

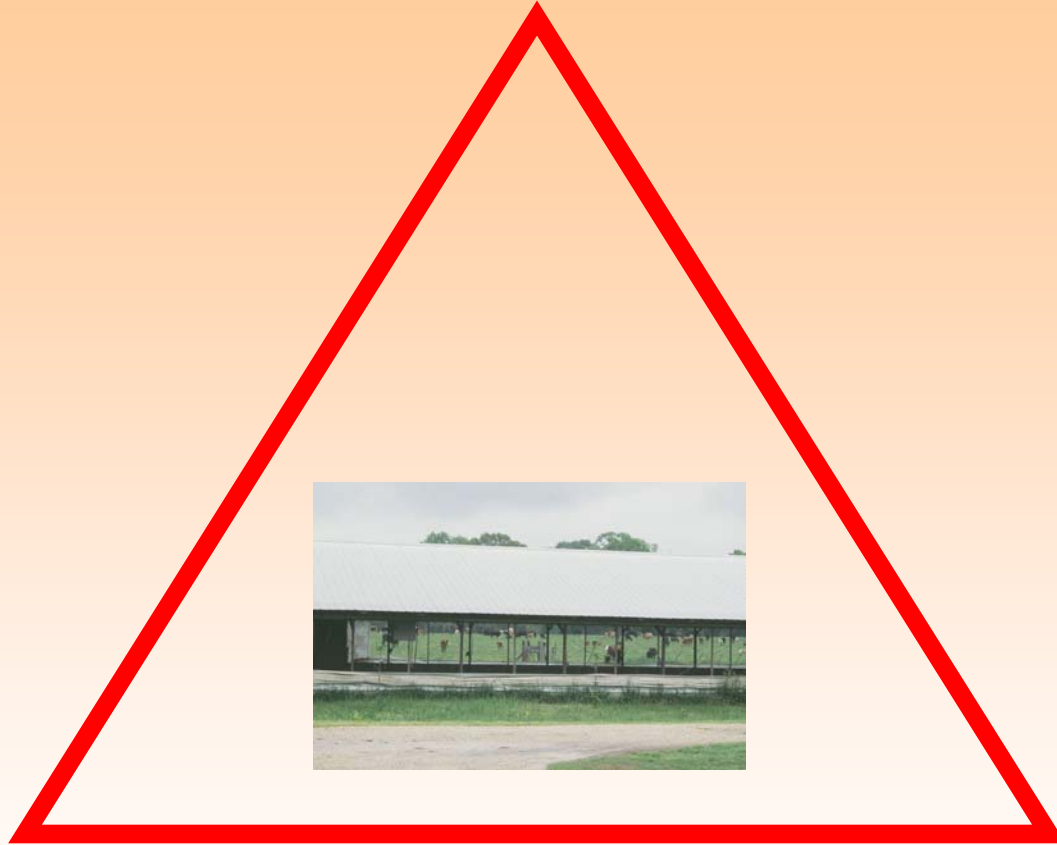
Nutrient Management, Mississippi 2004

