

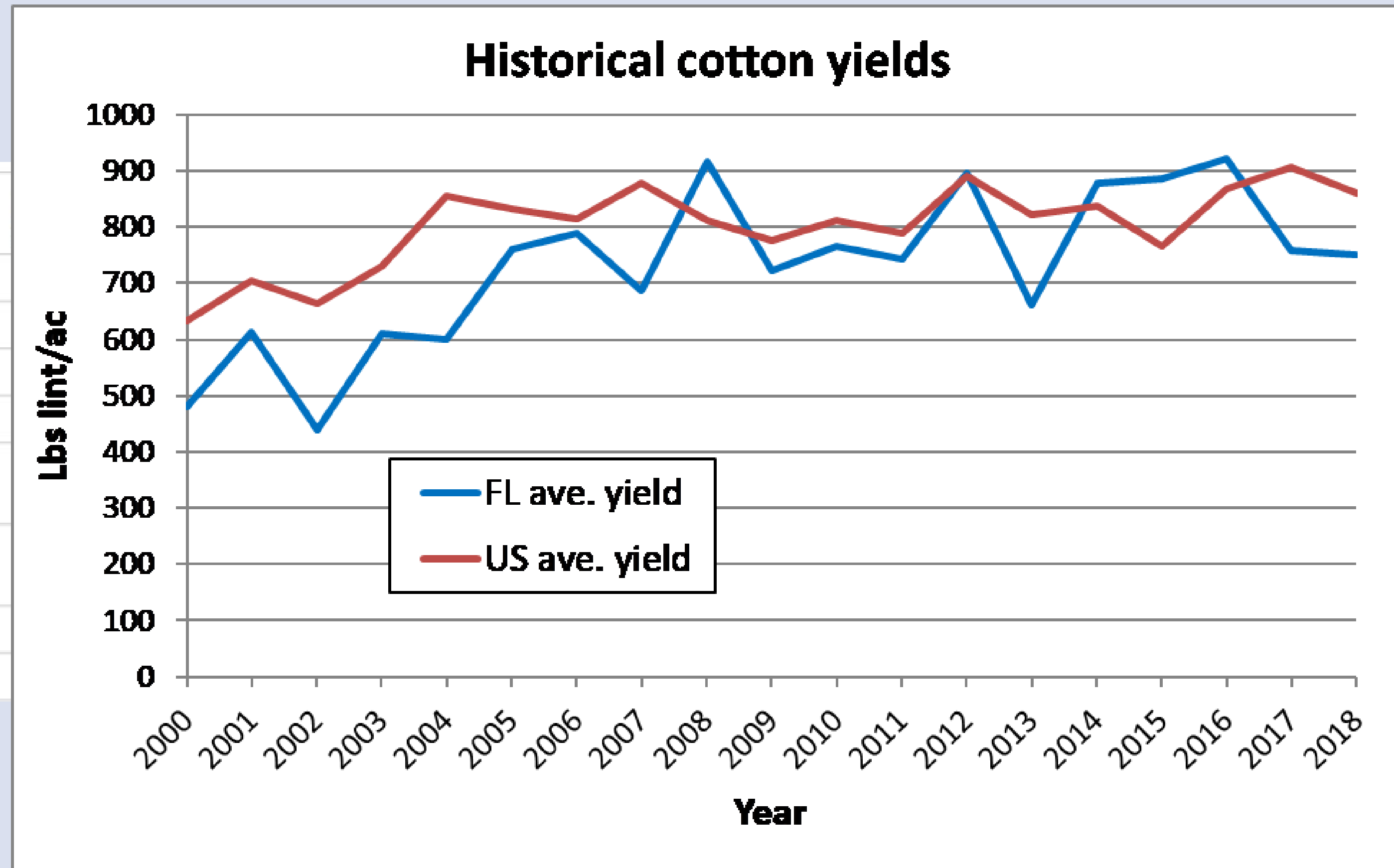
8 August 2025

Optimizing Nitrogen Recommendations for Cotton Production in Florida

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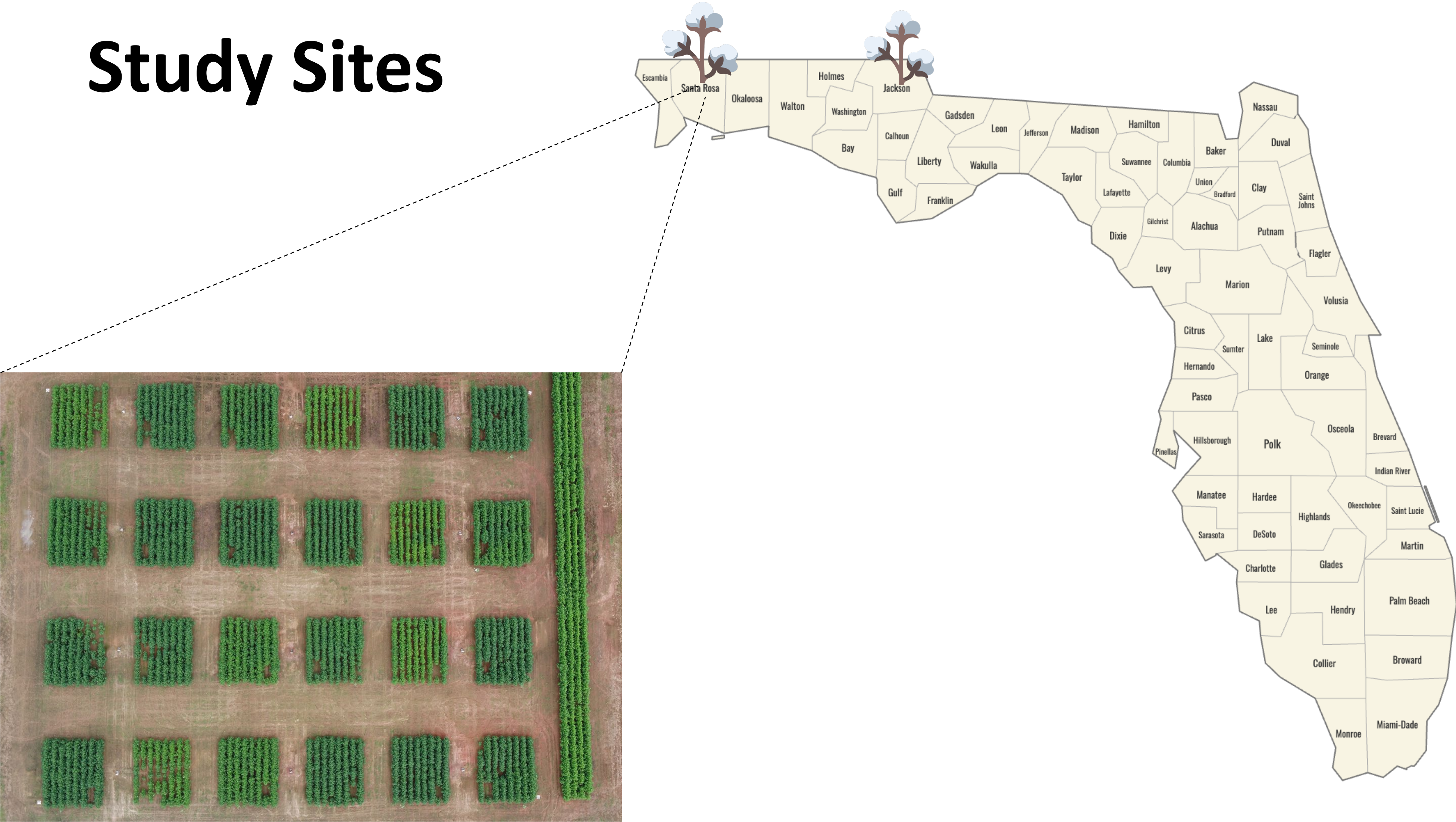
Updating Nitrogen Rate Recommendations

