



**Replicated Agronomic Cotton Evaluation
Mixed Technology**



Grower Cooperator: Vardeman Farms
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 County Extension Agent: Brant Baugh
 Location: Lubbock, TX (Lubbock Co)
 Replicates: 3
 Plot Size: 8 rows x ~2640'
 Row Spacing: 40"
 Beds: No
 Previous crop(s): Cotton
 Soil type: Acuff Loam/Amarillo Fine Sandy Loam
 Irrigation: Drip (80"; ~5gpm)

Planting Date: 5/15/2024
 Seed Treatments: Various fungicide+insecticide
 Moist. @ planting: Good
 Soil Temp @ planting: 72F @ 2"; 70F @ 6"
 Seed/Acre: 41,000
 GPS Lat: 33.514369
 GPS Long: -101.7305
 Elevation: 3143
 Harvest Date: 10/24-25/2024

NOTE: while moisture was good at planting, warm, dry weather caused emergence to occur in marginal moisture conditions.

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	90.9	63.5	514.0	435.0	4.57
PHS to First Bloom	94.9	72.3	489.5	461.0	1.41
First Bloom to Cutout	92.0	68.6	563.5	653.0	0.73
Cutout to Defoliation	89.7	62.7	966.0	1099.0	1.66
Defoliation to Harvest	84.6	53.0	200.0	136.0	0.00
Total			2733.0	2784.0	8.37

*PHS @ ≥ 500DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d

Sorted by Lint Yield

Variety	Lint Yield (lbs/A)	Turnout (%)	Mic	Length (in)	Staple (1/32 in)	Strength (g/tex)	Uniformity (%)	Color Grades	Leaf Grade	Loan Value (\$/lb)	Lint Value (\$/A)	Total Crop Value (\$/A)
PHY332W3FE	1918	37.6	3.98	1.16	37.1	30.7	81.4	21, 21, 21	1.7	0.5742	1101	1358
PHY411W3FE	1933	39.1	4.25	1.09	35.0	29.5	81.0	21, 11, 31	2.0	0.5488	1060	1295
NG3457B3XF	1773	38.6	3.92	1.16	37.1	29.3	81.5	21, 21, 21	2.0	0.5733	1017	1244
NG3434B3XF	1788	41.7	3.95	1.16	37.2	29.2	81.8	21, 21, 21	1.7	0.5730	1025	1230
DP2335B3XF	1742	40.4	3.70	1.15	36.8	29.4	80.2	11, 21, 21	2.0	0.5727	997	1208
DP1820B3XF	1742	40.2	4.40	1.19	38.2	31.9	80.9	21, 21, 21	2.0	0.5755	1003	1202
FM868AXTP	1685	38.5	3.97	1.12	35.8	30.2	81.2	21, 21, 21	2.0	0.5662	954	1175
ST6000AXTP	1508	40.9	3.92	1.16	37.0	31.4	81.7	21, 21, 21	1.7	0.5757	868	1038
Mean	1761	39.6	4.01	1.15	36.8	30.2	81.2		1.9	0.5699	1003	1219
LSD	109	0.9	0.20	0.02	0.6	0.7	ns		ns	0.0060	59	69
R-square	0.75	0.82	0.75	0.85	0.85	0.79	0.57		0.33	0.80	0.74	0.79
CV (%)	5.8	2.1	4.6	1.4	1.4	2.2	0.8		18.9	1.0	5.5	5.3
Prob>F, variety	0.0043	0.0004	0.0110	0.0001	0.0001	0.0009	0.1024		0.6619	0.0006	0.0061	0.0018

Grower field data: 1623 37.61

Planting Seed Quality

Sampled 7/12/24

Variety	Plant Population (#/A) @ 22 DAP*	% Stand Establishment @ 22 DAP	Plant Population (#/A) @ 36 DAP**	% Stand Establishment @ 36 DAP	Seed/lb	Warm Germ (%)	Cool Germ (%)	Seed Yield (lbs/A)	Seed Turnout (%)	Seed Value (\$/A)	Storm Tolerance (1=very tight; 5=very loose)	Root-Knot Nematode Eggs (#/g root)	Root-Knot Nematode Juveniles (#/500 cc soil)	Root-Knot Nematode Resistance?
PHY332W3FE	20510	50.0	28677	69.9	5000	98	97	2505	49.0	257	2.8	26.7 bc	96.0	Resistant
PHY411W3FE	9075	22.1	25120	61.3	4685	91	90	2291	46.4	235	3.2	2.8 c***	106.7	Resistant
NG3457B3XF	27588	67.3	15827	38.6	5750	93	91	2214	48.2	227	2.4	112.6 ab	266.7	Susceptible
NG3434B3XF	17424	42.5	16843	41.1	5287	93	83	2001	46.6	205	2.0	106.0 ab	288.0	Susceptible
DP2335B3XF	19602	47.8	24394	59.5	5768	96	77	2058	47.7	211	3.0	65.7 ab	160.0	Susceptible
DP1820B3XF	22869	55.8	16480	40.2	5500	86	63	1948	45.0	200	2.7	364.2 a	213.3	Susceptible
FM868AXTP	17061	41.6	23377	57.0	4475	94	75	2157	49.2	221	2.4	33.9 ab	224.0	Partial Res.
ST6000AXTP	15972	39.0	11761	28.7	5274	94	89	1659	45.0	170	3.2	13.3 bc	181.3	Partial Res.
Mean	18763	45.8	20310	49.5				2104	47.1	216	2.7	86.9	192.0	
LSD	ns	ns	2936	7.2				105	0.6	11	0.4	n/a	ns	
R-square	0.48	0.48	0.87	0.87				0.92	0.93	0.92	0.65	n/a	n/a	
CV (%)	39.9	39.9	13.5	13.5				4.6	1.2	4.6	15.2	23.7	47.2	
Prob>F, variety	0.2241	0.2241	<0.0001	<0.0001				<0.0001	<0.0001	<0.0001	0.0324	0.0002	0.1670	

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value.

Seed value = seed yield x \$226/metric ton (Aug 2024 price, according to

[US Cotton, Cottonseed Price Received Monthly Trends; USDA Farm Price Received | Ycharts](#))

*3 feet per row across 8 rows per plot counted at one area of each plot (total of 24 row feet per plot), collected in a random diagonal pattern across trial.

**60 row feet total per plot collected; 20 row feet (2 adjacent 10 ft sections) collected at three different areas per plot (east, middle and west); rows 2, 3, 4, 5, 6 and 7 counted per plot.

***Root-knot nematode egg data reflect mean separation from log-transformed data. Values followed by the same letter(s) are not statistically different. Nematode sampling by Dr. Marina Rondon, Extension Plant Pathologist.