

High Plains Verticillium Wilt Trial Results from 2017



Dr. Terry A. Wheeler
Research Plant Pathologist, Texas A&M AgriLife Research

Dr. Jason E. Woodward, Extension Plant Pathologist
Texas A&M AgriLife Extension Service

TEXAS A&M
AGRI LIFE
RESEARCH

TEXAS A&M
AGRI LIFE
EXTENSION

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M AgriLife Extension Service, Texas A&M AgriLife Research Experiment Station and the Texas A&M System is implied.

Table 1. Results from the Floydada Verticillium wilt trial (high disease pressure)

Variety¹	Yield x Loan (\$/a)	Lint yield (lbs/acre)	Loan (¢/lb)	Plants/ Ft row	Wilt (%)	Defol- iation (%)	Turnout (%)
FM 2334GLT	770	1,487	51.79	2.04	26.0	16.1	29.6
FM 2322GL	750	1,510	49.67	1.89	19.8	24.0	30.3
FM 1830GLT	739	1,482	49.84	2.07	21.9	25.4	31.1
CG 3226B2XF	720	1,445	49.79	1.91	38.2	33.6	31.4
FM 2484B2F	701	1,426	49.12	2.33	23.3	18.4	28.7
ST 4747GLB2	693	1,463	47.39	2.07	24.5	35.3	27.3
PHY 243WRF	692	1,493	46.34	2.22	21.5	26.2	26.4
NG 3640XF	672	1,349	49.82	1.85	29.0	24.3	28.0
FM 1911GLT	662	1,358	48.74	2.18	24.9	21.3	28.6
NG 3500XF	648	1,329	48.79	1.89	32.1	28.3	27.6
PX 2AX2W3FE	637	1,282	49.69	2.22	40.6	35.3	25.8
FM 2007GLT	623	1,317	47.29	1.95	45.0	41.1	27.5
PX2A28W3FE	585	1,312	44.62	2.30	31.4	29.1	25.7
NG 4792XF	575	1,146	50.17	2.04	29.0	46.0	26.4
PHY 230W3FE	569	1,219	46.67	2.11	35.9	33.9	23.8
PHY 223WRF	565	1,154	48.94	2.10	33.8	40.7	24.5
AMX1725B3XF	556	1,124	49.52	1.75	25.9	20.0	24.4
PHY 220W3FE	553	1,091	50.67	1.90	28.3	42.7	26.4
PX3A82W3FE	530	1,171	45.22	2.29	29.1	55.7	24.7
NG 3517B2XF	524	1,086	48.29	1.94	31.7	46.2	24.6
AMX1718B3XF	511	1,147	44.52	1.89	30.7	43.3	24.6
PHY 300W3FE	493	1,097	44.92	2.32	30.2	62.5	25.8
NG 4545B2XF	492	1,065	46.22	2.05	28.6	51.0	26.8
PHY 312WRF	490	1,040	47.09	2.05	43.0	61.5	25.9
NG 3699B2XF	486	996	48.82	1.37	32.5	29.7	26.2
FM 1900GLT	467	1,028	45.47	1.97	37.2	47.0	27.0
WU17ZC8	460	976	47.17	1.83	40.5	58.2	31.1
PHY 333WRF	412	930	44.34	2.03	33.7	67.7	24.2
DP 1614B2XF	407	833	48.79	1.45	40.6	55.5	24.8
DP 1522B2XF	391	853	45.89	1.70	46.1	58.0	26.4
DP 1518B2XF	378	830	45.59	2.00	33.8	61.1	23.5
NG 3406B2XF	371	842	44.02	1.96	43.7	67.7	25.4
CG 3475B2XF	367	819	44.87	1.87	48.2	72.0	26.5
PHY 340W3FE	364	834	43.69	2.03	47.8	71.4	23.5
² MSD (0.05)	58	124	3.42	0.26	13.3	11.4	3.8

¹AMX = experimental line from Americot; CG = Croplan Genetics; DP = Deltapine; FM = Fibermax; NG = NexGen; PHY = Phytogen; PX = experimental line from Phytogen; ST = Stoneville; WU = Winfield United experimental line.

²MSD is the minimum difference that is significant at $P=0.05$.

