

## Root-knot Nematode Variety Trial Results

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**Site: Lamesa:** three irrigation rates (low (L)=8.6”, medium (M)=10.6”, high (H)=12.6”). Plots=2-rows wide, 40-inch center, and 35 feet long, with four replications of each variety in each irrigation rate. Center pivot irrigation.

Table 1. Affect of cultivar and irrigation rate on lint yield, turnout, and plant stand in Lamesa.

Cultivar <sup>c</sup>	Lint yield (lbs/acre)					Turnout			Plants/ft row			RK <sup>b</sup>
	L	M	H	mean		L	M	H	L	M	H	
PX2B12W3FE	<b>713</b>	<b>898</b>	<b>1197</b>	<b>936</b>	a	0.305	0.304	0.309	3.1	3.4	3.3	670
ST 4946GLB2	<b>653</b>	<b>852</b>	<b>1200</b>	<b>902</b>	a	0.315	0.330	0.317	3.1	3.0	3.1	2,550
PX4A69W3FE	<b>642</b>	<b>862</b>	<b>1183</b>	<b>896</b>	a	0.348	0.356	0.363	2.3	2.4	2.5	1,020
PHY 480W3FE	<b>637</b>	<b>808</b>	<b>1112</b>	<b>852</b>	ab	0.329	0.330	0.317	2.8	2.9	3.0	170
BX1921GL	522	719	<b>1105</b>	782	bc	0.322	0.330	0.346	2.2	2.3	2.3	2,130
PX3C06W3FE	566	702	<b>987</b>	752	bcd	0.305	0.303	0.320	2.7	2.9	2.9	240
PHY 350W3FE	529	682	<b>1030</b>	747	cd	0.300	0.303	0.339	3.2	3.2	3.6	4,560
PX2B04W3FE	493	676	<b>1019</b>	730	cde	0.279	0.288	0.300	3.2	3.3	3.2	0
MONEXP4	592	643	928	721	cde	0.323	0.300	0.327	1.6	2.3	2.0	
PX2B10W3FE	496	673	<b>981</b>	717	cde	0.280	0.280	0.289	3.1	3.1	3.0	410
MONEXP2	499	626	<b>998</b>	708	cde	0.317	0.309	0.330	1.6	1.8	1.7	
MONEXP1	494	628	964	695	cde	0.306	0.294	0.321	1.9	2.0	2.3	
PHY 490W3FE	520	636	902	686	cde	0.311	0.302	0.297	2.6	2.5	2.7	
DP 1823NRB2XF	521	645	866	677	def	0.291	0.292	0.302	1.5	1.7	1.5	
NG 5007B3XF	507	592	901	666	def	0.305	0.302	0.320	2.0	1.8	1.9	
DP 1747NRB2XF	467	636	874	659	d-g	0.295	0.329	0.336	2.1	2.4	2.3	3,630
BX1971GLTP	444	636	881	654	d-g	0.348	0.342	0.356	2.6	2.7	2.8	10,260
BX1972GLTP	477	612	824	638	efg	0.304	0.301	0.311	1.8	1.9	2.0	9,660
FM 1830GLT	469	557	718	581	fg	0.330	0.324	0.328	1.6	1.8	1.8	
MONEXP3	419	504	813	579	fg	0.302	0.300	0.320	1.0	1.1	1.2	
PHY 417WRF	419	557	696	557	g	0.331	0.326	0.322	2.0	1.8	1.9	
MSD <sup>a</sup> (0.05)	88	125	222	103		0.033	0.020	0.026	0.4	0.4	0.5	

<sup>a</sup>MSD is the minimum significant difference between cultivars. Means followed by the same letter are not significantly different at  $P=0.05$ .

<sup>b</sup>RK is root-knot nematode/500 cm<sup>3</sup> soil. These nematode counts were measured in a different test, that was in the same circle. There were some entries in common with both tests, and those nematode counts are provided. Not all entries were in both tests.

<sup>c</sup>BX are experimental lines for BASF, DP is Deltapine, FM is Fibermax, MON are experimental lines for Bayer CropSciences, NG is NexGen, PHY is Phytogen, PX are experimental lines for Phytogen, and ST is Stoneville.

Site: Locketville. Plots=2 rows wide, 36 feet long, 4 replications/entry. Drip irrigation.

Table 2. Affect of root-knot nematode on cultivars in Locketville.

