NEW DELTAPINE® CLASS OF 10 THROUGH CLASS OF 12 VARIETIES FOR WEST TEXAS MARKETS

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Abstract

The Deltapine® brand offers cotton producers in West Texas an excellent line up of cotton products with high quality and yield potential in the Class of 09 and 10, and through rigorous testing Deltapine will continue to introduce quality cotton varieties. Currently the leading Deltapine varieties planted in the West Texas region are DP 0912 B2RF, DP 0935 B2RF, DP 1032 B2RF and DP 1044 B2RF. For the Class of 12, two excellent candidates for the West Texas region include 10R011B2R2 and 10R013B2R2.

Deltapine cotton products currently available in the West Texas region have exhibited higher yield potential when compared to competitor products including FM 9160 B2F and FM 1740 B2F. The yield performance of DP 0912 B2RF, DP 0924 B2RF, DP 0935 B2RF, DP 1032 B2RF and DP 1044 B2RF showed higher yield potential when compared to the performance of widely planted competitors in 2009 and 2010 testing.

Introduction

Deltapine brand provides a strong cotton product line up for the West Texas region and will be continuing to provide candidate varieties for commercial introduction in 2012 that contain both the Genuity® Bollgard II® with Roundup Ready® Flex traits: 10R011B2R2 and 10R013B2R2. Current Deltapine varieties, DP 1032 B2RF and DP 1044 B2RF have exhibited high yield potential and key strengths for cotton production in West Texas.

DP 1032 B2RF is a mid-maturing cotton variety ideal for production in the West Texas region. DP 1032 B2RF features a medium-tall plant height with smooth leaf. The characteristics describing DP 1032 B2RF are summarized in Table 1. The key strengths of DP 1032 B2RF include moderate resistance to bacterial blight and excellent fiber quality with high turnout.

Table 1. DP 1032 B2RF Characteristics and Fiber quality

Trait	Description
Maturity	Mid
Leaf Pubescence	Smooth
Plant Height	Medium-Tall
Micronaire	4.0
Staple (32nds)	36.1
Strength (g/tex)	28.1
Length Uniformity (%)	81.8
Number of Fruiting Nodes	11.7
Node First Fruiting Branch	5.7

DP 1044 B2RF is mid- to full-maturing cotton variety ideal for production in the West Texas region. DP 1044 B2RF features a medium-tall plant height with smooth leaf pubescence. The characteristics describing DP 1044 B2RF are summarized in Table 2. The key strengths of DP 1044 B2RF include outstanding performance in dryland and limited water situations, bacterial blight and verticillium tolerance, and excellent seedling vigor.

Table 2. DP 1044 B2RF Characteristics and Fiber quality

Trait	Description
Maturity	Mid – Full
Leaf Pubescence	Smooth

Plant Height	Medium-Tall
Micronaire	4.0
Staple (32nds)	35.6
Strength (g/tex)	28.1
Length Uniformity (%)	82.3
Number of Fruiting Nodes	11.0
Node First Fruiting Branch	7.1

The characteristics describing 10R011B2R2 and 10R013B2R2 in comparison to FM9160B2F are summarized in Table 3. In preliminary testing the highlights of 10R011B2R2 and 10R013B2R2 reported improved % lint, micronaire and strength when compared to FM 9160B2F a widely planted competitor variety in the West Texas region.

Table 3. Class of 12 Candidates – 2010 West Texas Region

	10R011B2R2	**FM 9160 B2F**	**Difference**
% Lint	37.1	35.6	1.5
Fiber Length (inches)	1.18	1.18	0
Micronaire	4.2	4.0	0.2
Strength (g/tex)	30.7	30.5	0.3
Length Uniformity (%)	82.4	82.4	-0.1
N=14			
	10R013B2R2	**FM 9160 B2F**	**Difference**
% Lint	36.7	35.7	1.0
Fiber Length (inches)	1.19	1.18	0.01
Micronaire	4.4	4.0	0.5
Strength (g/tex)	30.6	30.3	0.3
Length Uniformity (%)	82.8	82.5	0.4
N=13			
Data available in Mirage as of 12.10.10			

Materials and Methods

The data describing DP 1032 B2RF, DP 1044 B2RF and Class of 12 candidates 10R011B2R2 and 10R013B2R2 (along with competitive check varieties) was obtained from the following sources: Monsanto breeder trials (2008), Monsanto on-farm strip trials (2009 and 2010) referred to as Field Advancement Coordination Trials (FACT), on-farm module-sized trials referred to as New Product Evaluation (NPE) in 2009 and 2010, and university variety trials in 2010. Plant growth, fruiting, and maturity comparisons were made by plant mapping a subset of the 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. Analysis of variance was completed using JMP 5.0 statistical software (SAS Institute).

Results and Discussion

Yield, Loan Value, and Crop Value Comparisons

The improvements of DP 1032 B2RF over FM 9160 B2F in 2009-2010 Field Quality Summary testing were lint yield (increase of 155 lbs/acre) and crop value (80.74 $/acre) (Table 4).

Table 4. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of DP 1032 B2RF and FM 9160 B2F in 2009 - 2010 field testing, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
DP 1032 B2RF	1487	0.5552	825.32
FM 9160 B2F	1332	0.5589	744.58

% Difference	11.6%	-0.7%	10.8%
% Wins	76.2%		
Number of comparisons	42		
Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10			

The improvements of DP 1032 B2RF over FM 1740 B2F in 2009-2010 Field Quality Summary testing were lint yield (increase of 136 lbs/acre), loan value (increase .0024 $/lb) and crop value (78.77 $/acre) (Table 5).

