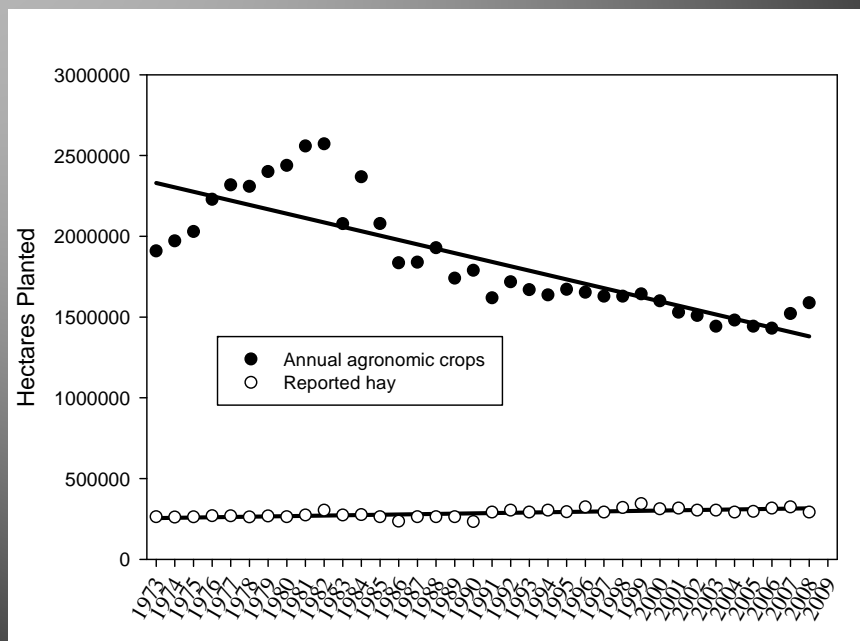


# The Mississippi Nutrient Management Manual: Simplifying Availability of Maintenance-Based Fertilizer Recommendations and Nutrient Best Management Practices

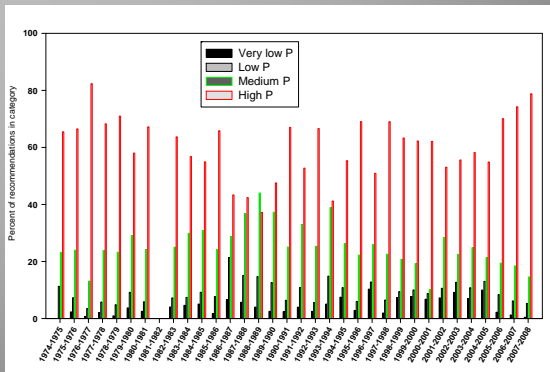
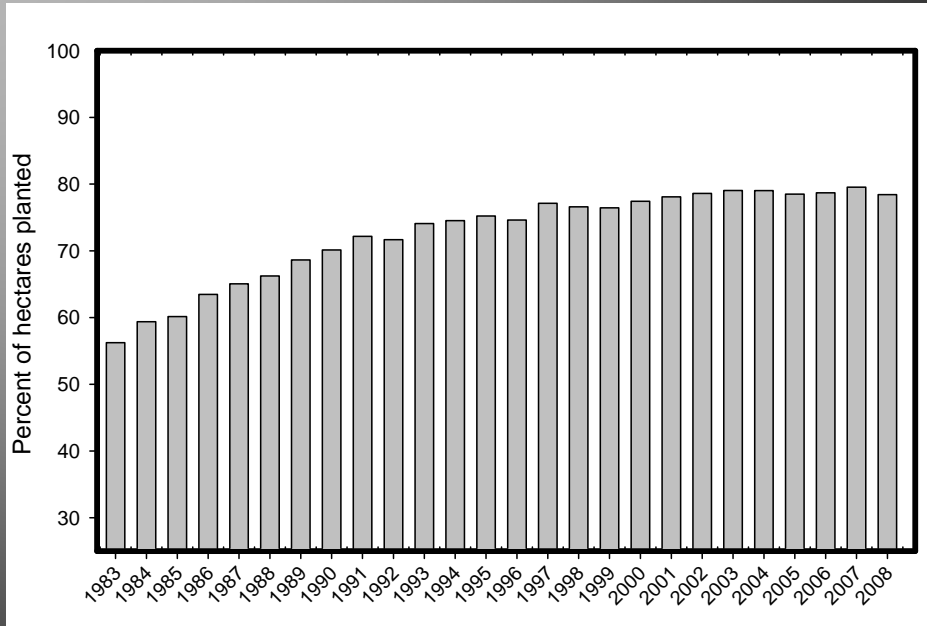
*Larry Oldham, Ph.D.*  
*Extension Professor – Soils*  
*Department of Plant and Soil Sciences*



