



Result Demonstration Report

Year: 2007

Transgenic Cotton Variety Performance Trial Navarro County, Texas

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Summary: A cotton performance trial was conducted in northwest Navarro County during 2007 to evaluate the performance of 16 transgenic cotton cultivars with respect to yield, lint quality and value per acre. The trial included selected varieties with stacked genes; (BollGard + Roundup Ready, BollGard II + Roundup Ready Flex, Widestrike + Roundup and Widestrike + Roundup Ready Flex). The entry, DP 164B2RF produced the highest yield at 739 lbs. of lint/ac. and returned a value of \$395.00/acre. Stoneville 5327B2RF produced the second highest yield at 697 lbs. of lint/ac. and returned a per acre loan value of \$380.00, followed by Phytogen 485WRF producing 690 lbs. of lint/ac. and returning a loan value of \$348.00 per acre.

Objectives: The primary objective was to evaluate the performance of 16 transgenic cotton cultivars in the north central Texas Blacklands with respect to yield, grades, strength and loan value per acre.

Materials & Methods: On April 21, 2007 a selection of 16 transgenic cotton cultivars were planted in a performance trial in northwest Navarro County on the Clifford Williams Farm, near Frost, Texas. Cultivars included; DP 164B2RF, Stoneville 5327B2RF, DP 445BR, DP 143B2RF, Cropland Genetics 4020B2RF, DP 444BR,

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Phytogen 485WRF, Dyna Gro 2490B2RF, Phytogen 370WR, FiberMax 1880B2F, DP 515BR, AT-TITAN-B2RF, DP 555BR, FiberMax 9063B2F, Stoneville 4554B2RF, and Stoneville 4357B2RF. Plots measured 6 rows and varied in length. The trial was planted with a 12 row Case-IH vacuum planter with row units positioned on 38 inch centers. A fertility program consisted of 100 lbs. 18-46-0 applied in the fall and 200 lbs. 32-0-0/acre prior to planting. Pre-emergence weed control was provided with an application of Prowl at 1 qt./acre. Early season weeds were controlled with an over-the-top application of Roundup Original Max at 22 ozs./acre just prior to the 5 true leaf stage. During mid July a second over-the-top application of Roundup Original Max at 22 ozs./ac. was made to the Bollgard II/Roundup Ready Flex cottons. A post directed application of Roundup Original Max was made to the Roundup Ready cottons. The planting rate was set for a desired plant population of 53,000 plants per acre. Protection from early season insects (aphids and thrips) was provided by Cruiser 5 FS or Gaucho Grande seed treatments applied at the rates of 7.75 ozs. and 12.8 fl. ozs./cwt. of seed respectively. The test site was scouted weekly for insects and timely insecticide treatments were applied as needed. All cultivars were treated with 2 applications of Bidrin 8E at 3 ozs./acre for aphids and cotton fleahopper. An application of Centric at 1.25 ozs. + Coron was made for fleahoppers on July 3, 2007. The trial was prepared for harvest with a defoliation application of Ginstar at 3 ozs. + Finish at 14 ozs./ac. on September 24, 2007. On October 5, 2007 an application of Gramoxone at 1 qt. + Prep at 5 ozs./ac. was made to desiccate plants.

Plots were harvested with a John Deere 7455 cotton stripper on October 20, 2007. A Delta and Pine Land Company Boll Buggy equipped with scales was used to weight harvested cotton from each entry. A sample was taken from each cultivar and ginned at the Delta and Pine Land Company facility in Scott, Mississippi. Lint quality data was also provided by Delta and Pine Land Company.

Results & Discussion: Sixteen prospective transgenic cottons were evaluated relative to lint production, strength, grade, micronaire and per acre loan value during 2007. Yields can be attributed to above average rainfall and mild temperatures during June and July. The entry, DP 164B2RF produced the highest yield at 739 lbs. of lint/ac. and returned a value of \$395.00/acre. Stoneville 5327B2RF produced the second highest yield at 697 lbs. of lint/ac. and returned a per acre loan value of \$380.00, followed by Phytogen 485WRF producing 690 lbs. of lint/ac. and returning a loan value of \$348.00 per acre (Table 1). The high 6 yielding cottons are graphically illustrated in (Figure 1).

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**Table 1. Yield and Fiber Quality, Transgenic Cotton Variety Performance Trial,
Williams Farm, Navarro County, TX 2007**

Variety	Lint/Ac	T.O.	Staple	Length	Strength	Mic	Leaf	Col	Unif.	**Loan	*Value/Ac
DP164B2RF	739	28.0	34	106	25.9	4.3	1	31	78	\$0.535	\$395
ST5327B2RF	697	27.1	35	109	32.8	4.6	2	41	82	\$0.545	\$380
DP445BR	685	28.9	34	107	32.2	4.3	2	41	81	\$0.531	\$364
DP143B2RF	676	27.1	35	110	29.4	4.0	1	41	78	\$0.535	\$362
CG4020B2RF	647	26.1	35	109	27.7	4.3	1	41	81	\$0.540	\$349
DP444BR	655	28.6	34	106	31.0	3.9	1	41	81	\$0.533	\$349
PHY485WRF	690	27.1	35	109	29.4	4.7	1	51	82	\$0.505	\$348
DG2490B2RF	682	22.5	34	106	28.7	4.3	1	51	81	\$0.494	\$337
PHY370WR	661	27.6	33	104	29.2	4.5	1	41	81	\$0.505	\$333
FM1880B2F	610	24.9	35	108	29.6	3.9	1	41	79	\$0.539	\$328
DP515BR	604	28.8	34	106	27.0	4.2	1	41	81	\$0.529	\$319
AT-TITAN-B2RF	545	22.7	36	114	28.9	4.2	1	41	81	\$0.548	\$299
DP555BR	563	33.4	33	102	26.9	4.2	2	31	78	\$0.511	\$287
FM9063B2F	521	23.3	35	110	29.0	4.1	1	41	80	\$0.542	\$282
ST4554B2RF	530	27.9	34	106	31.9	4.6	2	41	81	\$0.531	\$281
ST4357B2RF	452	27.5	35	108	26.0	4.3	2	41	80	\$0.540	\$244
Average	622	27.0	34.4	107.5	29.1	4.3	1.3		80	\$0.529	\$329

Figure 1. Yield, High 6 Transgenic Cottons, Navarro County Cotton Performance Trial, Williams Farm, 2007