Table 2. Fiber quality from the Floydada Verticillium wilt trial (high disease pressure)

Variety¹	Mic³	Strength	Length	Elon³	Unif³	Rd	+b	Leaf
AMX1718B3XF	2.4	30.2	1.14	7.8	80.6	79.5	8.8	3.0
AMX1725B3XF	3.0	32.1	1.17	7.2	83.2	77.8	8.9	2.5
CG 3226B2XF	3.0	31.2	1.10	8.3	81.9	77.9	8.1	3.5
CG 3475B2XF	2.5	30.2	1.15	7.8	80.8	75.9	8.9	4.5
DP 1518B2XF	2.7	29.2	1.16	6.2	79.7	77.7	8.1	5.0
DP 1522B2XF	2.7	31.0	1.14	8.7	81.2	77.7	8.7	3.5
DP 1614B2XF	2.9	30.1	1.17	7.3	80.3	76.3	8.3	5.5
FM 1830GLT	3.0	32.8	1.22	5.7	81.5	80.6	8.0	2.5
FM 1900GLT	2.5	31.7	1.18	5.3	81.2	78.9	8.1	3.5
FM 1911GLT	2.8	29.5	1.17	5.7	80.6	81.4	7.5	3.0
FM 2007GLT	2.7	30.9	1.19	7.2	80.7	79.7	8.1	2.5
FM 2322GL	3.2	30.1	1.16	5.4	79.7	76.9	8.1	5.5
FM 2334GLT	3.2	33.0	1.24	6.3	82.8	81.0	8.1	1.0
FM 2484B2F	2.8	30.5	1.22	5.6	82.1	82.5	7.8	2.5
NG 3406B2XF	2.5	29.3	1.12	8.3	80.4	78.6	9.1	2.5
NG 3500XF	2.9	32.2	1.12	7.8	82.1	77.7	9.6	1.5
NG 3517B2XF	2.8	33.6	1.16	7.6	81.4	78.3	9.0	3.5
NG 3640XF	3.1	33.9	1.13	8.0	82.4	77.0	9.6	1.5
NG 3699B2XF	2.9	29.7	1.16	6.0	80.6	77.8	8.7	2.5
NG 4545B2XF	2.7	32.6	1.14	6.2	81.2	77.8	8.9	4.0
NG 4792XF	3.0	32.5	1.15	7.3	81.7	80.5	8.8	1.5
PHY 220W3FE	3.2	30.2	1.13	8.0	82.5	76.0	9.4	2.5
PHY 223WRF	2.8	32.7	1.22	7.1	82.4	78.5	8.4	3.5
PHY 243WRF	2.8	29.4	1.17	7.8	79.1	77.4	7.8	4.0
PHY 300W3FE	2.6	29.4	1.14	6.9	80.9	77.4	9.1	2.5
PHY 312WRF	2.7	31.1	1.17	7.3	82.1	77.6	8.4	2.5
PHY 333WRF	2.6	29.3	1.16	6.2	80.0	77.0	9.0	3.5
PHY 340W3FE	2.4	29.7	1.13	6.7	80.1	75.9	8.8	4.0
PHY 230W3FE	2.6	33.3	1.20	6.3	81.4	79.3	7.2	3.5
PX2A28W3FE	2.6	28.6	1.14	5.5	79.5	77.8	7.8	4.0
PX2AX2W3FE	2.9	31.5	1.17	5.6	81.7	79.6	7.8	3.5
PX3A82W3FE	2.5	31.4	1.13	7.9	82.4	78.9	8.3	3.0
ST 4747GLB2	3.0	27.3	1.15	5.3	79.1	77.4	7.5	3.5
WU17ZC8	2.9	29.1	1.12	6.4	80.0	79.9	8.3	3.0
MSD (0.05)	0.2	2.9	0.04	0.9	2.2	2.8	0.5	2.7

¹AMX = experimental line from Americot; CG = Croplan Genetics; DP = Deltapine; FM = Fibermax; NG = NexGen; PHY = Phytogen; PX = experimental line from Phytogen; ST = Stoneville; WU = Winfield United experimental line.

²MSD is the minimum difference that is significant at $P=0.05$.

³Mic=micronaire; Unif = Uniformity; Elon = Elongation.

