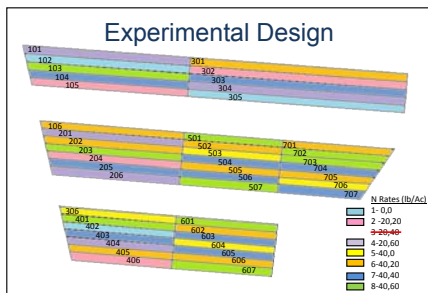


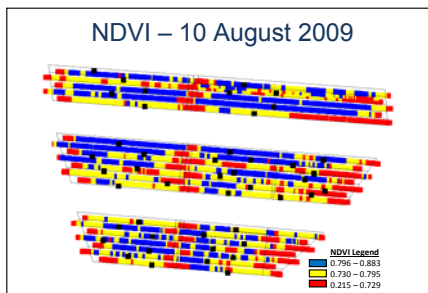
Evaluating the Feasibility of Variable Rate Application of Nitrogen on Cotton in Georgia



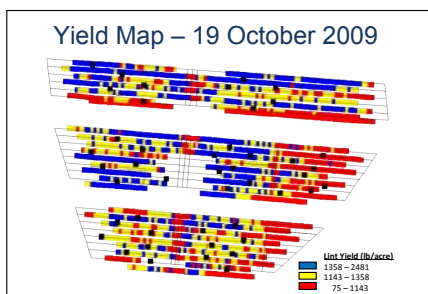
George Vellidis, Glen Ritchie, Heather Savelle, Rodney Hill, Sergio Villagran
University of Georgia



Treatments randomly assigned to 4-row strips



NDVI from final biomass sampling date. Black squares indicate biomass sampling locations.



Lint yield (lb/acre) from Ag Leader yield monitor

Objective

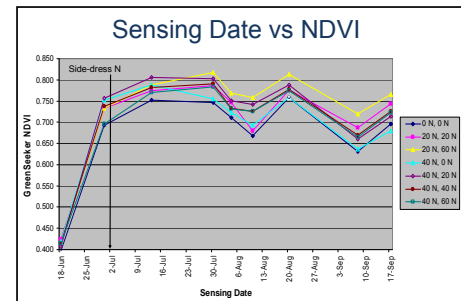
- Determine the relationship between nitrogen (N) application rates, yield, and NDVI under Georgia conditions

Methods

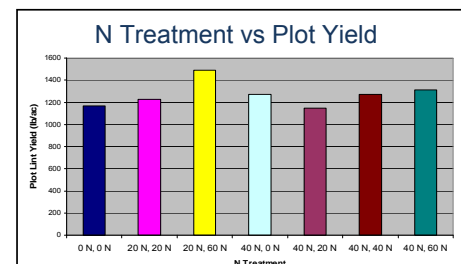
- Seven treatments (45 replicates) consisting of 4-row strips 100 to 200 ft long
 - Treatments consisted of combinations of two N side-dress applications (16 June and 02 July)
- GreenSeeker RT200 used to measure NDVI
- Plant growth parameters measured June, July, and August in randomly selected sampling plots within the middle 2 rows of each replicate
 - plant height; dry mass of leaves, flowers and fruit, stems
- SPAD and leaf tissue N – June, July, August
- Yield measured with Ag Leader yield monitor

Results and Conclusions

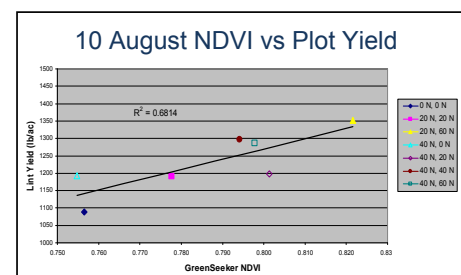
- 20 + 60 lb/ac side-dress combination consistently produced the highest NDVI and also produced the highest yield
- Both treatments receiving 0 N rates, whether on 16 June or 02 July, had the lowest NDVI and yield
- Linear relationship between NDVI and yield as season progresses
- Variability within strips requires that results be analyzed using geostatistical techniques



Each data point represents the NDVI average of all replicates (strips) within that treatment.



Each bar represents the average yield of all 12 x 24 ft sampling plots within that treatment.



Each data point represents average NDVI and yield of all 12 x 24 ft sampling plots within that treatment.