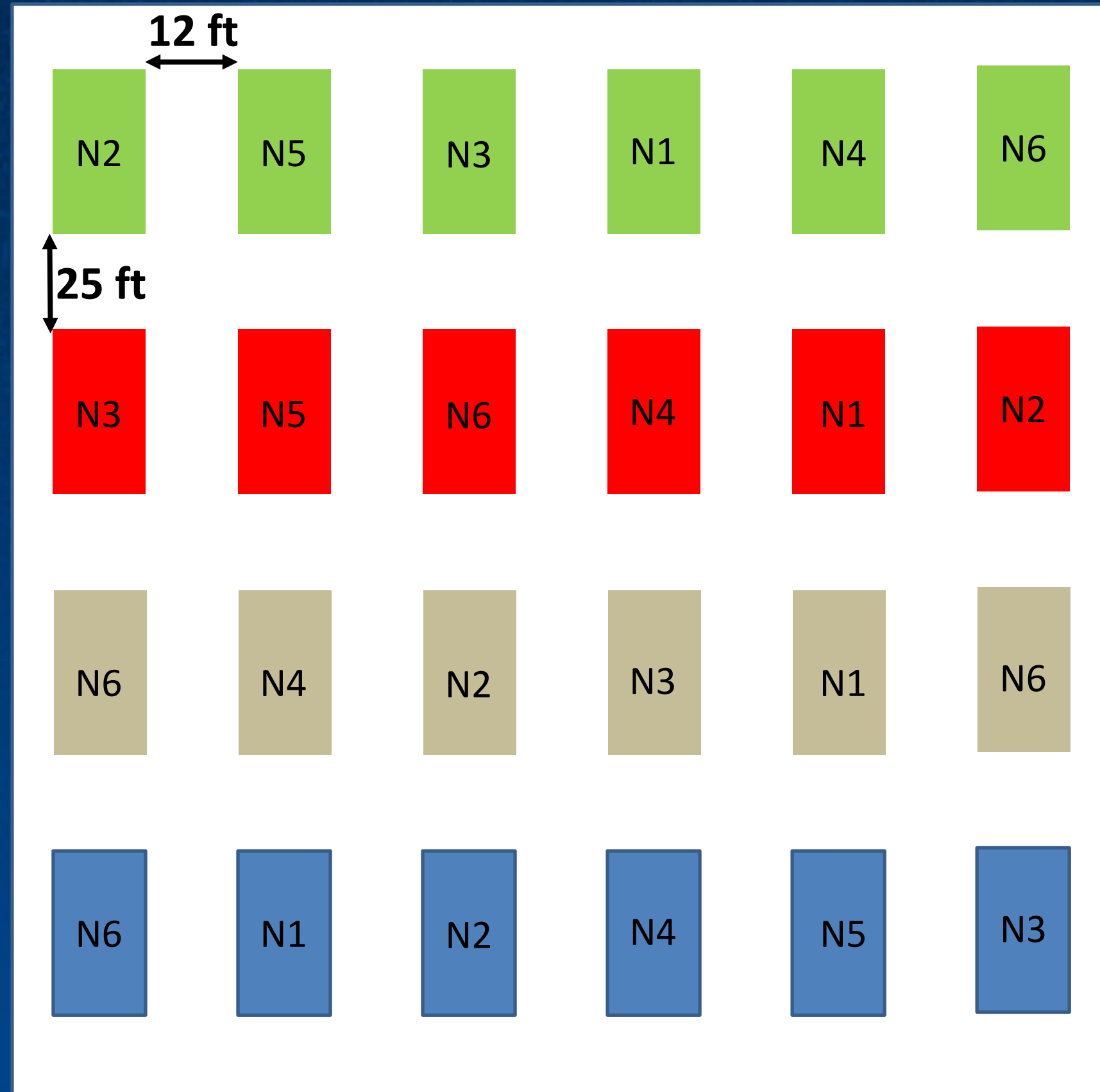


Need to update
s?