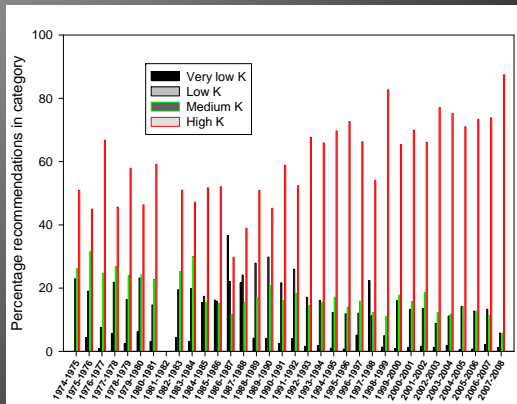
## Planted crops, 1973-2009



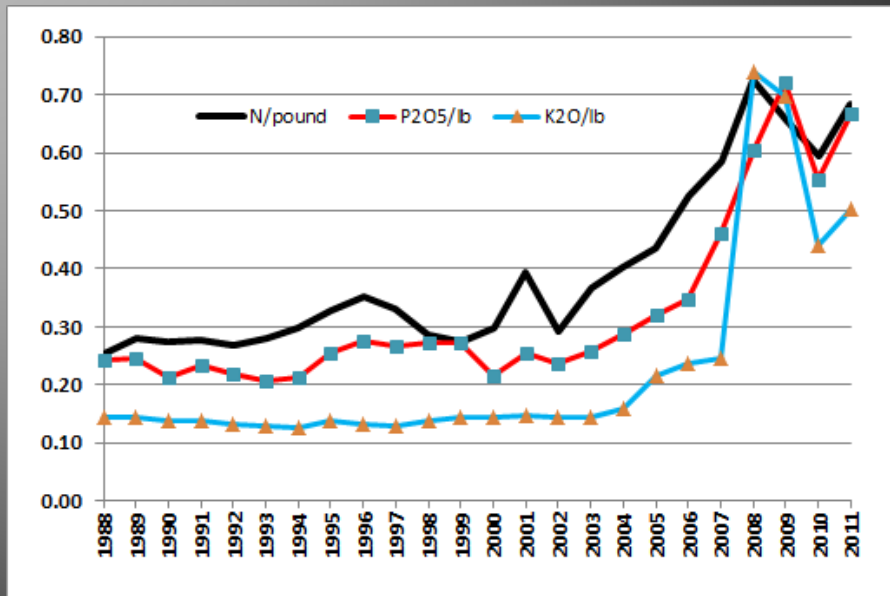
# Percentage of annual agronomic crops grown in Delta