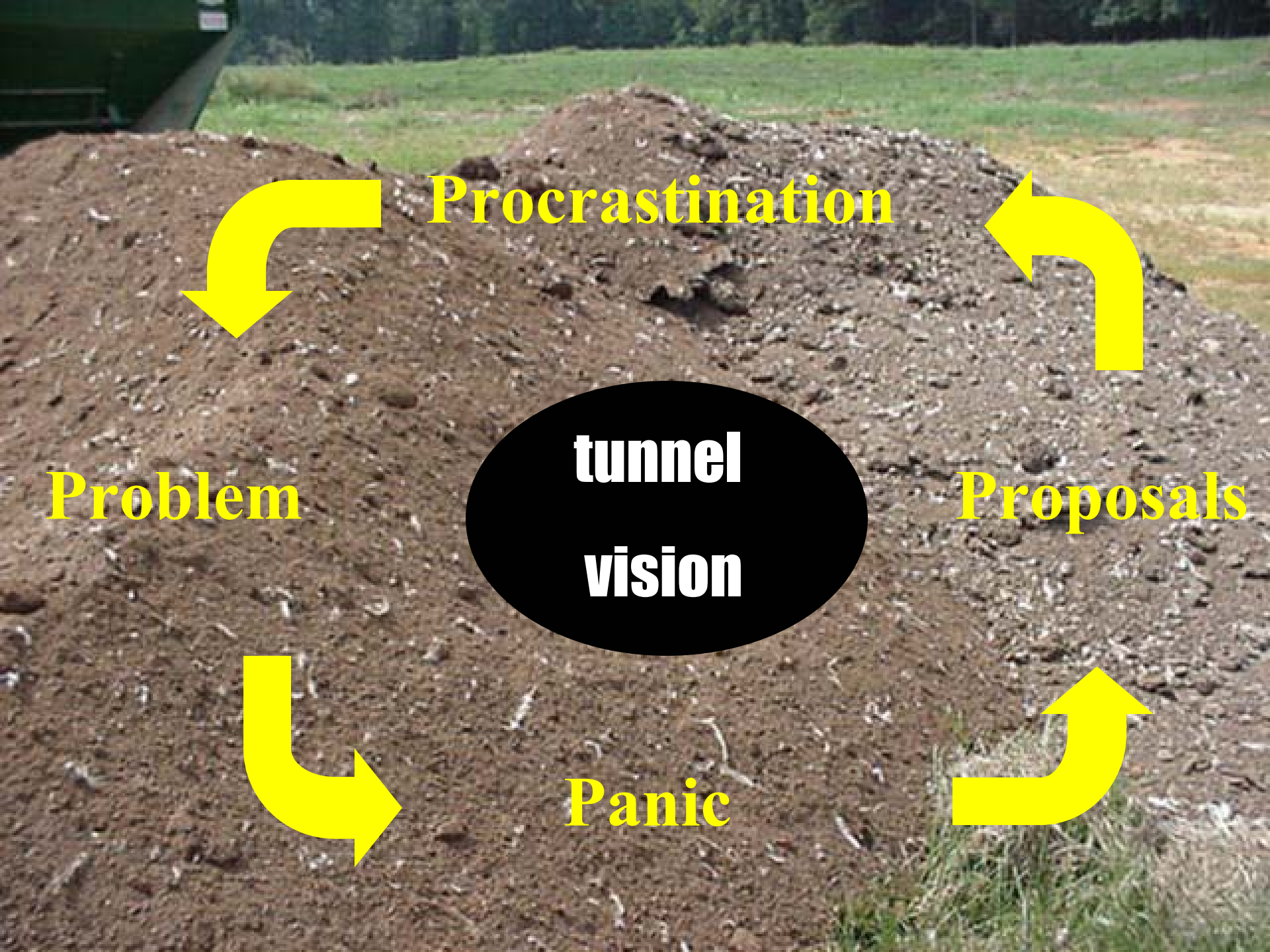
Larry Oldham, Ph.D.

