

Growing Cotton During Low Prices

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Top Producer Issues (CI Survey)

% of Producers who rated these concern in their top 5, out of 72	Far West	South West	Mid-South	South East
Cotton input costs (69%)	70%	73%	64%	66%
Herbicide resistant weeds (54%)	23%	34%	73%	76%
Variety selection (42%)	53%	44%	36%	41%
Cotton's tolerance to heat & drought (33%)	28%	43%	18%	29%
Early weed control (32%)	25%	27%	36%	39%
Seedling Vigor (15%)	18%	21%	9%	11%
Cottonseed Value (15%)	18%	19%	11%	13%



Topics

- **Fertility**
- **Variety selection**
- **Seeding rates**
- **N rates**
- **PGRS**
- **Irrigation**
- **Defoliation**
- **IPM**
- **Equipment**
- **Misc.**



Fertility

- **Soil Test**
 - What do you have in the bank
 - pH
- **Banding versus Broadcast P & K**
 - 40-50% savings in nutrients
 - Very beneficial in dry years



Variety Selection

- Yield
- **Fiber quality-loan value**
- Maturity
- Plant height
- Seed size/vigor
- Leaf hairiness
- Storm proof
- Disease/nematodes
- Herbicide trait
- Worm trait
- **Transgenic or conventional**



Seeding Rates

- Two to three plants per foot of row is the ideal final plant population. To achieve this stand, seeding rates should be slightly higher based on the actual stated germination. (2016 Cotton Varieties for Louisiana)