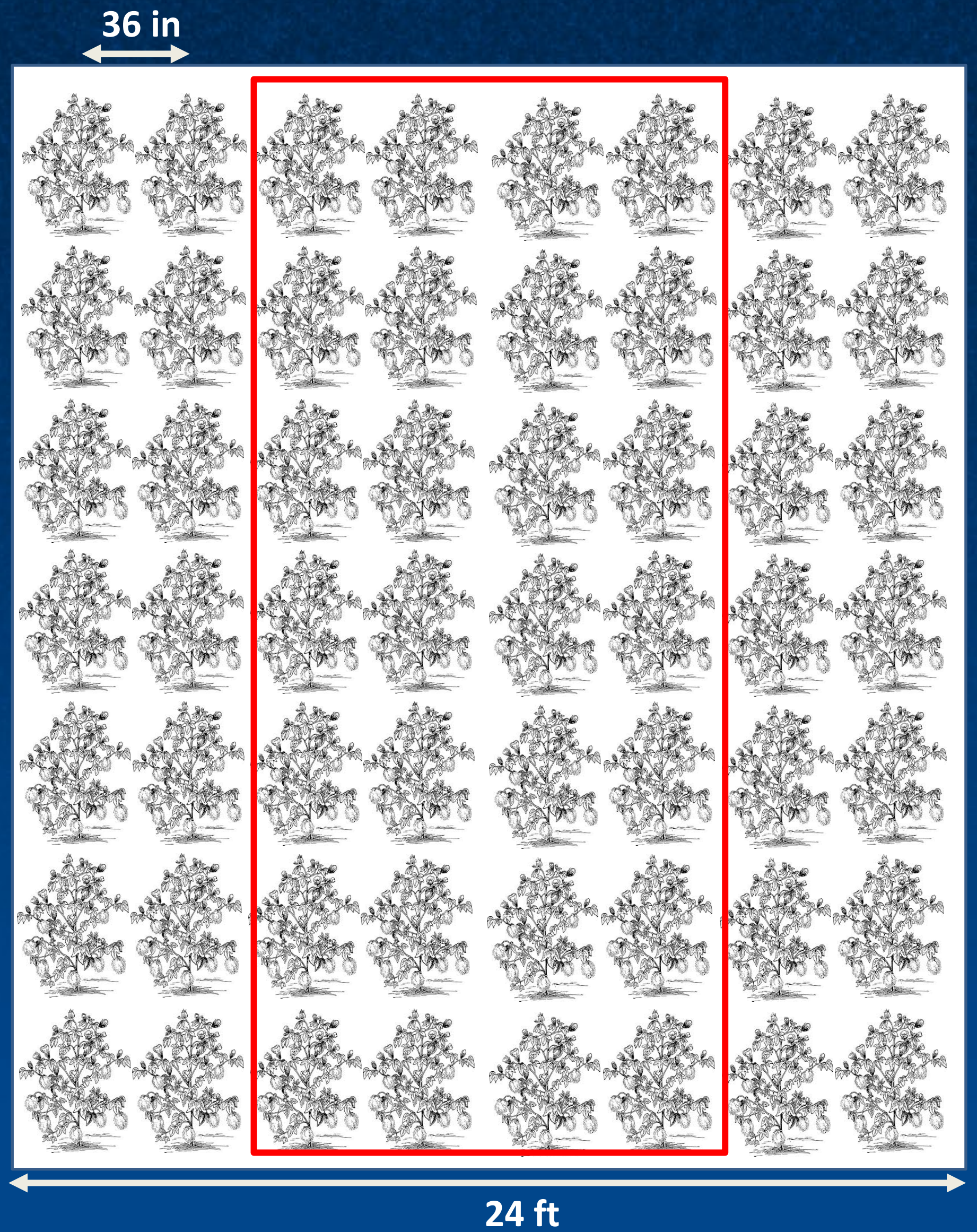
es	References*
124	AF70
124	AF70
4	AF70
4	SSAGR45 & SSAGR46
4	AF111
	AF70

