NEW DELTAPINE® CLASS OF '17 BOLLGARD II® XTENDFLEX® COTTON VARIETIES

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Abstract

DP 1725 B2XF and DP 1747NR B2XF are Bollgard II® XtendFlex® cotton varieties designed to help maximize weed control through effective and sustainable weed management options.

DP 1725 B2XF is an early to mid-full maturing cotton variety with high yield potential that has excellent fiber quality with low micronaire rating. Fiber quality ratings include fiber length of 1.17 inches, 4.5 to 4.6 micronaire, 30 g/tex fiber strength, and 82.3% uniformity index. DP 1725 B2XF has semi-smooth leaf pubescence that is a best fit for early to mid-season environments in Midsouth, Southeast, and Southern Texas regions.

DP 1747NR B2XF is a mid-full maturing cotton variety with semi-smooth leaf pubescence and is adapted for full-season environments. Fiber quality ratings include fiber length of 1.15 inches, 4.9 micronaire, 32.1 g/tex fiber strength, and 83.3% uniformity index. This variety is best fit for full-season environments in the lower Southeast and Texas regions.

Introduction

Deltapine® brand has early to mid-maturing cotton varieties, DP 1725 B2XF and DP 1747NR B2XF, both with Bollgard II® XtendFlex® cotton technology. The characteristics describing DP 1725 B2XF and DP 1747NR B2XF are summarized in Table 1. The highlights of DP 1725 B2XF are excellent fiber length and strength. DP 1747NR B2XF also has an excellent combination of yield potential and fiber quality with increased fiber length ideal for full-season environments.

Table 1. DP 1725 B2XF and DP 1747NR B2XF Characteristics and Fiber Quality.

Characteristic	DP 1725 B2XF	DP 1747NR B2XF
Maturity	Early to Mid	Mid-Full
Leaf Pubescence	Semi-Smooth	Semi-Smooth
Micronaire	4.5 to 4.6	4.9
Length	1.17 inches	1.15 inches
Strength	30.0 g/tex	32.1 g/tex
Uniformity	82.3%	83.3%
Growth/PGR Management	Responsive to Mepiquat	Aggressive
Bacterial Blight	Susceptible	Susceptible
Rating and measurements from 2016 Monsanto Trials.		

Materials and Methods

The data describing DP 1725 B2XF and DP 1747NR B2XF (along with internal and competitive check varieties) was obtained from the following sources: Monsanto breeder trials, Monsanto on-farm trials, and University trials. Plant growth, fruiting, and maturity comparisons were made by plant mapping a subset of the Monsanto on-farm trials when approximately 50% of the bolls were open. All available yield, fiber quality, and plant mapping data were queried on the dates noted in each data table for these analyses.

Results and Discussion

DP 1725 B2XF and DP 1522 B2XF Plant Mapping Comparisons

The growth and fruiting characteristics of DP 1725 B2XF, as measured by end-of-season plant mapping, are summarized in Table 2. The growth and fruiting variables of DP 1725 B2XF are similar to DP 1522 B2XF in Midsouth and Southeast data trials. DP 1725 B2XF requires 4 less heat units to achieve 100% open boll when compared to the similar mid-full maturing cotton product DP 1522 B2XF. DP 1725 B2XF is characterized as an early to mid-maturing variety, with a higher vigor rating, similar total nodes, and a slightly shorter plant height than DP 1522 B2XF.

Table 2. Plant mapping comparison of DP 1725 B2XF and DP 1522 B2XF in Monsanto Trials (2016) in Midsouth/ Southeast PCM4 sites.

	DP 1725 B2XF	DP 1522 B2XF
Vigor Rating	3.83	2.85
Plant Height (inches)	38.2	39.2
Total Nodes	22.0	22.3
Number of Fruiting Nodes	10.9	10.8
% Est Open	59.1	59.0
Node of First Fruiting Branch	6.5	6.5
DD60 to 100% open	216	220
Fall Out Rating	3.60	3.60
String Out Rating	4.40	3.80

DP 1725 B2XF Yield, Fiber Quality, and Value Comparisons

DP 1725 B2XF was compared to PHY 333 WRF in testing conducted in the Midsouth and Southeast region. DP 1725 B2XF showed improvements over PHY 333 WRF in lint % (increase of 2.2) and similar lint yield (Table 3).

Table 3. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1725 B2XF and PHY 333 WRF in the Midsouth and Southeast region, 2015-2016.

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1725 B2XF	1,274	42.0	1.17	4.55	30.3	82.7
PHY 333 WRF	1,279	39.8	1.19	4.39	30.9	83.3
Significance		**	**	**	*	**
Observations	76	76	47	47	47	47
Years	2	2	2	2	2	2
% Wins	51	93	24	22	34	26
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: Midsouth and Southeast data 2015 – 2016 – all data sources: TechDev and Breeding PCM4, NPE, and University.						