Associate Extension Professor - Soils



DEQ





Procrastination

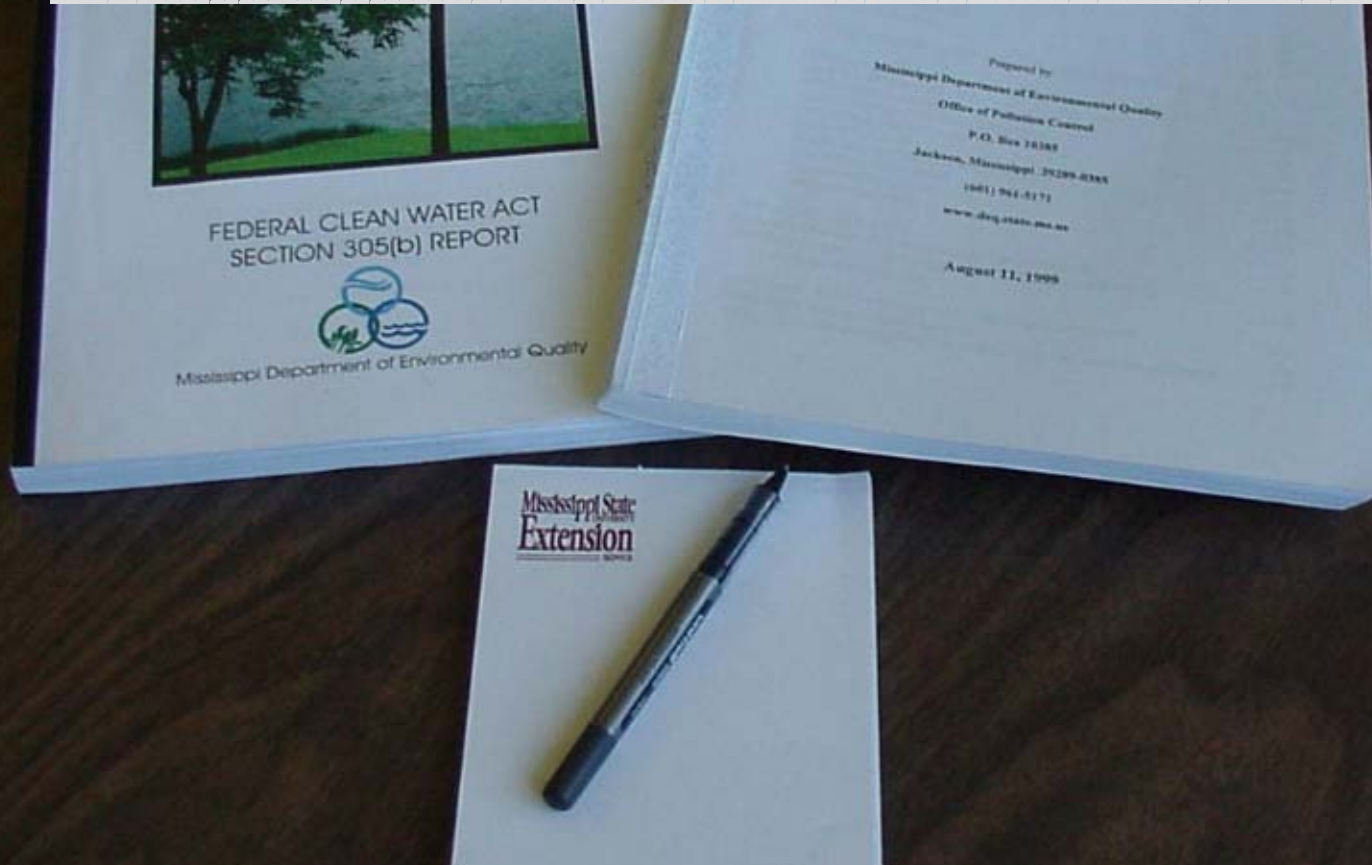
Problem

Proposals

**tunnel
vision**

Panic

Nutrient Management and Watersheds



- **Mississippi 303 (d) and 305(b) reports**



Mississippi Nutrient Management

- **MSU NM & WQ Task Force**
 - **MSU-ES and Experiment Station**
- **MSU-ES Environmental/Nutrient Management Program Priority Group**
- **USDA ARS**
 - **WM and Forages Research Unit**
 - **National Sedimentation Laboratory**



MS Nutrient Management Symposium

December, 2003

Producers, academia, agencies

Presented current work

Facilitated discussions

strengths and weaknesses

future directions



**Animal By-Product Related Nutrient
Management Research by MSU and partners**

Economic Analysis of Environmental Amenities in Mississippi

Enclosed Dairy Housing and Dairy Cattle Performance

Production Ecology and Silviculture of Forested Ecosystems

**Evaluation of Cropping Management Systems for the Brown
Loam Area of Mississippi**



**Sustainable Corn Production Utilizing Nutrients
Contained in Poultry Litter**

**Influence of Timing of N and Poultry Litter Fertilizer on
Ryegrass Production and Steer Performance**

**Steer Performance and Ryegrass Production Responses
to Timing of Broiler Litter and Commercial Nitrogen
Fertilizer Application**