Study Sites

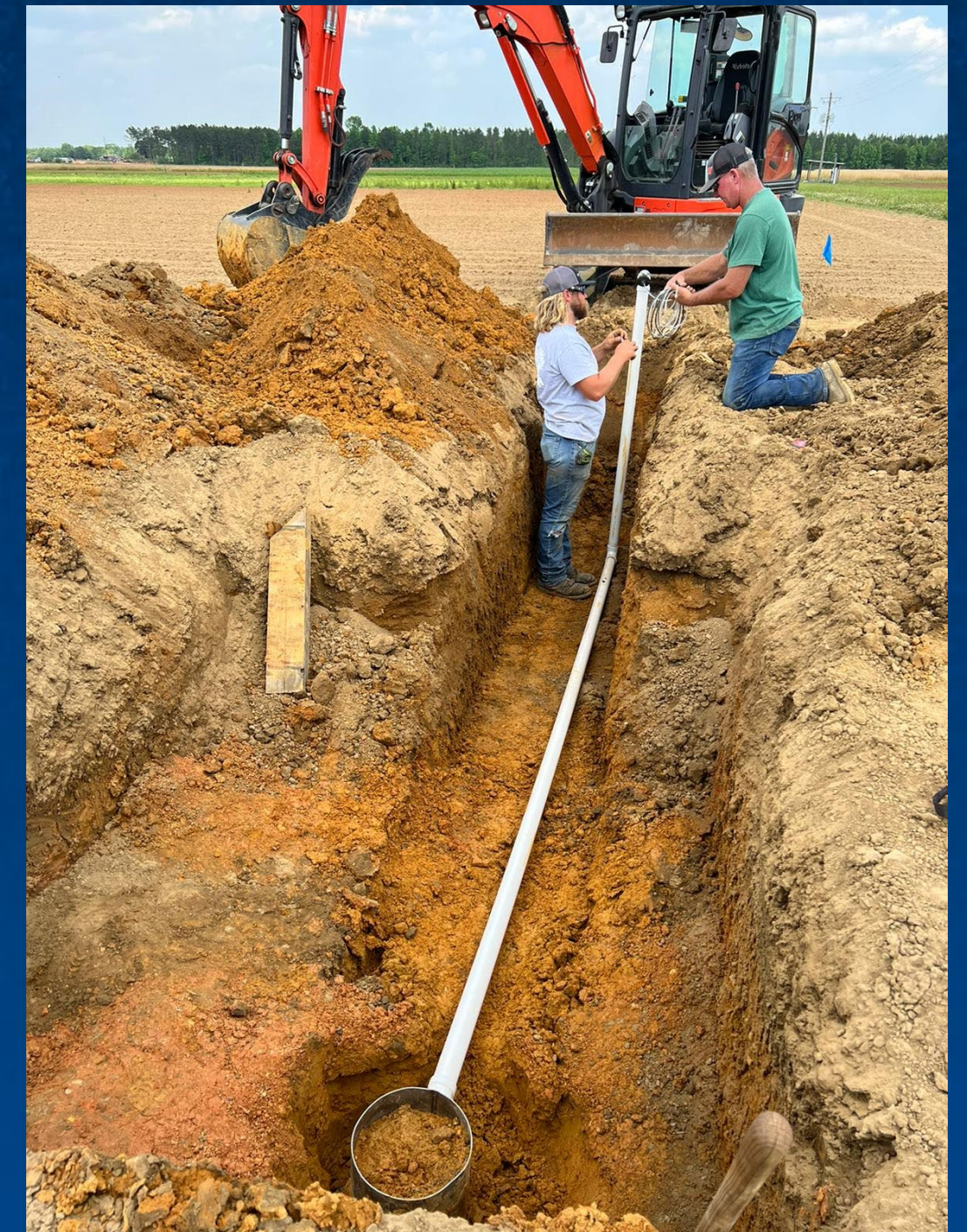




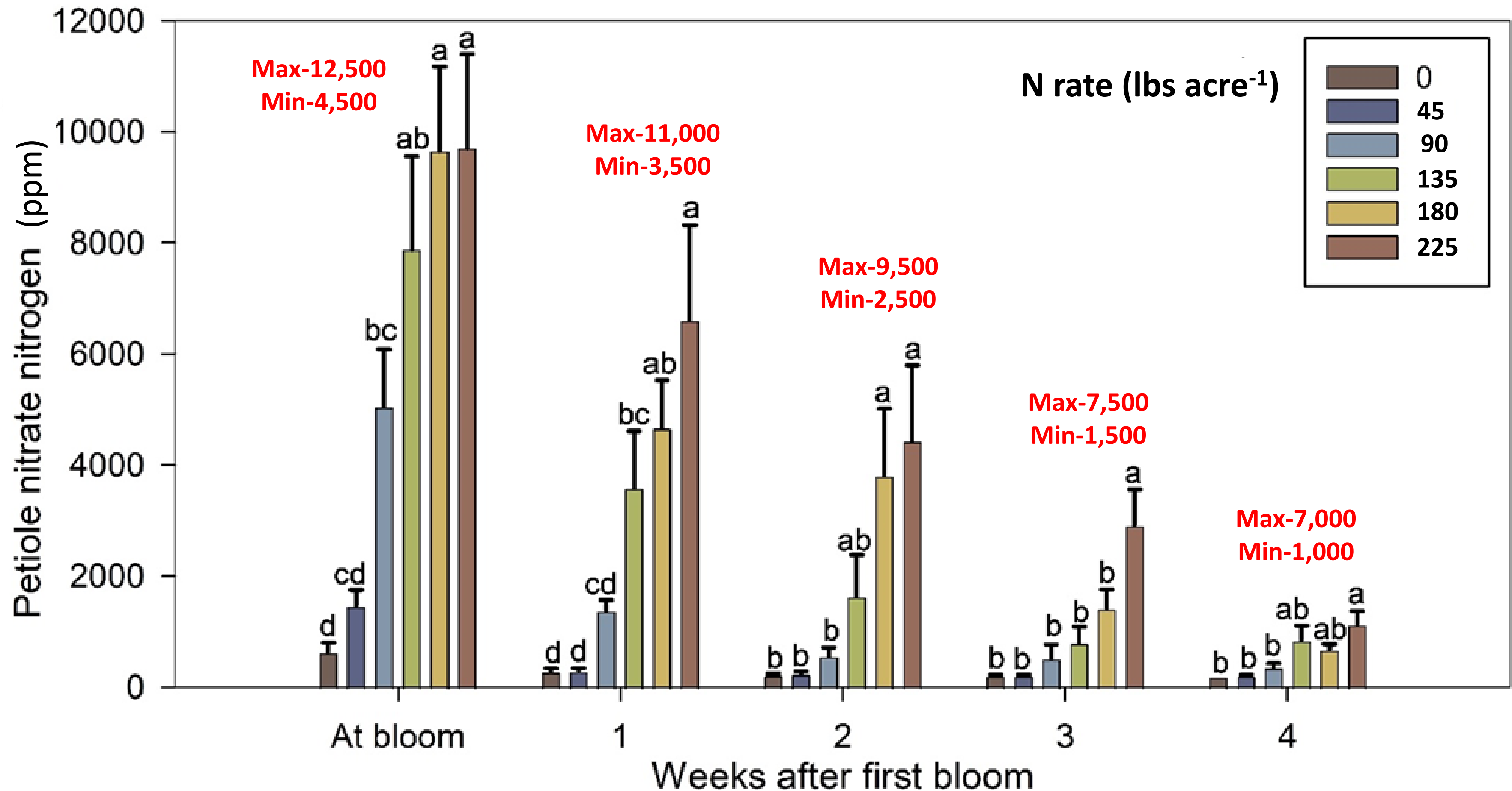
25 ft