DP 1725 B2XF was compared to PHY 444 WRF in testing conducted across the South Texas and East Texas region. DP 1725 B2XF showed improvements over PHY 444 WRF in lint yield (increase of 5 lbs lint/acre) and lint % (increase of 1.7%) (Table 4).

Table 4. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1725 B2XF and PHY 499 WRF for the South Texas and East Texas regions.

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1725 B2XF	1,161	41.8	1.13	4.71	29.5	81.9
PHY 444 WRF	1,157	40.1	1.21	4.15	31.9	83.2
Significance		**	**	**	**	**
Observations	23	23	20	20	20	20
Years	1	1	1	1	1	1
% Wins	43	91	0	0	11	20
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: South Texas & East Texas data 2016 – all data sources: TechDev and Breeding PCM4, NPE, and University.						

DP 1725 B2XF was compared to PHY 333 WRF in testing conducted across the South Texas and East Texas region. DP 1725 B2XF showed improvements over PHY 333 WRF in lint yield (increase of 41 lbs lint/acre) and lint % (increase of 2.2%) (Table 5).

Table 5. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1725 B2XF and PHY 333 WRF for the South Texas and East Texas regions, 2016.

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1725 B2XF	1,274	42.4	1.14	4.71	30.0	82.4
PHY 333 WRF	1,233	40.2	1.16	4.50	30.5	83.1
Significance		**		**		**
Observations	23	23	20	20	20	20
Years	1	1	1	1	1	1
% Wins	43	91	15	15	30	35
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: South Texas & East Texas data 2016 – all data sources: TechDev and Breeding PCM4, NPE, University.						

DP 1725 B2XF was compared to DP 1646 B2XF in testing conducted across the South and East Texas regions. DP 1725 B2XF showed improvements over DP 1646 B2XF in lint % (increase of 0.08%) and micronaire (increase of 0.07 inches) (Table 6).

Table 6. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1725 B2XF and DP 1646 B2XF across the South and East Texas region, 2016.

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1725 B2XF	1,181	41.5	1.12	4.69	28.9	81.5
DP 1646 B2XF	1,232	40.7	1.18	4.62	29.8	82.0
Significance	*	**	**		**	*
Observations	30	30	27	27	27	27
Years	1	1	1	1	1	1
% Wins	27	73	7	26	22	26
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: South TX & East TX data 2016 – all data sources: TechDev and Breeding PCM4, NPE, and University.						

DP 1725 B2XF was compared to DP 1522 B2XF in testing conducted across the South Texas and East Texas regions. DP 1725 B2XF showed improvements over DP 1522 B2XF in lint yield (increase of 62 lbs/acre), lint % (increase of 2.6%) and the same fiber length. (Table 7).

Table 7. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1725 B2XF and DP 1522 B2XF across the South Texas and East Texas regions, 2016.

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1725 B2XF	1,174	41.8	1.12	4.72	28.8	81.4
DP 1522 B2XF	1,112	39.2	1.12	4.81	29.7	82.5
Significance	*	**		+	*	**
Observations	27	27	24	24	24	24
Years	1	1	1	1	1	1
% Wins	67	96	35	70	21	12
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: South TX & East TX data 2016 – all data sources: Tech Dev and Breeding PCM4, NPE, and University.						

DP 1747NR B2XF Plant Mapping Comparisons

The growth and fruiting characteristics of DP 1747NR B2XF, as measured by end-of-season plant mapping, are summarized in Table 9. The growth and fruiting variables of DP 1749 B2XF are similar to DP 1646 B2XF in Midsouth and Southeast data trials. DP 1747NR B2XF requires 23 less heat units to achieve 100% open boll when compared to the similar mid-full maturing cotton product DP 1646 B2XF. DP 1747NR B2XF is characterized as a mid-maturing variety, with similar plant height, a higher number of nodes to first fruiting branch (increase of 0.2), and a higher fall out rating (increase of 0.67) than DP 1646 B2XF.

Table 9. Plant mapping comparison of DP 1747NR B2XF and DP 1646 B2XF in Monsanto Trials (2016) in Midsouth/Southeast PCM4 sites, 2016.

	DP 1747NR B2XF	DP 1646 B2XF
Vigor Rating	3.55	3.65
Plant Height (inches)	43.1	43.2
Total Nodes	22.8	23.1
Number of Fruiting Nodes	10.0	11.6
% Est Open	48.3	47.8
Node of First Fruiting Branch	6.8	6.6
DD60 to 100% open	259	282
Fall Out Rating	3.87	3.20
String Out Rating	3.79	3.93

DP 1747NR B2XF Yield, Fiber Quality, and Value Comparisons

DP 1747NR B2XF was compared to DP 1558NR B2XF in testing conducted across the Midsouth and Southeast region in 2015 and 2016. DP 1747NR B2XF showed improvements over DP 1558NR B2XF in lint yield (increase of 140 lbs lint/acre), lint % (increase of 2.5), and reduced micronaire (decrease of 0.1) (Table 10).