Table 3. Results from the Plainview Verticillium wilt trial (moderate disease pressure)

Variety¹	Yield x Loan (\$/a)	Lint yield (lbs/acre)	Loan (¢/lb)	Plants/ Ft row	Wilt (%)	Defol- iation (%)	Turnout (%)
NG 3640XF	652	1,497	43.54	1.65	19.4	11.1	23.6
AMX5140XF	645	1,479	43.62	1.95	20.3	25.2	26.2
PX2AX4W3FE	616	1,301	47.37	2.01	25.0	44.7	19.6
NG 3517B2XF	603	1,326	45.52	2.68	24.0	33.8	24.0
FM 2322GL	595	1,263	47.14	1.84	20.2	24.7	24.2
CG 3226B2XF	588	1,307	44.97	2.42	27.0	15.6	23.7
NG 3780B2XF	588	1,264	46.49	2.60	25.5	23.3	23.4
FM 1320GL	583	1,217	47.94	2.28	28.7	52.5	23.2
FM 1888GL	572	1,201	47.62	1.60	23.5	16.7	25.3
FM 1911GLT	570	1,263	45.12	2.13	26.5	13.6	25.4
PHY 312WRF	567	1,299	43.69	2.67	18.4	62.6	23.0
PX2AX3W3FE	560	1,223	45.77	1.41	38.1	26.6	23.6
FM 2484B2F	553	1,250	44.27	1.70	34.3	18.6	24.0
NG 3406B2XF	537	1,202	44.72	2.10	16.2	17.0	24.2
AMX1720B3XF	528	1,204	43.84	2.47	24.3	35.0	21.9
DP 1612B2XF	523	1,129	46.34	2.74	27.5	33.9	22.2
PHY 223WRF	518	1,164	44.49	2.44	18.2	12.0	22.0
PHY 300W3FE	510	1,102	46.24	2.35	34.3	45.5	24.6
PHY 333WRF	499	1,101	45.37	2.09	29.3	36.9	24.5
PX2A28W3FE	498	1,127	44.17	2.49	32.2	42.9	24.8
CG 3475B2XF	493	1,098	44.87	2.32	26.9	24.1	21.8
NG 3699B2XF	491	1,059	46.37	1.90	27.1	42.5	22.5
PX3A99W3FE	490	1,163	42.17	1.86	31.5	34.8	24.2
FM 1953GLTP	468	1,026	45.62	2.33	24.6	23.7	22.9
PHY 220W3FE	458	1,021	44.89	2.41	35.4	51.4	22.8
PHY 243WRF	455	1,081	42.09	1.36	32.9	31.8	23.8
PX2A36W3FE	447	1,012	44.19	2.41	19.3	27.2	21.4
WU17XL8	436	1,015	42.94	2.07	30.5	38.4	22.3
DP 1614B2XF	431	953	45.24	1.61	28.4	35.3	22.0
DP 1518B2XF	429	1,004	42.72	1.97	16.3	18.4	21.9
PHY 230W3FE	417	927	44.97	2.18	33.5	29.5	21.3
PHY 308WRF	374	880	42.57	1.56	23.5	21.8	23.8
FM 1830GLT ³	---	---	46.29	1.65	19.4	11.1	23.6
NG 3500XF ³	---	---	41.02	1.95	20.3	25.2	26.2
PHY 330W3FE ³	---	---	42.32	2.01	25.0	44.7	19.6
PX2A31W3FE ³	---	---	46.17	2.68	24.0	33.8	24.0
² MSD (0.05)	64	140	9.54	0.50	15.5	11.7	3.8

¹AMX = experimental line from Americot; CG = Croplan Genetics; DP = Deltapine; FM = Fibermax; NG = NexGen; PHY = Phytogen; PX = experimental line from Phytogen; ST = Stoneville; WU = Winfield United experimental line.

²MSD is the minimum difference that is significant at $P=0.05$.

³The north half of the test had lower yields than the south half. Regression analysis was used to adjust yields in the north half. These four cultivars had all plots in the north half and no estimate of yield loss could be obtained. NG 3500XF had the highest yields of any variety within the poorer yielding half of the field.