**Influence of Timing of Nitrogen Application and Poultry
Litter Fertilizer on Ryegrass Production and Steer
Performance**



**Broiler Litter Management for Land Productivity and
Water Quality: Forestry Component**

**Broiler Litter Fertilization of Mid-rotation Loblolly Pine
Trees**

**Broiler Litter Management for Land Productivity and
Water Quality: Forestry Component**

**Comparison of Poultry Litter vs Commercial Fertilizer as
Nutrient Sources for Corn**

**Effect of Poultry Litter vs Commercial Fertilizer and
Method of Tillage on Corn Yield and Soil Phosphorous**



**Effect of Poultry Litter vs Commercial Fertilizer on
Corn Silage Yield and Soil Phosphorus**

**Effect of Poultry Litter vs Commercial Fertilizer
and Method of Tillage on Corn Silage Yield and
Soil Phosphorus**

**Agricultural and Environmental Implications of
Pasture and Broiler Litter Application
Management in Small Plots**

**Agricultural and Environmental Implications of
Pasture and Broiler Litter Application
Management**



Effect of Poultry Litter Rates on Ryegrass Yield

**Effect of Poultry Litter Rates vs Commercial Fertilizer
on Ryegrass Yield and Change in Soil P Levels**

**The Use of Broiler Litter as a Supplement to Ryegrass
Grazing by Un-bred Holstein Heifers**

**The Value of Pasteurized Broiler Litter Products in
Staked Tomato and Perennial Flower Production**

Pasteurized Broiler Litter Pellets for Tomato Production



**Safety and Efficacy of Composted Broiler Litter
for Vegetable Production**

**Evaluation of Chicken Litter as a Nitrogen Source
for Cotton**

Broiler Litter as a Nitrogen Source for Cotton

**Compared Yields of Nine Warm Season Grass
Species and One Legume Receiving Poultry Litter**

**Yield and Nutrient Uptake of Tropical Forages
Receiving Broiler Litter**



**Swine Effluent for Plasticulture Production of Spring
Tomato Followed by Fall Cucumber: Yield and
Potential Contamination by Salmonella**

Poultry Litter as a Fertilizer in No-tillage Corn

**Fertilizer Value of Broiler Litter and Quantity of Litter
Produced**

Microbiological Characterization of Broiler Litter

**Litter Application to Control Reniform Nematode
Parasite in Cotton**

Composted Litter Safety and Efficacy on Truck Crops



**Use of Breeder Litter for Composting Furniture
Woodwaste**

**Determination of Bacteria and Nutrients From Beef
Cattle Grazing Operations**

**Sediment Losses and P Dynamics From Poultry Litter
Amended Soils as Affected By Agronomic Practices**

**Application of Environmental Assessment Tools to
Watersheds in Mississippi**

**Timing of litter application and repeated rain on runoff
nutrient concentrations**



Nitrogen and P sources and runoff nutrient dynamics.

**Soil N mineralization, and N uptake by corn and cotton
in different soil types amended with broiler litter.**

**Fate and Transport of Human Pathogens in Land
Applied Poultry Litter and Swine Lagoon Effluent**

**Broiler Litter Nutrients and Gaseous Products of
Commercial Broiler Facilities**



Strengths of program

Involves many stakeholders

Demonstrated ability to bring research to producers and agencies (opened the gate on cooperation)

Good interagency relationships

Having personnel for support structure

Extension Service is offering more to poultry producers

Mississippi “Medallion” will be a good opportunity for farmers to participate in a positive program