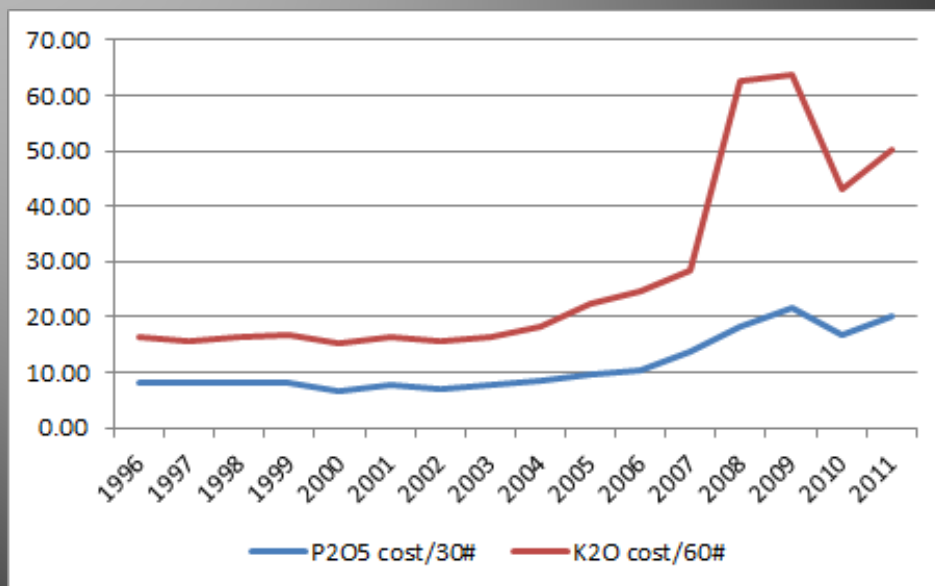
## Delta soil fertility

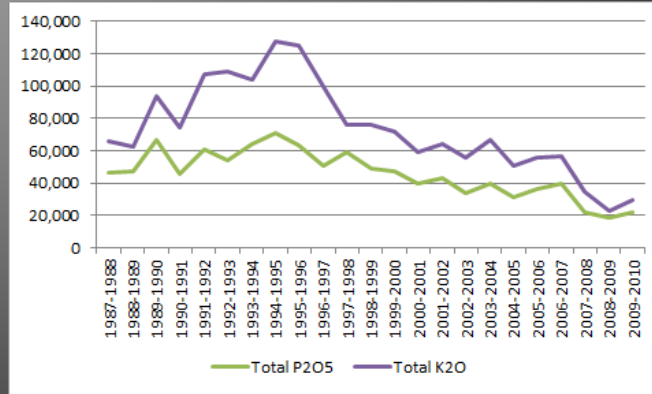
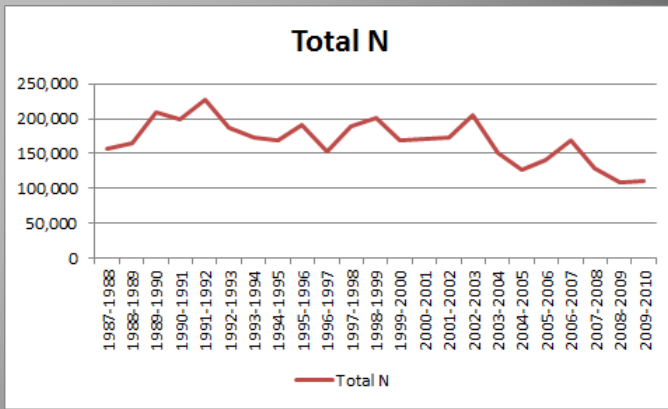


## Fertilizer Prices, \$/AI fertilizer using AN, DAP, and KCl, ERS data



## Cost per acre of MSU P and K recommendations (per increment)





- *Chapter 1: Introduction to Nutrient Management*
- *Chapter 2: The Soils of Mississippi*
- *Chapter 3: Plant Nutrients*
- *Chapter 4: Introduction to Soil Testing*



- *Chapter 5: Introduction to Inorganic Fertilizers*
- *Chapter 6: Lime, Liming Materials, and Regulations in Mississippi*
- *Chapter 7: Using Poultry Litter to Fertilize Agronomic Crops*
- *Chapter 8: Best Management Practices for Nutrients in Agronomic Crop Production*



- *Appendix A: Mississippi State University Extension Service Soil Testing Based Recommendations for Hay and Pasture Crops.*
- *Appendix B: Mississippi State University Extension Service Soil Testing Based Recommendations for Annual Agronomic Crops*
- *Appendix C: Nutrient Management Glossary, adopted from the International Certified Crop Adviser Performance Objectives*