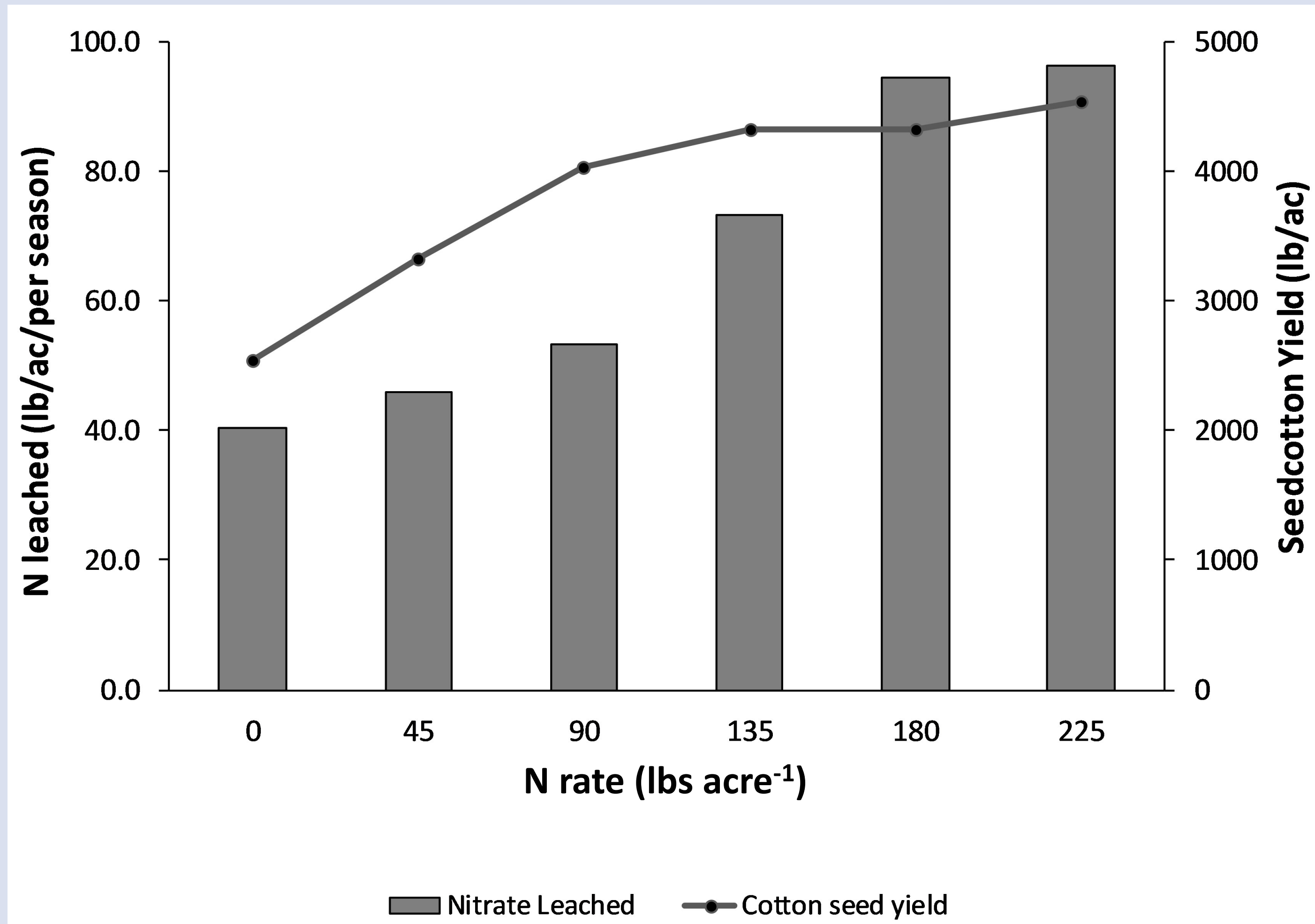
Leachate Collection



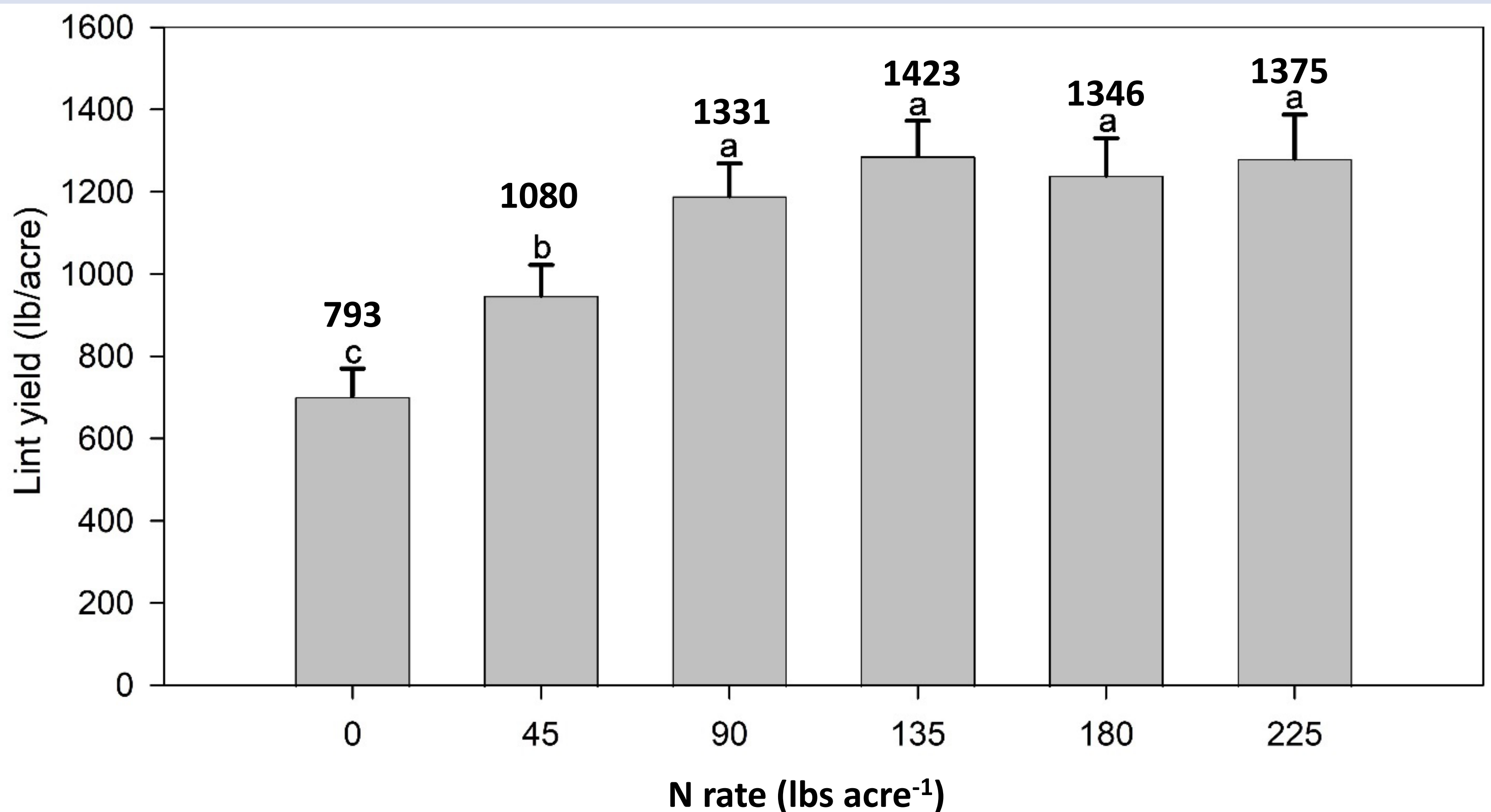
Results (Petiole Nitrate Nitrogen)