Cultivar <sup>a</sup>	Lint Yield (lbs/a)	Turn out	Loan (C/lb)	Yield X Loan (\$/a)	Plants /ft row	RK <sup>c</sup>	LRK <sup>c</sup>
PX3B07W3FE	<b>1,958</b>	0.301	48.43	<b>948.14</b>	2.53	1,530	2.23
ST 4946GLB2	<b>1,946</b>	0.279	50.50	<b>982.48</b>	1.81	740	2.75
NG 3500XF	<b>1,941</b>	0.313	53.30	<b>1,034.42</b>	2.12	2,760	3.32
CPS18703GLT	<b>1,914</b>	0.287	46.93	898.01	2.16	510	2.61
CG 3475B2XF	<b>1,913</b>	0.300	54.48	<b>1,042.20</b>	2.17	1,430	3.00
PHY 350W3FE	<b>1,896</b>	0.298	52.45	<b>994.58</b>	2.26	850	2.20
PX2A31W3FE	<b>1,829</b>	0.296	53.73	<b>982.45</b>	2.31	800	2.64
DP 1822XF	<b>1,814</b>	0.280	50.28	911.83	1.67	5,490	3.72
NG 4689B2XF	<b>1,809</b>	0.300	52.00	<b>940.81</b>	2.48	4,590	3.53
PX3C06W3FE	<b>1,796</b>	0.281	49.05	880.82	2.12	50	<b>0.58</b>
FM 1911GLT	<b>1,767</b>	0.280	45.38	801.64	1.49	810	2.87
FM 2498GLT	<b>1,751</b>	0.287	51.85	907.76	2.31	4,260	3.56
DP 1522B2XF	1,743	0.318	49.53	863.43	1.47	4,020	2.64
PHY 320W3FE	1,735	0.290	49.08	851.42	2.17	300	<b>1.34</b>
CPS18450B2XF	1,730	0.305	56.20	<b>972.40</b>	2.07	5,130	3.66
PX3B09W3FE	1,722	0.285	47.25	813.53	2.04	1,890	<b>1.79</b>
FM 2574GLT	1,715	0.306	48.33	828.98	1.57	2,340	3.33
CPS18506BB3XF	1,708	0.292	51.23	875.14	1.95	1,830	3.06
PX2BX4W3FE	1,701	0.276	51.15	870.19	2.51	110	<b>1.17</b>
NG 4545B2XF	1,649	0.297	54.00	890.19	2.13	2,900	3.25
CG 3885B2XF	1,612	0.283	49.60	799.43	2.03	2,730	3.14
ST 5471GLTP	1,603	0.283	50.95	816.60	2.31	4,770	3.55
NG 3699B2XF	1,588	0.282	50.90	808.42	2.02	5,070	3.61
CPS18501AB3XF	1,583	0.276	44.68	707.40	1.44	7,320	3.86
ST 5122GLT	1,567	0.269	46.70	731.56	2.41	5,910	3.71
CPS18506DB3XF	1,562	0.293	48.03	750.35	1.44	1,680	2.42
DP 1646B2XF	1,544	0.306	49.53	764.75	1.04	1,590	2.89
CPS18505CB3XF	1,540	0.272	53.15	818.25	2.08	2,520	3.11
DP 1747NRB2XF	1,445	0.325	47.28	683.20	0.93	1,210	3.01
BX1972GLTP	1,437	0.264	47.48	682.05	1.80	3,690	3.53
DP 1820B3XF	1,436	0.301	51.25	735.70	1.03	3,480	3.22
CPS18269GLTP	1,254	0.263	44.55	558.66	1.58	1,070	2.87
CPS18864GLTP	1,220	0.260	49.33	601.83	1.50	7,690	3.57
DP 1823NRB2XF	1,182	0.265	46.53	549.99	1.05	510	<b>1.45</b>
CG 9178B3XF	1,084	0.272	51.60	559.09	1.32	1,440	<b>1.46</b>
CPS18504DB3XF	945	0.282	46.80	442.38	0.38	1,380	2.29
MSD <sup>b</sup> (0.05)	211	0.472	4.94	104.50	0.54	3568	1.36

<sup>a</sup>BX are experimental lines for BASF, CG is Croplan Genetics, CPS are experimental lines for Dynagro/All-Tex, DP is Deltapine, FM is Fibermax, MON are experimental lines for Bayer CropSciences, NG is NexGen, PHY is Phytogen, PX are experimental lines for Phytogen, and ST is Stoneville.

<sup>b</sup>MSD are the minimum significant difference between cultivars.

<sup>c</sup>RK is root-knot nematodes/500 cm<sup>3</sup> soil, and LRK is LOG<sub>10</sub>(RK).

Table 3. Fiber properties of cultivars tested in Locketville.