Table 10. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1747NR B2XF and DP 1558NR B2XF across the Midsouth and Southeast regions, 2015 - 2016.

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1747NR B2XF	1,543	43.7	1.15	4.91	31.4	82.6
DP 1558NR B2XF	1,403	41.2	1.17	5.01	32.0	83.5
Significance	**	**	**	*	+	**
Observations	45	44	30	30	30	30
Years	2	2	2	2	2	2
% Wins	82	98	17	66	47	17
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: Midsouth and Southeast data 2015 – 2016 – all data sources: PMC3, PCM4, and NPE.						

DP 1747NR B2XF was compared to DP 1522 B2XF in testing conducted across the Midsouth and Southeast regions. DP 1747NR B2XF showed improvements over DP 1522 B2XF in lint yield (increase of 158 lbs/acre), lint % (increase of 3.4%), the same fiber length, a fiber strength (increase of 1.7). (Table 11).

Table 11. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1725 B2XF and DP 1522 B2XF across the Midsouth and Southeast regions**.**

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1747NR B2XF	1,409	43.0	1.15	4.88	31.5	82.5
DP 1522 B2XF	1,251	39.6	1.15	4.87	29.8	83.1
Significance	**	**			**	**
Observations	62	63	41	41	41	41
Years	2	2	2	2	2	2
% Wins	77	98	41	48	83	28
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: Midsouth and Southeast data 2015 - 2016 – all data sources: PCM3, PCM4, and NPE.						

DP 1747NR B2XF was compared to DP 1558NR B2XF in testing conducted across the West Texas region. DP 1747NR B2XF showed improvements over DP 1558NR B2XF in lint yield (increase of 107 lbs/acre), lint % (increase of 2.2%), lower micronaire (decrease of 0.05), and the same uniformity. (Table 12).

Table 12. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1725 B2XF and DP 1522 B2XF across the West Texas region, 2015-2016**.**

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1747NR B2XF	1,602	44.5	1.13	4.56	33.2	83.3
DP 1558NR B2XF	1,495	42.3	1.16	4.61	32.7	83.3
Significance	**	**	*			
Observations	18	18	8	8	8	8
Years	2	2	1	1	1	1
% Wins	83	100	25	50	62	43
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: West Texas data 2015 - 2016 – all data sources: PCM3, PCM4, and NPE.						

DP 1747NR B2XF was compared to ST 4946GLB2 in testing conducted across the West Texas region. DP 1747NR B2XF showed improvements over ST 4946GLB2 in lint yield (increase of 121 lbs/acre), lint % (increase of 4.2%), fiber strength (increase of 0.4 g/tex), and the similar uniformity. (Table 13).

Table 13. Lint yield, lint %, fiber length, micronaire, fiber strength, and uniformity index comparisons of DP 1747NR B2XF and ST 4946GLB2 across the West Texas region, 2015-2016**.**

Variety	Lint Yield (lb/acre)	Lint %	Fiber Length	Micronaire	Fiber Strength (g/tex)	Uniformity Index
DP 1747NR B2XF	1,563	43.8	1.11	4.69	31.1	82.3
ST 4946GLB2	1,442	39.6	1.10	4.60	30.7	82.6
Significance	**	**				
Observations	29	29	14	14	14	14
Years	2	2	2	2	2	2
% Wins	83	100	57	43	79	36
Significance levels denoted by + = 0.1; * = 0.05; ** = 0.01 alpha error levels. Data Source: West Texas data 2015 - 2016 – all data sources: PCM3, PCM4, and NPE.						

Summary

DP 1725 B2XF and DP 1747NR B2XF are two new Class of 17 cotton varieties with Bollgard II® XtendFlex® cotton technology.

DP 1725 B2XF is an early to mid-maturing variety with high yield potential, best fit for the Midsouth, Southeast, East Texas, and South Texas regions. DP 1725 B2XF plant growth is easily managed with PGR applications. DP 1725 B2RF has improved fiber quality and micronaire when compare to other early maturing cotton products.

DP 1747NR B2XF is a mid-full maturing variety that is best fit for Southeast, Midsouth, and West Texas regions. DP 1747NR B2XF has improved yield potential and has plant growth that is much easier to manage than other available nematode resistant (NR) cotton varieties.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

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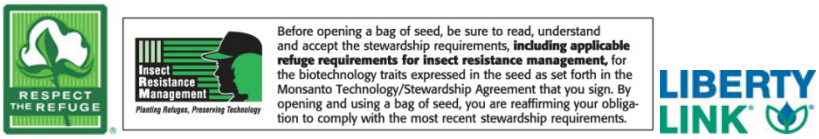
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