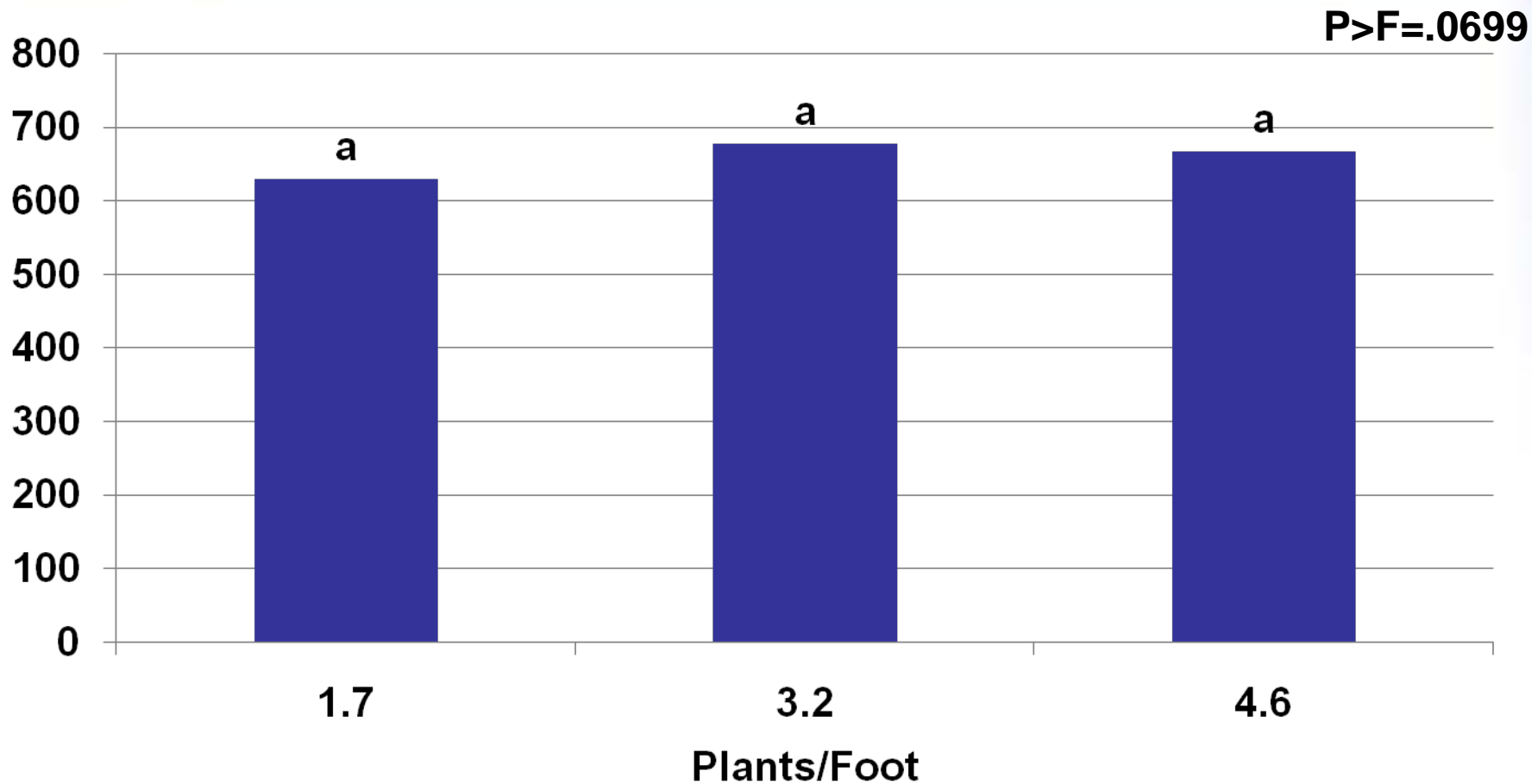
Seeding rate study- 2005

Faircloth-Dean Lee

Final plants/foot	Lint (lbs/ac)
1.76	1636
2.89	1643
5.21	1485

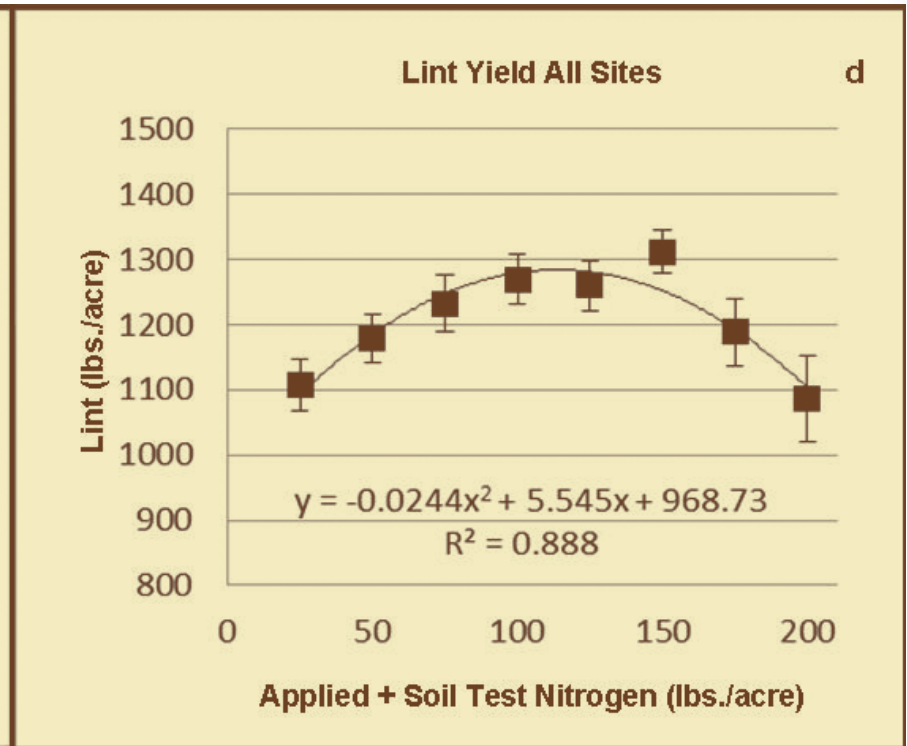
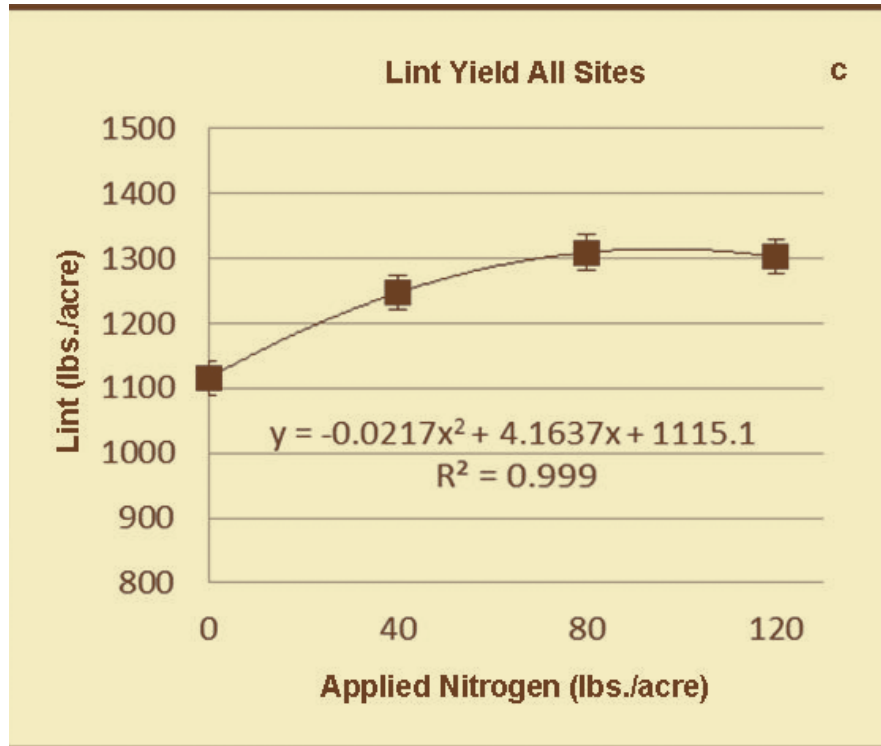