Table 4. Fiber quality from the Plainview Verticillium wilt trial (moderate disease pressure)

Variety ¹	Mic ³	Strength	Length	Elon ³	Unif ³	Rd	+b	Leaf
AMX1720B3XF	2.35	1.145	30.70	81.5	9.4	76.8	7.9	4.0
AMX5140XF	2.65	1.140	32.50	82.1	10.6	76.2	11.1	1.5
CG 3226B2XF	2.75	1.120	30.65	81.5	11.0	76.4	10.0	3.0
CG 3475B2XF	2.40	1.145	29.15	80.1	10.7	79.2	9.0	2.5
DP 1518B2XF	2.30	1.125	28.95	79.1	9.0	77.9	9.7	2.5
DP 1612B2XF	2.60	1.215	30.60	81.7	10.4	77.7	9.0	4.0
DP 1614B2XF	2.65	1.130	29.75	79.3	10.3	77.5	10.1	3.0
FM 1320GL	2.70	1.120	31.10	80.6	9.8	80.0	9.8	1.0
FM 1830GLT	2.50	1.205	32.85	80.8	8.2	80.6	9.0	1.5
FM 1888GL	2.75	1.190	32.30	82.1	8.3	76.5	8.9	4.5
FM 1911GLT	2.35	1.170	29.65	80.2	9.2	80.1	8.7	2.0
FM 1953GLTP	2.50	1.165	30.05	79.1	10.5	78.5	8.8	2.0
FM 2322GL	2.75	1.200	30.85	80.8	8.5	75.6	10.8	2.5
FM 2484B2F	2.45	1.210	29.75	80.0	8.8	78.5	10.0	1.0
NG 3406B2XF	2.45	1.125	28.20	80.2	10.9	80.6	9.3	1.0
NG 3500XF	2.40	1.120	31.35	80.7	10.3	74.7	11.2	1.5
NG 3517B2XF	2.45	1.145	32.35	80.8	10.1	80.2	9.3	1.5
NG 3640XF	2.75	1.155	32.20	82.0	9.7	75.4	11.3	1.5
NG 3699B2XF	2.55	1.165	30.40	79.1	9.2	79.2	9.1	3.0
NG 3780B2XF	2.50	1.170	32.40	79.1	10.3	79.7	9.2	2.5
PHY 220W3FE	2.75	1.105	29.15	81.4	11.0	79.7	9.8	2.5
PHY 223WRF	2.45	1.220	31.20	81.2	10.0	79.2	9.5	3.0
PHY 243WRF	2.25	1.145	27.10	77.6	10.3	77.0	10.1	3.5
PHY 300W3FE	2.80	1.125	29.60	80.5	10.2	77.6	10.0	1.5
PHY 308WRF	2.45	1.150	31.50	81.0	9.9	74.2	10.5	3.5
PHY 312WRF	2.40	1.140	28.75	80.4	8.8	78.1	9.9	2.0
PHY 330W3FE	2.30	1.120	29.55	80.8	9.0	75.8	9.4	3.5
PHY 333WRF	2.65	1.140	29.15	80.8	9.7	75.9	10.3	3.5
PHY 230W3FE	2.25	1.165	30.95	80.5	8.8	80.0	8.7	2.5
PX2A28W3FE	2.40	1.180	29.90	79.3	7.0	79.3	8.7	3.5
PX2A31W3FE	2.55	1.155	32.80	82.2	8.8	80.3	8.7	1.5
PX2A36W3FE	2.30	1.140	31.20	81.3	8.0	79.4	9.6	1.0
PX2AX3W3FE	2.35	1.150	31.85	81.1	8.6	80.1	8.8	2.0
PX2AX4W3FE	2.70	1.165	31.55	81.9	8.7	78.6	8.5	2.0
PX3A99W3FE	2.25	1.120	29.00	80.5	10.3	78.9	10.8	2.0
WU 17XL8	2.45	1.120	29.25	78.9	10.6	79.5	10.2	1.5
MSD (0.05)	0.47	0.055	3.06	2.3	1.5	2.5	1.0	1.9

¹AMX = experimental line from Americot; CG = Croplan Genetics; DP = Deltapine; FM = Fibermax; NG = NexGen; PHY = Phytogen; PX = experimental line from Phytogen; ST = Stoneville; WU = Winfield United experimental line.

²MSD is the minimum difference that is significant at $P=0.05$.

³Mic=micronaire; Unif = Uniformity; Elon = Elongation.