Table 5. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of DP 1032 B2RF and FM 1740 B2F in 2009 - 2010 field testing, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
DP 1032 B2RF	1464	0.5543	811.43
FM 1740 B2F	1328	0.5519	732.66
% Difference	10.3%	0.4%	10.8%
% Wins	65.9%		
Number of comparisons	41		
Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10			

The improvements of DP 1032 B2RF over an average of FiberMax® Genuity® Bollgard II® with Roundup Ready® Flex cotton products (FM 1740 B2F, FM 9063 B2F, FM 9160 B2F, FM 9170 B2F, FM 9180 B2F) in 2009-2010 Field Quality Summary testing on irrigated acres were lint yield (increase of 159 lbs/acre) and crop value (86.47 $/acre) (Table 6). 1032 B2RF offers high yield potential on irrigated acres in the West Texas region.

Table 6. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of DP 1032 B2RF and FiberMax® Genuity® Bollgard II® with Roundup Ready® Flex* cotton products in 2009 - 2010 field testing in irrigated trials, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
DP 1032 B2RF	1659	0.5564	923.26
FiberMax® Cotton Products*	1500	0.5578	836.79
% Difference	10.6%	-0.3%	10.3%
% Wins	76.0%		
Number of comparisons	73		
Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10; * FiberMax® Cotton Products = FM 1740 B2F, FM 9063 B2F, FM 9160 B2F, FM 9170 B2F, FM 9180 B2F.			

The improvements of DP 1044 B2RF over FM 1740 B2RF in 2009-2010 Field Quality Summary testing were lint yield (increase of 158 lbs/acre) and crop value (74.22 $/acre) (Table 7).

Table 7. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of DP 1044 B2RF and FM 9160 B2F in 2009 - 2010 field testing, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
DP 1044 B2RF	1472	0.5481	807.1
FM 9160 B2F	1314	0.5579	732.88
% Difference	12.1%	-1.7%	10.1%
% Wins	82.8%		
Number of comparisons	29		

Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10

The improvements of DP 1044 B2RF over FM 1740 B2F in 2009-2010 Field Quality Summary testing were lint yield (increase of 139 lbs/acre) and crop value (69.84 $/acre) (Table 8).

Table 8. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of DP 1044 B2RF and FM 1740 B2F in 2009 - 2010 field testing, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
DP 1044 B2RF	1467	0.5479	803.73
FM 1740 B2F	1328	0.5526	733.89
% Difference	10.4%	-0.8%	9.5%
% Wins	73.0%		
Number of comparisons	37		

Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10

DP 1044 B2RF offers high yield potential for dryland acres in the West Texas region over competitor products. The improvements of DP 1044 B2RF over an average of FiberMax® Genuity® Bollgard II® with Roundup Ready® Flex cotton products (FM 1740 B2F, FM 9063 B2F, FM 9160 B2F, FM 9170 B2F, FM 9180 B2F) in 2009-2010 field Quality Summary testing on irrigated acres were lint yield (increase of 97 lbs/acre) and crop value (45.62 $/acre) (Table 9).

Table 9. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of DP 1044 B2RF and FiberMax® Genuity® Bollgard II® with Roundup Ready® Flex* cotton products in 2009 - 2010 field testing on dryland acres, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
DP 1044 B2RF	867	0.5394	467.71
FiberMax® Cotton Products*	770	0.5482	422.09
% Difference	12.6%	-1.6%	9.5%
% Wins	73.0%		
Number of comparisons	37		

Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10

The improvements in Class of 12 candidate 10R011B2R2 over FM 9160 B2RF in 2010 testing were lint yield (increase of 67 lbs/acre), loan value (increase of .0011 $/lb) and crop value (39.24 $/acre) (Table 10).

Table 10. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of 10R011B2R2and FM 9160 B2F in 2010 field testing, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
10R011B2R2	1451	0.5614	814.60
FM 9160 B2F	1384	0.5603	775.36
% Difference	4.9%	0.2%	5.1%
% Wins	57.1%		
Number of comparisons	34		

Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10

The improvements in Class of 12 candidate 10R013B2R2 over FM 9160 B2F in 2010 testing were lint yield

(increase of 62 lbs/acre), loan value (increase of .0012 $/lb) and crop value (36.69 $/acre) (Table 11).

Table 11. Lint Yield (lb/acre), Loan Value ($/lb), and Crop Value ($/acre) comparisons of 10R013B2R2 and FM 9160 B2F in 2010 field testing, West Texas.

Variety	Lint Yield (lb/acre)	Loan Value ($/lb)	Crop Value ($/acre)
10R013B2R2	1454	0.5615	816.53
FM 9160 B2F	1392	0.5603	779.84
% Difference	4.5%	0.2%	4.7%
% Wins	76.9%		
Number of comparisons	13		
Notes: Loan value is based on 2010 USDA - CCC Loan chart, assuming 31 color grade and 3 leaf grade. Crop Value is lint yield x loan value. Data available in Mirage database 12.17.10			

Summary

In field testing in the West Texas region, DP 1032 B2RF, DP 1044 B2RF and Class of 12 candidates 10R011B2R2 and 10R013B2R2 were all found to have equal or greater yield performance than competitor products FM 9160 B2F and FM 1740 B2F in the West Texas region. DP 1032B2RF provide producers a great combination of high yield potential and fiber quality for mid-maturing markets best fit for irrigated acres. DP 1044 B2RF offers producers excellent yield potential across Texas markets and is best fit on limited water irrigation and dryland acres. The two Class of 12 candidates 10R011B2R2 and 10R013B2R2 are both early maturing varieties that in preliminary testing offer excellent yield potential and outstanding fiber quality.

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