2008-TX. Upper Gulf Coast Lint pounds/acre





Nitrogen rates





Cotton yield response to fertilizer N rates in a cotton-corn rotation, Boquet, et al., 1997-2001

		Cotton fertilizer N rate-lbs./ac.						
Corn N Rate	0	25	50	75	100	125	mean	
		lint lbs/acre						
Commerce SL								
0	952 c	1106 c	1204 c	1326 b	1342 b	1402 a	1223 a	
150	1103 b	1262 b	1275 b	1374 ab	1379 b	1412 a	1301 a	
200	1199 a	1292 ab	1333 b	1386 a	1418 a	1396 a	1338 a	
250	1258 a	1328 a	1410 a	1381 a	1366 ab	1390 a	1356 a	



Cotton yield response to fertilizer N rates in a cotton-corn rotation, Boquet, et al., 1997-2001

		Cotton fertilizer N rate-lbs./ac.						
Corn N Rate	0	25	50	75	100	125	mean	
		lint lbs/acre						
Gigger SL								
0	711 b	818 b	997 c	1108 a	1103 a	1115 ab	871 b	
150	796 a	974 a	1073 b	1110 a	1127 a	1078 ab	916 ab	
200	784 a	995 a	1115 ab	1092 a	1056 a	1061 b	909 ab	
250	857 a	969 a	1154 a	1130 a	1120 a	1147 a	947 a	



Plant Growth Regulators

- Beltwide Studies
- 2007-2008 Studies

PGR effects on cotton yields, earliness, and end of season height

Year	State	Cultivar	Yield	Earliness	Height
			-----Response-----		
2007	AZ	DP 164 B2RF	ns	No data	(-)
2007	West TX	FM 9063 B2RF	(-)	No data	(-)
2007	East TX	DP 555 BR	ns	ns	ns
2007	OK	PHY 485 WRF	ns	(-)	No data
2007	AR	PHY 485 WRF	ns	ns	(-)
2007	LA	PHY 485 WRF	ns	ns	ns
2007	TN	DP 143 B2RF	(+)	(-)	(-)
2007	AL	DP 555 BR	ns	No data	(-)
2007	GA	DP 555 BR	ns	(+)	(-)
2007	SC	DP 555 BR	ns	No data	ns
2007	NC	DP 117 B2RF	ns	ns	(-)
2007	VA	DP 117 B2RF	ns	(-)	(-)
2008	AZ	DP 164 B2RF	(-)	No data	(-)
2008	West TX	ST 5458 B2RF	ns	No data	(-)
2008	OK	PHY 485 WRF	ns	No data	ns
2008	East TX	FM 9063 B2RF	ns	(-)	ns
2008	AR	PHY 485 WRF	ns	ns	(-)
2008	MS	PHY 485 WRF	ns	ns	ns
2008	TN	DP 143 B2RF	(-)	ns	(-)
2008	AL	DP 555 BR	(+)	No data	(-)
2008	SC	DP 555 BR	ns	ns	ns
2008	NC	DP 117 B2RF	ns	(+)	No data

ns - no statistical differences among treatments; the PGRs had no economic effect.