The Plainview location had substantial damage due to *Verticillium* wilt in 2017. At harvest time, it was apparent that the south eight rows of the trial yielded much higher than the north eight rows (average of 354 lbs of lint/acre difference between the two sets of eight rows). Disease ratings (wilt incidence and defoliation) were not affected by whatever caused the yield differences. There was no obvious cause for this difference. There were no symptoms of herbicide drift that might have affected certain transgenic traits. The Bayer CropScience varieties with Liberty-Link traits did appear to have a relatively normal relationship between disease and yield loss (Fig. 1). Dicamba resistant varieties (Americot, Deltapine, and Croplan Genetics) had a poorer though significant relationship between disease and yield (Fig. 1). Varieties with the Enlist trait and Roundup Ready Flex alone (Phytogen cultivars, and FM 2484B2F) had no relationship between disease ratings and yield (Fig. 1).

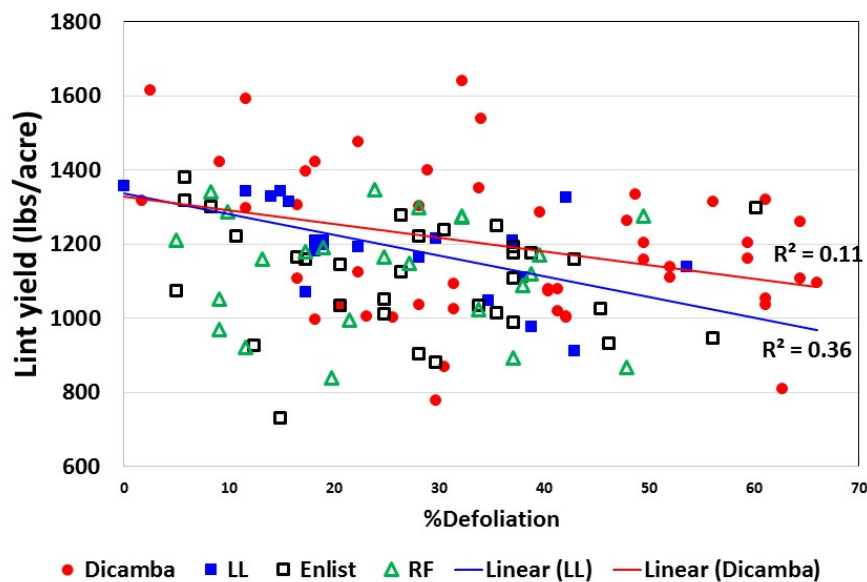


Figure 1. Relationship between % defoliation and lint yield for the *Verticillium* wilt variety trial at Plainview. Bayer CropScience varieties with the Liberty-Link train (LL) had a negative correlation between disease and yield ($R^2=0.36$); cultivars with the Dicamba trait also had a negative correlation between disease and yield ($R^2=0.11$). There was no correlation between disease and yield for Phytogen varieties (both with Enlist trait or just with glyphosate resistance [RF]) or FM 2484B2F (RF). Regression analysis involving yield with different varieties is not expected to have a high correlation between disease and yield, but typically with these types of *Verticillium* wilt trials, the R^2 value is between 0.20 and 0.50 (meaning the amount of disease explains between 20 and 50% of the variation in yield). The non-relationship between disease and yield would indicate some other factor affected this trial besides disease, but it had a smaller effect on Liberty-Link and Dicamba resistant varieties than on Roundup Ready Flex only varieties or Enlist resistant varieties. So, disease ratings with this trial are useful for evaluating cultivars, yields may or may not be accurate indicators of a varieties potential in a *Verticillium* wilt field.

Table 5. Results from the Seminole Verticillium wilt trial (low disease pressure)

