management in Texas

- Nutrients – N, P, K, S, Zn, Fe, B, Mg, Ca, Cl
- Salinity
- Animal manures, wastes and effluents
- Biosolids

# Nutrient Management Training





**PLATE 27** Excessive inputs of nitrogen and phosphorus from upstream farmland resulted in the algal bloom that caused this slow-moving coastal plain stream to become choked with a green scum.

# Purpose of the NMCP

- 1. Federal NRCS Nutrient Management Policy stated that each state would have certified nutrient specialists to approve their Nutrient Management Plan
- 2. Texas State Conservationist, John Burt, decided Texas would have a certification course and exam.
- 3. Asked TCE to work with NRCS State Agronomist and Zone Agronomists to develop and deliver the program.

# What is the Texas NMCP?

- 1. It is a short course and an exam.
- 2. 20 hours of training and 100 multiple choice questions covering the training materials.
- 3. 5 CEU's per year in nutrient management
- 4. Maintaining ethics in writing Nutrient Management Plan

# What is involved in the short course?

- 1. 20 hours of training
  - 4 hours Soil Fertility
  - 4 hours Soil Testing
  - 4 hours Soil Environmental Issues and Regulations
  - 8 hours NRCS Nutrient Management Policy and Practice Standard
- 2. Passing exam with 70 or better
- 3. Taught by TCE and NRCS, TCE responsible for program, certified by NRCS and TCE.

# What is involved in the short course?

- 1. Soil Fertility
  - Essential elements for plant growth
  - Nitrogen, P, K, Ca, Mg, S, and micronutrients
    - Cycles and reactions in soil
    - Application methods and timing
    - Application rates and sources of nutrients
    - Function and mobility in plants
    - Deficiency and toxicity symptoms
    - Management recommendations

# What is involved in the short course?

- 1. Soil Testing
  - Soil forming factors
  - Soil sampling protocols
  - Soil pH and limestone application
  - Nitrogen, P, K, Ca, Mg, S, and micronutrients soil testing and data interpretation
  - Philosophy of fertilizer recommendations
  - Soil test report forms and recommendations

# What is involved in the short course?

- 3. Environmental Issues
  - TCEQ Rules for CAFOs and Biosolids
  - Comparison of the NRCS Nutrient Management Plan and the TCEQ Nutrient Utilization Plan
  - Nitrogen and P based manure application
  - Comparison of soil test P methods of extraction
  - Recommendations for manure management

# What is involved in the short course?

- 4. NRCS Nutrient Management Policy and Practice Standard
  - Nutrient Management Policy
  - Nutrient Management Practice Standard
  - Phosphorus Assessment Tool – Phosphorus Index
  - Waste Utilization Plan
  - Nutrient management plan development

# Certification Short Courses

- 1. Previous locations: Austin, College Station, Stephenville, Mt. Pleasant, Corpus Christi, Amarillo, Lubbock, Weslaco, and San Angelo
- 2. Exam results
  - ~ 250 taken course
  - 19 did not take exam
  - ~ 175 Certified
  - ~ 80 are TSP (non-NRCS, non-TSSWCB, non-TCE, non-TAEX)

# What does the Texas CNMS do?

- The Texas CNMS is the only one that can approve a NMP in Texas
- According to TCEQ, they are one of 5 that can approve a NUP, but since the NUP is a NMP, then by NRCS standards, only the CNMS can approve a NUP.
- Under the umbrella of CCA in Texas.

**Designated Driver**

**Texas Style**