Good to have personnel to facilitate transfer of research

Involvement through a multi-disciplinary approach



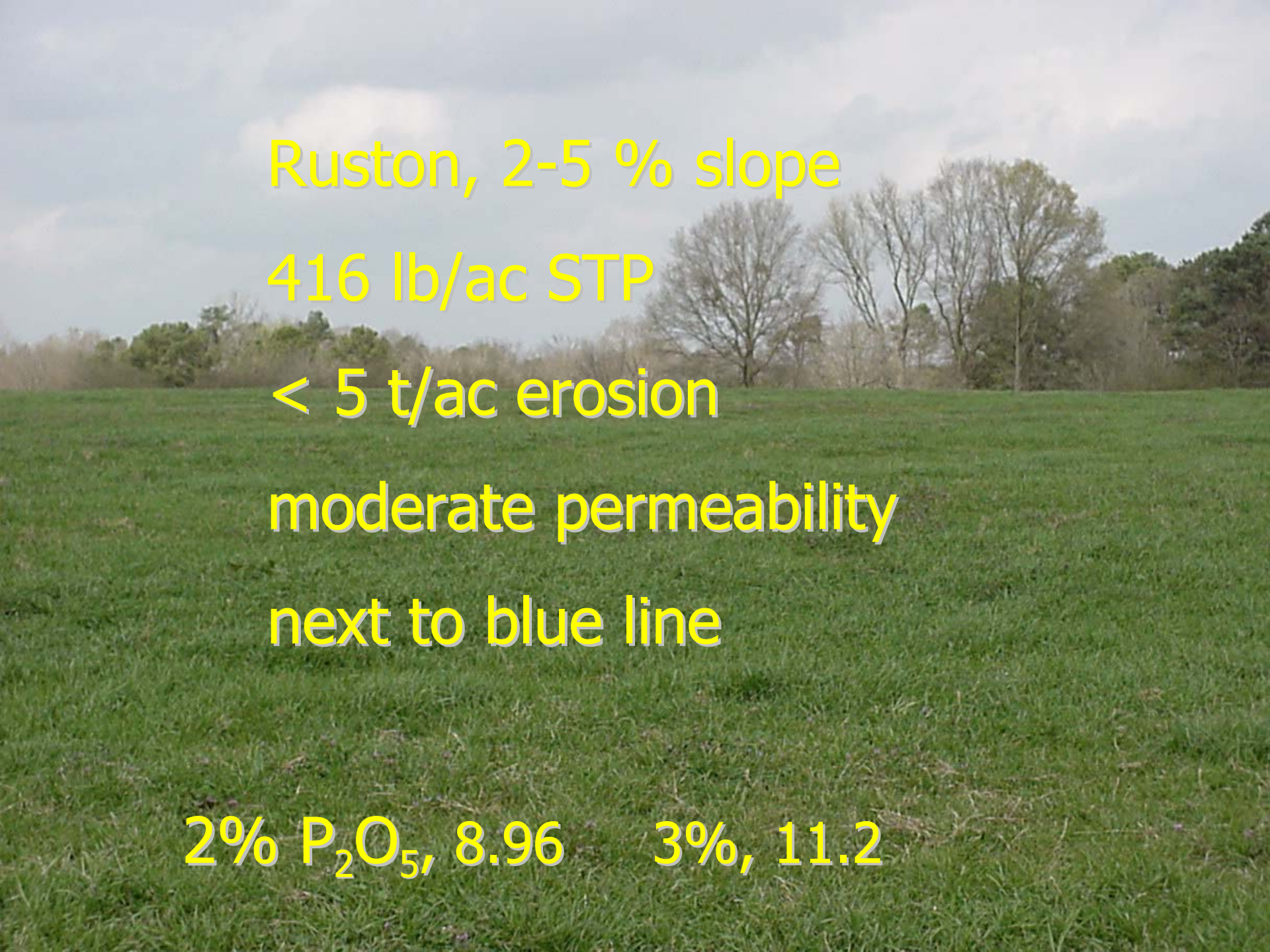
Opportunities for improvement

Determine a 'best' mechanism to implement a package of the past three years of research

Continue outreach through Field Days, local, and regional meetings

More outreach and research on various aspects

More outreach concerning record keeping programs



Ruston, 2-5 % slope

416 lb/ac STP

< 5 t/ac erosion

moderate permeability

next to blue line

2% P_2O_5 , 8.96

3%, 11.2



New Considerations

**AFO/CAFO general permits
required continuing education**

NRCS..... ahem Planning Software

Master/Medallion Extension Model



Mississippi State
UNIVERSITY
Extension
SERVICE

Nutrient Management