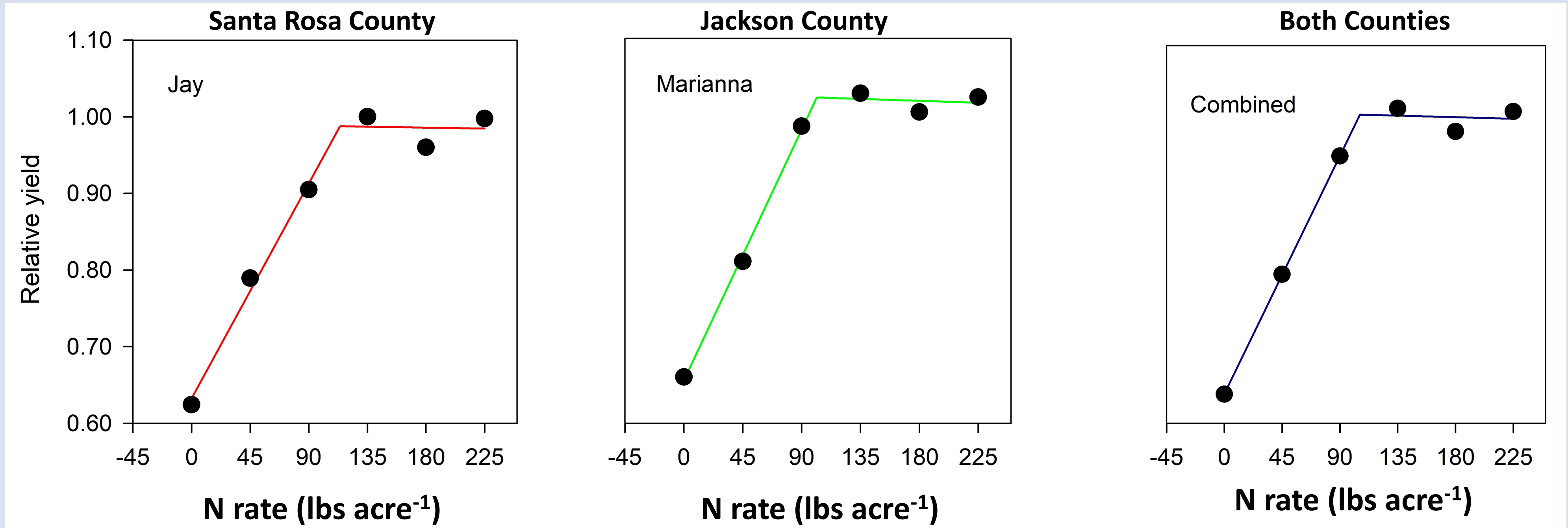
Nitrate Leaching & Seedcotton Yield



Results (Lint Yield)