Variety ¹	Yield x Loan (\$/a)	Lint yield (lbs/acre)	Loan (¢/lb)	Plants/ Ft row	Wilt (%)	Defol- iation (%)	Turnout (%)
FM 2334GLT	1,490	2,710	54.97	2.56	3.3	0.2	33.5
DP 1558NRB2RF	1,482	2,677	55.37	2.35	2.9	9.7	32.5
PHY 340W3FE	1,440	2,647	54.39	2.78	2.4	5.2	32.0
FM 1830GLT	1,392	2,555	54.49	2.65	0.5	2.3	33.5
NG 5711B3XF	1,362	2,484	54.84	2.24	4.3	3.7	33.7
ST 5115GLT	1,323	2,605	50.82	2.47	2.0	4.1	30.4
FM 1888GL	1,303	2,512	51.89	2.50	2.1	2.5	30.6
CG 3527B2XF	1,303	2,398	54.34	2.43	5.2	10.7	32.4
NG 3500XF	1,298	2,388	54.37	2.52	2.1	2.1	30.4
PHY 450W3FE	1,290	2,409	53.54	2.57	2.5	8.7	29.3
NG 4792XF	1,281	2,339	54.79	2.86	0.8	2.3	30.5
PHY 333WRF	1,272	2,475	51.42	2.69	5.8	9.5	29.4
NG 4601B2XF	1,265	2,289	55.27	2.50	6.2	9.3	34.1
ST 6182GLT	1,259	2,359	53.37	2.80	11.5	17.4	32.7
FM 2484B2F	1,242	2,317	53.59	2.47	3.2	0.6	30.0
PHY 430W3FE	1,239	2,526	49.04	2.62	2.4	7.5	30.8
NG 3406B2XF	1,231	2,335	52.74	2.74	1.9	7.9	31.2
NG 4545B2XF	1,227	2,283	53.74	2.18	3.5	7.0	30.2
NG 3780B2XF	1,222	2,235	54.69	2.82	5.2	11.6	29.4
WU 17ZC8	1,220	2,304	52.94	2.05	5.2	2.1	33.4
FM 1911GLT	1,211	2,321	52.19	2.62	1.4	1.9	30.8
NG 3699B2XF	1,206	2,213	54.52	2.06	1.9	3.1	29.0
NG 4689B2XF	1,204	2,249	53.52	2.21	3.4	9.5	30.0
CG 3885B2XF	1,199	2,335	51.37	2.35	8.1	20.7	31.5
PHY 444WRF	1,195	2,438	49.02	2.53	6.2	9.1	29.5
DP 1646B2XF	1,192	2,283	52.22	2.02	8.8	7.5	32.4
NG 3522B2XF	1,190	2,240	53.12	2.70	4.2	10.5	30.2
NG 1717B2XF	1,179	2,170	54.34	2.72	5.8	13.7	29.9
DP 1522B2XF	1,173	2,282	51.42	2.51	3.0	8.9	29.1
DP 1639B2XF	1,162	2,238	51.92	2.28	9.3	12.8	30.6
PHY 308WRF	1,157	2,370	48.84	2.65	4.1	13.4	28.2
PX3A96W3FE	1,147	2,107	54.44	2.60	1.1	4.3	29.0
PHY 330W3FE	1,127	2,119	53.19	2.54	4.3	15.7	28.5
NG 4777B2XF	1,108	2,057	53.87	2.73	2.4	4.4	30.0
PHY 480W3FE	1,098	2,207	49.74	2.73	5.2	7.0	28.0
PHY 250W3FE	1,096	2,122	51.64	2.69	6.3	3.5	29.7
DP 1549B2XF	1,087	2,117	51.37	2.34	1.3	0.8	29.1
PHY 490W3FE	1,082	2,176	49.72	2.88	14.1	15.7	27.8
AMX1725B3XF	1,044	1,924	54.27	2.36	1.1	1.1	28.0
DP 1553B2XF	1,028	1,896	54.24	1.45	21.2	13.9	31.6
² MSD (0.05)	187	395	4.86	0.41	9.3	ns	2.7

¹AMX = experimental line from Americot; CG = Croplan Genetics; DP = Deltapine; FM = Fibermax; NG = NexGen; PHY = Phytogen; PX = experimental line from Phytogen; ST = Stoneville; WU = Winfield United experimental line.

²MSD is the minimum difference that is significant at $P=0.05$.