(+) - at least one PGR treatment had a higher yield than the non-treated.

(-) - at least one PGR treatment had a lower yield than the non-treated.

(-) - at least one PGR treatment reduced nodes above cracked boll, i.e., accelerated earliness, and/or reduced crop height at the end of the season.

(+) - at least one PGR treatment delayed maturity.



Plant Growth Regulators (5 of 22 sites with differences)

Table 3. Effects of PGR Treatment on Yields in the 5 of 22 Experiments Where Significant Differences Were Found

Treatment	TN 2007	West TX 2007	AL 2008	AZ 2008	TN 2008
Ozs./Acre	----- Lbs. Lint/Acre -----				
Untreated (0)	738c	889a	1210c	1690a	1687abc
Mepex [®] (8/10)	867b	838ab	1246c	1690a	1480d
Mepex [®] GO (8/10)	934ab	823ab	1332ab	1693a	1754ab
Pentia [™] (8/10)	975a	870a	1352a	1682a	1606bcd
Stance [™] (1.5/2)	751c	841ab	1260bc	1689a	1783a
Stance [™] (2/3)	988a	841ab	1250c	1521b	1585cd
Stance [™] (2/3/3)	894b	768b	1250c	1620ab	1728abc

Means followed by the same letters within columns (site-years) did not differ ($P > 0.05$).
Green and red highlight significant positive and negative differences from the untreated, respectively.



Irrigation



Soil

- **Type**
 - **Commerce silt loam**
 - 1 foot- 2.5 inches of paw
 - 2 foot- 2.5 inches of paw
 - 3 foot- 2.5 inches of paw
 - Total- 7.5 inches of paw
 - **Depth**
 - Some soil types not as deep



Crop Water Use

1 inch of water

Corn	7.14 bu/ac
Cotton	100 lbs lint/ac
Grain Sorghum	400 lbs/ac
Soybeans	2 bu/ac



Crop Water Use

Crop	Yield/Acre	Inches of water
cotton	1500	15
corn	186	26
soybeans	50	25
grain sorghum	7000	24



Crop Water Use

- **7.5 inches of PAW**
 - 54 bushels of corn
 - 750 pounds of cotton
 - 3,000 pounds of grain sorghum
 - 15 bushels of soybeans



Irrigation Termination

- **Last irrigation**
 - **NAWF = 5 + 18 days**
 - **Texas and Arkansas**

About 30 days from first open boll.

Water demand of about .20 inches/day.

Total of 6 inches (30 x .20) is needed for this time period.

Our good silt loams hold 2 inches of PAW per foot.

Cotton root depth of 3 feet.