Results: Relative Cotton Yield

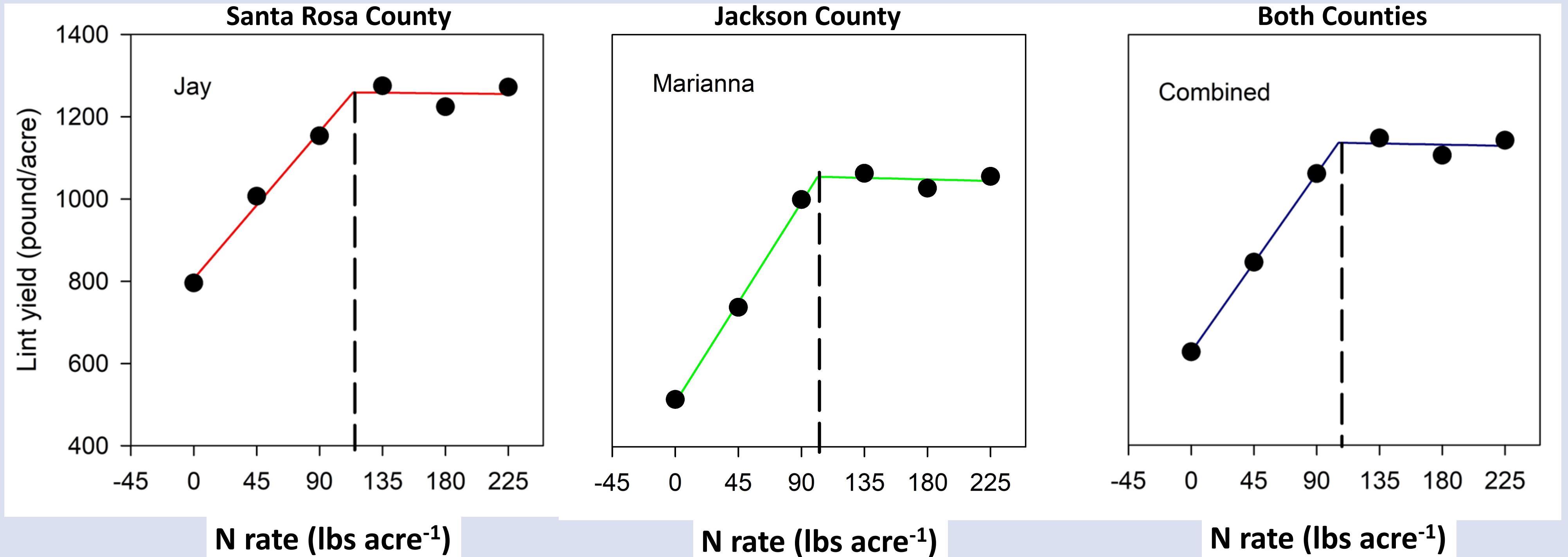


Optimum Nitrogen Rate Calculation

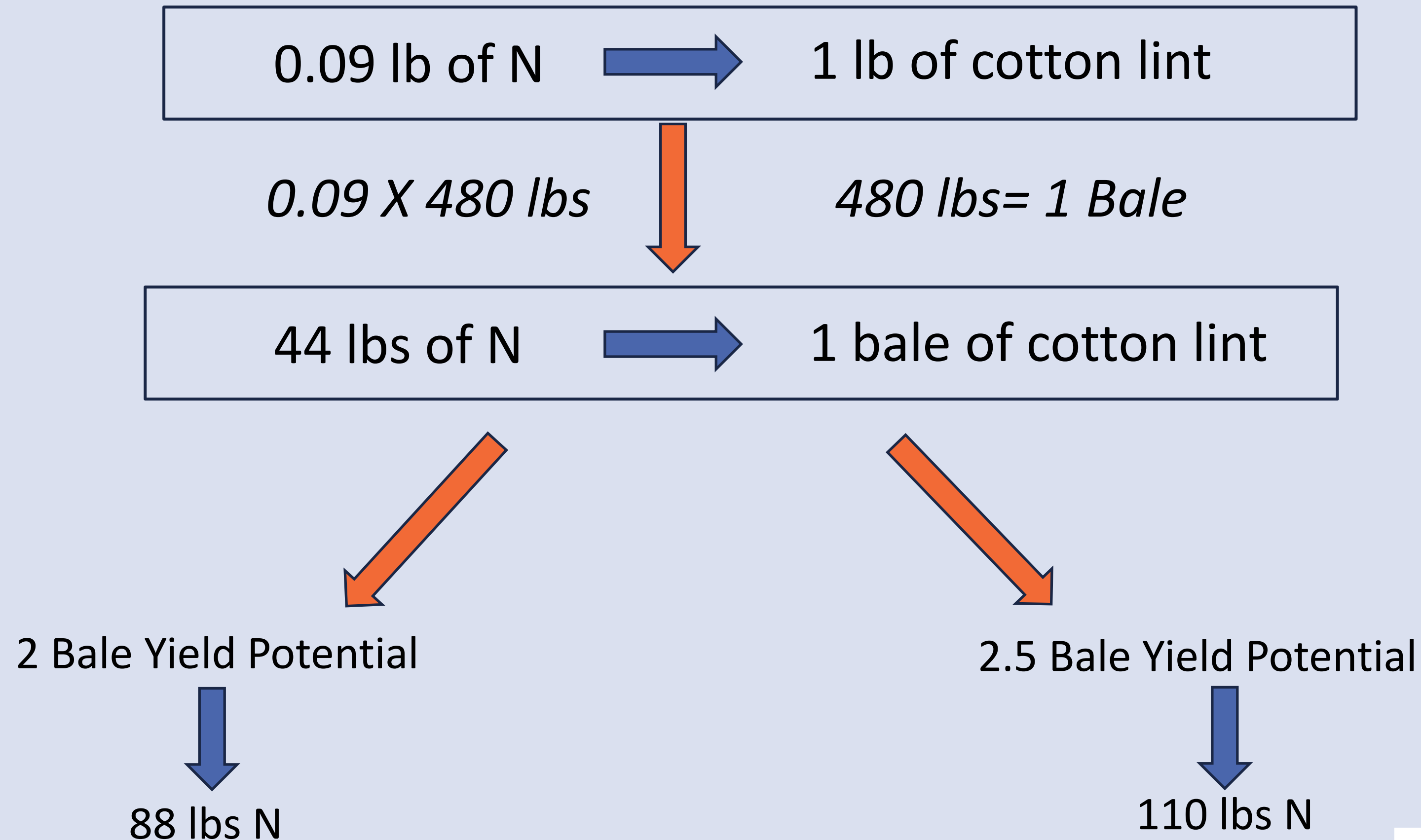
Model	R2	BIC	AIC	AONR	AOY	EONR	EOY
Linear	0.14	820.8	815.2	x	x	x	x
Linear plateau	0.18	822.8	815.3	113	3308	113	3308
Quadratic	0.18	822.9	815.4	183	3357	181	3345
Quadratic plateau	0.18	822.8	815.3	161	3307	169	3425

- The AONR and EONR was found to be 113 lbs N acre⁻¹ with the best-fitted linear plateau model.
- This makes 2.5 bale cotton.

Optimum Nitrogen Rate Calculation



Yield Goal Based N Recommendations



Disclaimer: This is not a recommendation.

Cotton Nitrogen Recs for Neighboring States

Nutrient Recommendations for
Alabama Row Crops

Cotton
Crop Code 10

Amount of N-P ₂ O ₅ -K ₂ O Needed Per Acre Based on Soil Test Results			
		*see Table 1	
		Very high	
Phosphorous (P) rating	Very high	90-0-0	90
	High	90-0-0	90
	Medium	90-60-0	90
	Low	90-100-0	90
	Very low	90-120-0	90

*Rate is given in pounds of N-P₂O₅-K₂O per acre

Fertilizer Requirement Levels and Recommendations		
N rate	P level*	K level*
90	2	3

*See Table 1

Comments:
For cotton, use the N rate as a guide. Where cotton follows a good crop of soybeans or on land where excessive growth has caused problems with late maturity, insects, or boll rot, reduce the N rate 20 to 30 pounds per acre. Where vegetative growth has been inadequate, increase the N rate by this amount. Apply 0.3 pound of B per acre in the fertilizer or in the insecticide spray. For cotton following hay crops, pasture, or soybeans on soils testing Low or Medium in K, increase K₂O application 30 to 60 pounds per acre above the amount recommended.