<http://msucares.com/crops/fertilizer/index.html>



## Example Forage Recommendation

Bahagrass, Bermudagrass, and Dallisgrass perennial summer pastures.					
Soil Test P Rating	Soil Test K Rating	Establishment Year		Maintenance (annual after establishment; retest soil after Year 3)	
Use Table 2.	Use Table 3a.	Recommended fertilizer rate, pounds per acre			
		P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Very High	Very High	0	0	0	0
High	High	0	0	0	0
Medium	Medium	25	25	25	25
Low	Low	50	50	50	50
Very Low	Very Low	100	100	50	50
Nitrogen and magnesium note:		Apply all P and K fertilizer(s), if recommended, and 60-80 lbs N/acre before growth starts. Repeat N application by mid-July if more growth is desired. Loss of stand may occur due to K deficiency. If soil test Mg is L or M, use 10-20 lbs Mg/acre of a Mg source (see Table 4).			



## Example Row Crop Recommendations

Soybeans							
Soil Test P Rating	Soil Test K Rating	Recommended fertilizer rate, pounds per acre					
Use Table 2.	Use Table 3b.	Year 1		Year 2		Year 3	
		P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Very High	Very High	0	0	0	0	0	0
High	High	0	0	0	0	0	0
Medium	Medium	30	60	30	60	30	60
Low	Low	60	60	60	60	60	60
Very Low	Very Low	120	120	120	120	120	120
Soybeans Inorganic Nutrient Management Notes		Soybeans: Apply ½-1 ounce of sodium molybdate or equivalent annually per bushel of seed if the soil pH < 7.0.					



### Average application rates on MS cotton

113

Nitrogen,  
lbs/ac

53

Phosphate,  
lbs/ac

97

Potash,  
lbs/ac

### Average application rates on MS soybeans

18

Nitrogen,  
lbs/ac

48

Phosphate,  
lbs/ac

69

Potash,  
lbs/ac



### Average MS cotton acres fertilized with:

99.5%

Nitrogen

41.6%

Phosphate

63.7%

Potash

### Average MS soybean acres fertilized:

9.5%

Nitrogen

17.3%

Phosphate

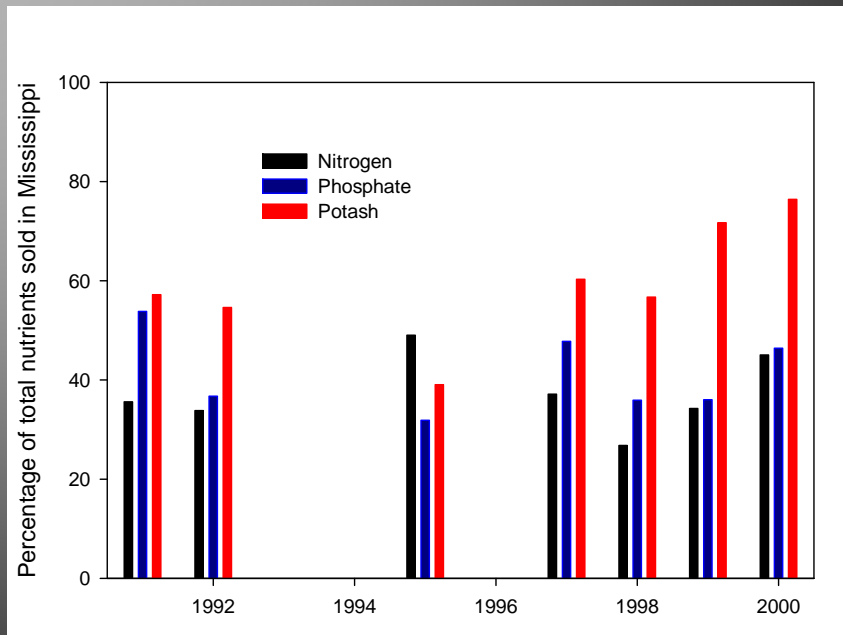
19.9%

Potash





# MS Nutrients used in cotton/sb



*Thank You!*



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