Cultivar <sup>a</sup>	Mic. <sup>c</sup>	Length	Strength	Unif	Elon	Rd	+b	Leaf	Color Grade
BX1972GLTP	2.77	1.17	29.95	79.75	7.5	77.3	6.9	3.5	41-1
CG 3475B2XF	3.71	1.13	30.35	81.85	8.0	74.6	7.6	4.0	41-1, 41-2
CG 3885B2XF	3.06	1.10	27.05	80.00	8.2	80.1	7.8	3.0	21-2, 31-1
CG 9178B3XF	3.19	1.11	31.20	80.30	6.5	76.8	8.1	3.5	31-1, 41-1
CPS18269GLTP	2.46	1.14	30.05	79.60	7.1	75.5	7.9	3.5	31-2, 41-1
CPS18450B2XF	3.73	1.17	30.40	81.70	6.8	80.5	7.4	2.5	31-1
CPS18501AB3XF	2.57	1.20	30.40	80.95	7.1	74.1	6.5	6.0	41-2, 51-1
CPS18504DB3XF	2.69	1.17	27.80	80.10	7.3	78.8	6.8	3.5	31-2, 41-1
CPS18505CB3XF	3.49	1.09	30.80	80.55	9.0	74.2	7.8	3.0	31-2, 41-2
CPS18506BB3XF	3.26	1.16	29.50	80.90	7.1	76.7	6.9	4.0	41-1, 41-2
CPS18506DB3XF	2.98	1.13	29.50	80.65	7.1	75.1	7.3	5.0	31-2, 51-1
CPS18703GLT	2.90	1.15	29.20	79.40	6.0	75.7	6.4	5.5	41-2
CPS18864GLTP	2.85	1.18	31.00	80.70	6.2	76.8	7.2	4.5	41-1
DP 1522B2XF	2.99	1.14	30.15	79.95	7.9	76.3	8.1	3.5	31-1, 41-1
DP 1646B2XF	2.96	1.15	29.35	80.15	7.3	79.2	7.8	3.0	31-1
DP 1747NRB2XF	2.78	1.12	28.60	78.60	6.7	77.5	7.8	4.0	31-1, 41-1
DP 1820B3XF	3.24	1.19	31.30	79.90	6.3	77.6	6.6	4.0	41-1, 41-2
DP 1822XF	3.07	1.17	31.70	80.35	5.6	76.7	7.2	3.0	41-1
DP 1823NRB2XF	2.66	1.15	30.15	80.85	6.9	77.4	7.0	6.0	41-1
FM 1911GLT	2.87	1.18	29.75	80.10	6.4	75.6	6.4	5.5	41-1, 51-1
FM 2498GLT	3.22	1.16	29.65	81.15	6.1	78.4	7.1	3.0	31-1, 41-1
FM 2574GLT	3.05	1.18	30.85	79.75	6.1	76.7	6.3	5.0	41-1, 51-1
NG 3500XF	4.36	1.10	30.55	81.90	7.5	74.6	8.3	3.0	41-1
NG 3699B2XF	3.25	1.15	30.65	80.30	6.2	75.1	7.9	3.5	41-1
NG 4545B2XF	3.91	1.11	30.90	80.90	5.7	75.4	7.7	4.0	41-1
NG 4689B2XF	3.67	1.11	31.50	81.20	6.0	75.6	7.8	2.5	41-1
PHY 320W3FE	2.99	1.14	30.50	81.70	7.1	76.4	6.6	6.5	41-1, 41-2
PHY 350W3FE	3.64	1.15	29.90	81.20	7.4	77.0	7.4	3.0	41-1
PX2A31W3FE	3.50	1.14	32.25	82.40	6.6	77.3	6.7	3.5	31-2, 41-2
PX2BX4W3FE	3.10	1.18	30.95	79.50	6.9	76.1	7.9	4.0	31-2, 41-1
PX3B07W3FE	2.99	1.14	30.65	79.45	6.4	75.5	7.1	4.5	41-1
PX3B09W3FE	2.82	1.15	30.90	79.10	6.1	77.3	6.8	5.0	41-1
PX3C06W3FE	3.01	1.15	29.55	80.35	6.6	75.5	6.6	4.5	41-2
ST 4946GLB2	2.97	1.14	31.45	80.95	7.5	74.8	7.5	5.0	41-1
ST 5122GLT	2.96	1.10	29.05	78.85	7.3	76.8	7.4	4.5	41-1
ST 5471GLTP	3.07	1.15	30.60	80.05	7.3	78.2	7.0	4.0	31-2, 41-1
MSD <sup>b</sup> (0.05)	0.56	1.43	0.07	2.48	0.9	3.5	0.8	3.0	

<sup>a</sup>BX are experimental lines for BASF, CG is Croplan Genetics, CPS are experimental lines for Dynagro/All-Tex, DP is Deltapine, FM is Fibermax, MON are experimental lines for Bayer CropSciences, NG is NexGen, PHY is Phytogen, PX are experimental lines for Phytogen, and ST is Stoneville.

<sup>b</sup>MSD are the minimum significant difference between cultivars.

<sup>c</sup>Mic is micronaire, unif is uniformity, and elon is elongation.

### **Conclusions based on 2018 Root-knot Nematode Variety Trials**

- 1) ST 4946GLB2 is still a very competitive choice in root-knot nematode fields. However, this variety only has partial resistance to the nematode, and will allow a moderate buildup for the next cotton crop.
- 2) Phytogen 480W3FE is very competitive if the environment favors a longer growing season. However, many of the top yielding lines are experimental entries (PX) for Phytogen. They also are for the most part highly resistant to root-knot nematode, which will reduce the nematode pressure for the next cotton crop.
- 3) Stand issues with the two Deltapine nematode resistant varieties in both trials, DP 747NRB2XF and DP 1823NRB2XF, make it difficult to access the yield potential of these varieties. They did not yield well, but the stands were too low at both sites for proper testing.