Interim Recommendation for Cotton Production in Florida

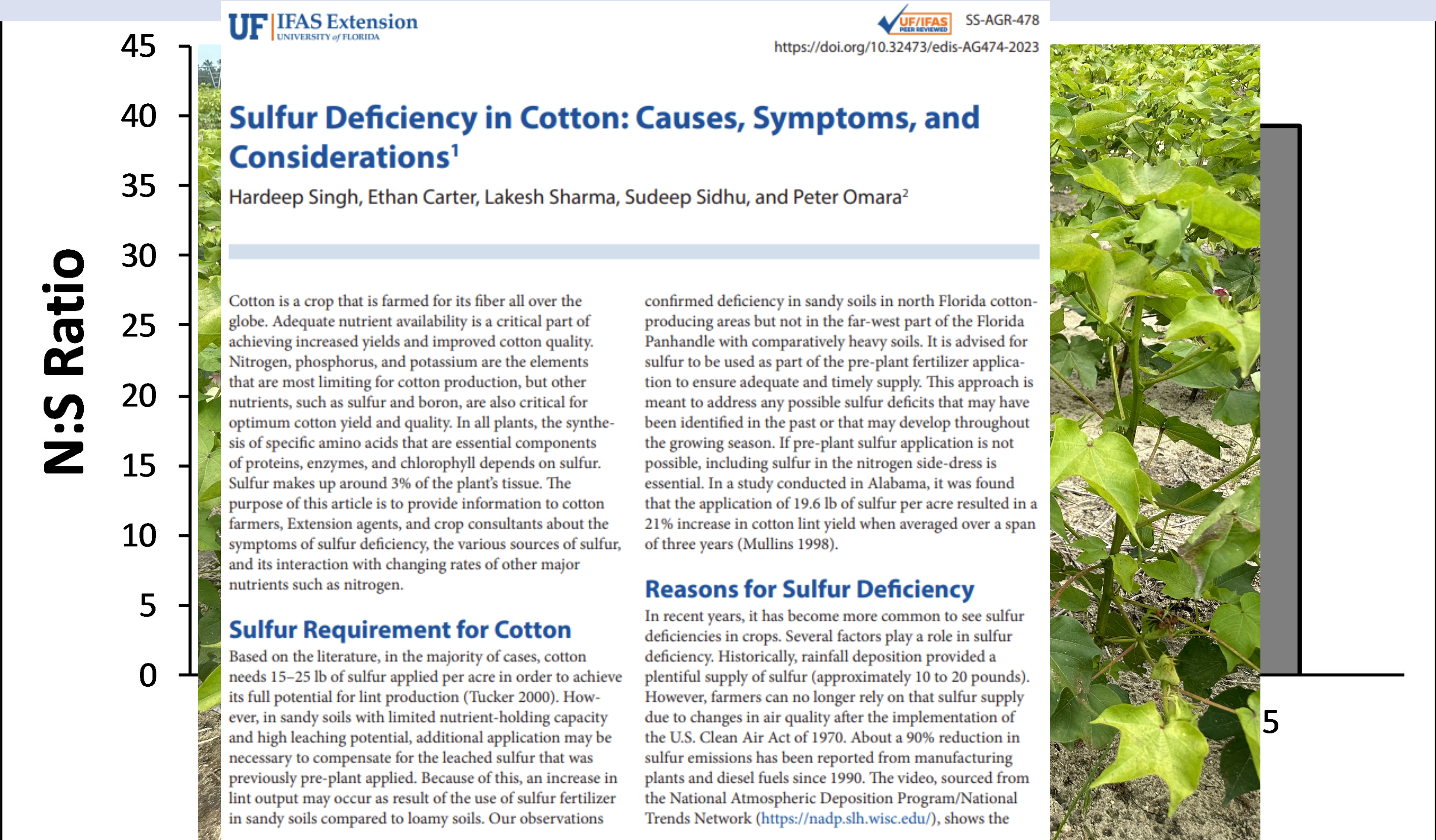
Yield Goal (lbs lint/acre)	N Rate (lb/acre)
500	45
750	67.5
1000	90
1200	108
1500	135

*See Table 4

Georgia

Nitrogen Recommendations for Cotton Based on Yield Goals	
Yield Goal (lb/a)	N Rate (lb/a)
500	45
750	60
1000	75
1200	90
1500	105

Other Observations: Sulfur Deficiency



Relevance to FRST Group

Potassium Rate Trial started 2025

Trt	K rate (lbs K ₂ O/ac)	At-plant (30%)		Side-dress at first square (70%)		1 st Foliar spray at first flower (lb K/ac)	2 nd foliar spray at 2 weeks after first flower (lb K/ac)
		lb K ₂ O/ac	lb MOP/ac	lb K ₂ O/ac	lb MOP/ac		
1	35	10.5	17.5	24.5	40.8	0	0
2	70	21.0	35.0	49.0	81.7	0	0
3	105	31.5	52.5	73.5	122.5	0	0
4	140	42.0	70.0	98.0	163.3	0	0
5	30	9.0	15.0	21.0	35.0	3	3
6	60	18.0	30.0	42.0	70.0	3	3
7	90	27.0	45.0	63.0	105.0	3	3
8	120	36.0	60.0	84.0	140.0	3	3
9	0	0	0	0	0	0	0

Acknowledgements



West Florida
Research and
Education Center



- Our farmer
 - Larry Ford
 - Craig Bishop
- NFREC, Mariana
- NFREC, Quincy
- Advisory Board Members

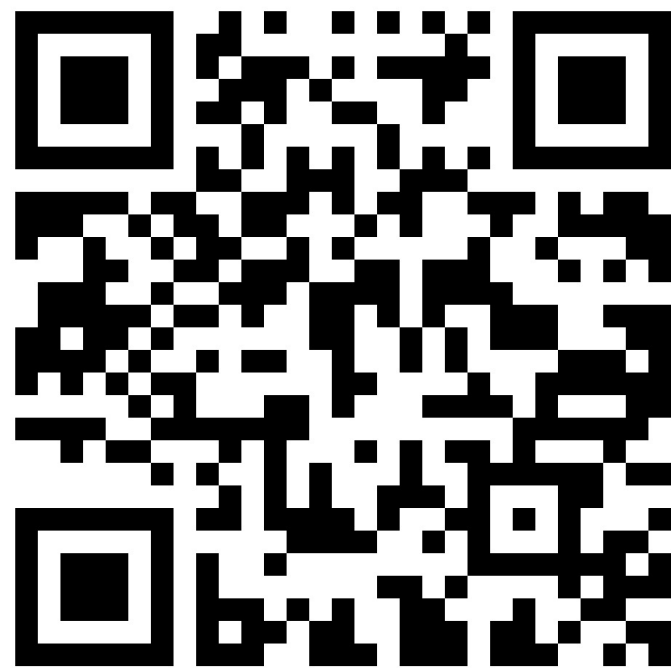
UF|Research



Thank You Questions??



UF | IFAS
UNIVERSITY of FLORIDA



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Research Timeline

April 2022-Nov 2023

- Conducting Experiments
- Compiling Data for Both sites

Feb 2023-Feb 2025

Presenting Data in Advisory Board Meeting in February

Oct 2024-Feb 2025

Publishing Data in Peer-reviewed Article

Feb 2025-May 2025

Presenting Results to PNOC Committee and Updating Recommendations