Table 6. Fiber quality from the Seminole Verticillium wilt trial (low disease pressure)

Variety ¹	Mic ⁴	Length	Unif	Strength	Elon	Rd	+b	Leaf
AMX 1725B3XF	4.20	1.19	84.1	32.7	7.3	76.6	8.8	1.5
CG 3527B2XF	3.70	1.20	82.3	29.2	7.9	77.8	8.4	2.5
CG 3885B2XF	3.45	1.16	82.8	30.1	9.1	79.3	8.2	2.5
DP 1522B2XF	3.15	1.19	83.1	31.6	8.9	79.6	8.4	1.5
DP 1549B2XF	3.10	1.18	81.6	32.3	7.2	79.3	8.1	1.0
DP 1553B2XF	3.45	1.20	82.8	30.4	9.0	80.9	8.2	1.0
DP 1558NRB2RF	3.90	1.22	83.9	34.7	7.0	78.5	8.3	2.0
DP 1639B2XF	3.25	1.17	83.0	31.8	9.3	77.6	8.1	3.0
DP 1646B2XF	3.25	1.25	81.7	30.0	8.4	81.6	7.9	2.5
FM 1830GLT	3.55	1.26	81.3	30.9	6.8	79.4	7.6	3.0
FM 1888GL	3.55	1.23	83.3	32.5	5.3	75.5	7.7	5.0
FM 1911GLT	3.45	1.20	82.3	31.4	6.7	79.1	7.6	2.0
FM 2334GLT	3.60	1.27	83.5	30.7	6.5	81.0	7.8	1.5
FM 2484B2F	3.30	1.23	82.6	31.6	6.2	81.0	7.7	1.5
NG 1717B2XF	3.80	1.21	82.9	28.7	8.4	77.1	8.4	3.0
NG 3406B2XF	3.45	1.16	82.4	29.6	8.9	79.5	8.4	2.0
NG 3500XF	3.85	1.15	83.4	32.7	7.8	76.9	8.9	2.0
NG 3522B2XF	3.50	1.13	81.8	28.7	7.5	78.3	8.7	1.5
NG 3699B2XF	3.55	1.22	82.3	31.0	6.6	76.8	8.3	3.5
NG 3780B2XF	3.60	1.20	81.9	32.7	7.8	77.7	8.5	2.5
NG 4545B2XF	3.70	1.18	82.8	32.8	6.1	76.0	8.4	2.5
NG 4601B2XF	3.80	1.18	82.5	31.4	7.7	78.7	8.6	1.5
NG 4689B2XF	3.55	1.18	82.9	33.1	5.9	77.1	8.9	2.0
NG 4777B2XF	3.95	1.17	82.1	31.5	5.1	76.4	8.9	2.5
AMX 4792XF	4.10	1.19	83.2	32.3	7.6	76.7	8.2	4.0
NG 5711B3XF	3.50	1.23	82.7	31.1	8.8	79.2	7.8	2.0
PHY 250W3FE	3.30	1.20	81.9	30.4	6.0	77.1	7.7	3.5
PHY 308WRF	3.35	1.17	83.0	31.6	9.0	72.3	7.7	6.0
PHY 330W3FE	3.40	1.18	82.3	29.6	7.6	75.6	8.4	3.5
PHY 333WRF	3.35	1.18	81.7	30.8	7.3	75.2	8.4	4.0
PHY 340W3FE	3.60	1.18	82.6	29.9	7.5	76.8	8.5	2.5
PHY 444WRF	2.70	1.29	83.0	31.4	7.0	79.4	8.1	3.0
PHY 450W3FE	3.55	1.14	82.9	32.7	8.8	77.8	8.3	2.5
PHY 480W3FE	2.85	1.20	83.7	30.4	9.4	77.3	8.1	4.0
PHY 490W3FE	2.95	1.18	82.1	31.9	8.8	77.0	8.0	3.5
PX 3A96W3FE	3.55	1.19	82.7	30.7	7.1	79.4	8.3	2.0
PX 4A57W3FE	3.10	1.15	82.8	30.3	7.4	74.6	8.7	4.5
ST 5115GLT	3.10	1.15	80.7	31.5	8.0	80.3	7.8	2.5
ST 6182GLT	3.50	1.17	82.2	28.1	7.7	79.3	8.4	1.5
WU 17ZC8	3.35	1.22	82.7	30.5	6.4	79.2	8.0	3.0
MSD (0.05)	0.64	0.03	1.7	2.1	1.0	2.9	0.7	2.8

¹AMX = experimental line from Americot; CG = Croplan Genetics; DP = Deltapine; FM = Fibermax; NG = NexGen; PHY = Phytogen; PX = experimental line from Phytogen; ST = Stoneville; WU = Winfield United experimental line.

²MSD is the minimum difference that is significant at $P=0.05$.

³Mic=micronaire; Unif = Uniformity; Elon = Elongation.