

Conventional Versus Transgenic Cotton Varieties

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Background

- **Seed costs**
- **Bollworm control**

Objective

- **Compare the performance or dollar return per acre of conventional varieties to transgenic cotton varieties.**

Trials

- **Dean Lee Research & Extension Center**
- **Macon Ridge Research Center**
- **VanDevin Farms**
- **Fortenberry Farms**
- **Hank Jones**

Varieties

Company	Variety	Breeder
All-Tex/Dyna-Gro	LA122	Charlie Cook
SSG	UA222	Fred Bourland
Americot	UA48	Fred Bourland
SSG	CT210	Douglass King
All-Tex/Dyna-Gro	DG658	Charlie Cook

Alexandria-Dean Lee

Variety	Lint Yield / acre	% Turn Out
DP1646B2XF	1599 a	42.98 a
DP1522B2XF	1369 b	40.79 b
UA222	1197 c	38.87 bc
LA122	999 d	40.02 c
LSD (.05)	103	1.87
CV	4.98	2.88
Mean	1291	40.66
P>F	0.0001	0.0049

UA222 and LA122 are conventional varieties

Alexandria-Dean Lee

Variety	Micr	Length	Strength	Uniform	Loan Value	\$/Acre	\$ return-seed cost
DP1646B2XF	4.28 b	1.23 a	30.05 a	83.85 a	54.79 a	876.01 a	776.01
DP1522B2XF	4.88 a	1.16 b	32.15 a	84.20 a	54.26 a	742.91 b	642.91
UA222	4.45 b	1.22 a	32.33 a	85.53 a	55.09 a	659.34 c	641.34
LA122	3.90 c	1.19 b	30.83 a	85.20 a	55.00 a	549.36 d	531.36
LSD (.05)	0.35	0.0264	NS	NS	NS	57.27	
CV	5.0	1.38	4.5	1.07	1.17	5.06	
Mean	4.38	1.2006	31.34	84.69	54.78	706.90	
P>F	0.0011	0.0008	0.1371	0.0820	0.3243	0.0001	

UA222 and LA122 are conventional varieties

Winnsboro-MRRS

Variety	Lint Yield / acre	% Turn Out
LA122	690 a	43.82 ab
DP1522B2XF	644 a	42.95 b
DP1646B2XF	638 a	46.00 a
UA48	626 a	41.31 b
LSD (.05)	ns	3.03
CV	16.9	5.66
Mean	650	43.52
P>F	0.7605	.0337

LA122 and UA48 are conventional varieties

Winnsboro-MRRS

Variety	Mic	Length	Strength	Uniform	Loan Value	\$/Acre	\$ return-seed cost
LA122	5.12 a	1.11 b	29.30 a	84.00 a	52.12 a	358.59 a	340.59
DP1522B2XF	5.27 a	1.11 b	30.92 a	83.35 a	51.43 a	330.95 a	230.95
DP1646B2XF	5.17 a	1.13 ab	30.17 a	83.77 a	51.69 a	328.20 a	228.20
UA48	5.35 a	1.18 a	32.52 a	85.47 a	51.82 a	323.34 a	305.34
LSD (.05)	ns	0.0514	ns	ns	ns	ns	
CV	5.58	3.69	7.8	1.56	2.66	15.49	
Mean	5.23	1.13	30.73	84.15	51.76	335.27	
P>F	0.5313	0.0366	0.1656	0.0668	0.8563	0.6498	

LA122 and UA48 are conventional varieties

VanDeven Farms-Tensas Parish (Dennis Burns)

Variety	Lint yield	% turn out	Mic.	length	strength	Uniform	Loan value	\$ return/acre	\$ return-seed cost
PHY312WRF	1205	40.98	4.7	1.21	30.9	86.3	55.00	662.75	562.75
LA122	1136	39.94	4.7	1.15	28.8	84.2	54.45	618.55	600.55
DP1646B2XF	1115	42.78	4.6	1.22	29.9	83.4	54.50	607.68	507.68
PHY333WRF	1088	42.64	4.2	1.25	31.7	84.7	55.10	599.49	499.49
DP1522B2XF	1025	40.85	4.7	1.18	31.4	85.6	55.05	564.26	464.26
ST4848GLT	977	42.61	5.0	1.20	33.4	85.8	52.80	515.86	415.86
ST6182GLT	922	43.22	4.4	1.17	30.0	85.4	54.80	505.26	405.26

LA122 is a conventional variety

Fortenberry-Tensas Parish (Howard Anderson)

Variety	Lint Yield	Loan value	\$ return acre	\$return-seed cost
All-Tex Epic	1289	52.0	670.28	607.28
PHY499WRF	1183	52.0	615.16	515.16

All-Tex Epic is a roundup flex variety

Assumptions

- In all the trials, transgenics were sprayed the same number of times as the conventionals.
- 40,000 seed per acre
- Seed costs
 - Transgenics- \$100.00 acre
 - Herbicide only-\$63.00 acre
 - Conventionals- \$18.00 acre

Hank Jones-East Carroll Parish

Variety	Lint Yield	% turn out	micronaire	length	strength	uniformity
UA222	1152	39.45	4.5	1.21	34	85.9
LA122	1087	41.19	4.2	1.15	26.7	83.6
UA48	929	35.89	4.7	1.31	36.9	89.4

All conventional varieties.

2016 LA OVTs - 40 Varieties

Trial	UA222	CT210
Dean Lee-clay	32	37
Dean Lee-silt loam	32	39
Macon Ridge	32	37
Northeast -clay	37	33
Northeast-silt loam	19	38
Red River-clay	40	39
Red River-silt loam	39	40

Issues

- **Limited seed availability**
- **OVT**
 - **Plant in a separate test?**

Conclusions

- **Yield were comparable in three of the four trials.**
- **Transgenics were sprayed for worms the same number of times as the conventionals.**
- **Did not perform that well in the OVT.**

Acknowledgments



Cotton Incorporated



Louisiana State Support



Thank You

Questions