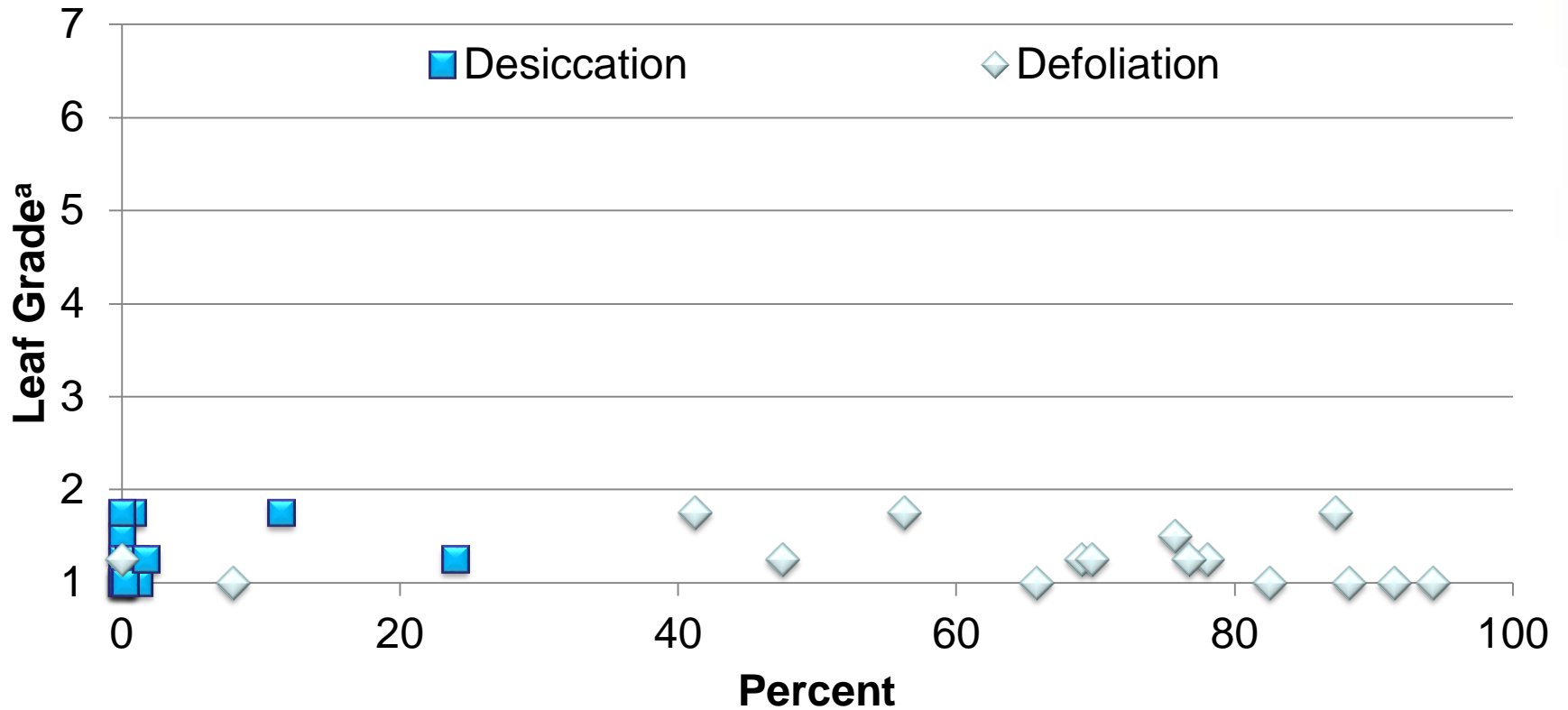
Defoliation

- Expensive versus less expensive
- Dessication is not bad
- Few green leaves are not a problem



Leaf grades-Defoliation

Matagorda County 2011





IPM

- **Insect**
 - Thresholds
 - Termination
- **Diseases**
 - Foliar types

Early Season Foliar Fungicide Applications Louisiana, 2014-15

Treatment	2014 (pounds lint/acre)		2015 (pounds lint/acre)	
UTC	1547	a	432	a
Quadris @ 6 oz.	1480	a	422	a
Priaxor @ 6 oz.	1442	a	417	a
Mean	1490		424	
P>F	0.4426		0.9458	
LSD	ns		ns	
STD DEV	160.89		93.95	
CV%	10.8		22.18	

Early Season Foliar Fungicide Applications-2015

Treatment	Texas (pounds lint/acre)		Mississippi (pounds lint/acre)		Virginia (pounds lint/acre)	
Untreated Check	1505	a	2031	a	1180	a
Quadris @ 6 oz.	1529	a	2004	a	1117	a
Priaxor @ 6 oz.	1479	a	2106	a	1177	a
Mean	1504		2047		1158	
P>F	0.91		0.8157		0.7028	
LSD	NS		NS		NS	
STD DEV	197.4		231.25		142.54	
CV%	13.12		11.3		12.31	

Early Season Foliar Fungicide Applications-2014

Treatment	Texas (pounds lint/acre)		Oklahoma ¹ (pounds lint/acre)		Virginia (pounds lint/acre)	
UTC	2106	b	1938	a	1821	a
Quadris @ 6 oz.	2426	a	1905	a	1707	a
Priaxor @ 6 oz.	2382	a	1915	a	1844	a
Mean	2305		1919		1791	
P>F	0.00019		0.8911		0.0839	
LSD	138		NS		NS	
STD DEV	86.3		121.37		99.928	
CV%	3.71		6.32		5.58	



Equipment

- **Harvest equipment**
 - **Two way ownership**
 - **From different parts of the cotton belt**



Misc.

- **Silver Bullets**
- **Special products/eliquors**



This is Sebe Brown's Uncle



Summary

- \$15.00-nitrogen
- \$15.00-fungicide
- \$15.00-seed
- \$5.00-special products
- \$5-10.00-defoliation
- ?-one less insect application
- ?-one less irrigation
- ?-banding versus broadcast P & K



Acknowledgments

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Thank You



Questions

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