



Result Demonstration/Applied Research Report

JONES COUNTY DRYLAND COTTON VARIETY DEMONSTRATION - 2007

Cooperator: Chris Brown

Dr. Ed Bynum, Extension Agent - IPM for Jones, Mitchell, Nolan, and Scurry Counties
Todd Vineyard, CEA-AG, Jones County, Anson, Texas
Dr. Billy E. Warrick, Professor and Extension Agronomist

SUMMARY

Twenty-six Roundup Ready and Roundup Ready Flex cotton varieties were planted to compare yield and fiber quality characteristics under similar dryland production conditions. Rains and cultivation after planting adversely affect plant stands. The storm proofness of the cotton variety and weathering conditions due to a late harvest further impacted the yield and fiber quality. Even with the adverse condition several of the cotton varieties had harvestable yields that were around a bale to the acre. This is only one years' result and continued testing is recommended before making a significant switch to a new variety.

PROBLEMS

Several new varieties of cotton become available each year and when combined with the varieties already available makes planting seed selection increasingly difficult. Producers need local data to help in selecting adapted high yielding varieties with desirable fiber quality traits. The primary fiber quality characteristics of interest to producers are higher strength and longer staple.

OBJECTIVE

With improved varieties being introduced each season, testing is a necessary part of any farming operation. This field test was established to compare new and traditional varieties. The main focus is to find those varieties that provide high lint yield with desirable fiber traits. Since some varieties have a limited success within a narrow range of production conditions, local testing is necessary and justified. This demonstration will allow area producers to determine if new varieties being introduced are more productive than what they currently plant.

MATERIALS AND METHODS

Cooperator:	Chris Brown
Location:	½ mile E. Of CR126 on CR 188, NE corner field, Jones County, TX
Planting Date:	June 8, 2007
Planting Rate:	1 seed every 4 inches
Row Width:	40 in. centers
Row Length:	2172 feet
Rows Planted/variety:	8 rows
Planting Pattern:	skip row, 8 in - 1 out
Last years crop:	Fallow
Irrigated:	No
Soil Moisture at Planting:	Adequate
Tillage System:	Reduced
Soil type:	Sagerton clay loam
Soil pH:	7.4
Fertilizer:	Second week of July applied Awaken at 1 pt./acre, then another application of Awaken at 1 qt./acre approximately 5 weeks later
Herbicide:	Mid April broadcast applied Trifluran at 1 qt./acre; then in July an OTT application of generic glyphosate at 1 qt./acre mixed with the foliar fertilizer and a late application of 38 fl. oz / acre with a hooded spray during the 1 st week of September.
Insecticide:	None
Plant Growth Regulators:	None
Harvest Date:	January 7, 2008

The test plots were stripper harvested to determine the yield per acre. The sample for each variety was large enough to weigh with a boll buggy. Grab samples from each variety were ginned at the Texas AgriLife Research and Extension Center at Lubbock to determine the percent turnout of lint and seed. A portion of the ginned lint was then taken to the International Textile Center for fiber quality analysis. Yield and fiber quality information are summarized in Table 1.

RESULTS, DISCUSSION AND ECONOMIC ANALYSIS

Three weekly rains and subsequent cultivation to break the soil crust after the field was planted adversely affected plant stands in this test. The producer was unable to harvest this field sooner because of time restraints in harvesting his other fields. Therefore, yields and fiber quality were impacted by a late harvest and unfavorable weather conditions. The effects of weathering can be seen

in the color-leaf grade, fiber strength, and uniformity (Table 1).

A visual estimate of cottonseed loss showed that Deltapine 121 F, Phytogen 370 WR, and Stoneville ST 4664 F had approximately 30% to 40% loss. Seedcotton loss for Croplan Genetics 3220 B2F, Deltapine 110 F, Deltapine 117 B2F, Deltapine 167 F, Deltapine 434 R, FiberMax 800 R, and NexGen 3550 F was estimated at 5%. Whereas, Deltapine 147 F, Deltapine 444 BR, Deltapine 445 BR, and FiberMax 989 R had lost about 8% to 10% seedcotton. The remaining cotton varieties had $\leq 1\%$ seedcotton loss and mostly had tight bolls. However, a few of these varieties (All-Tex APEX B2F, Deltapine 455 BR, Deltapine 494 R) with low seedcotton loss did have seedcotton stringing out of the bolls. Even with the adverse conditions, several of the cotton varieties had harvestable yields above 500 pounds per acre.

Chris Brown's Dryland Cotton Variety Test
Jones County, 2007
Page 4

Table 1. Data from Chris Brown's 2007 Dryland Cotton Variety Test (Jones County)

Variety	Yield Per Acre				Fiber Quality					CCC Loan Value	Lint Gross Return (\$/acre)	Seed Gross Return (\$/acre)	Total Gross Return (\$/acre)
	In Pounds		% Turnout		Color- Leaf	Fiber Length (staple)	Mic	Strength (gram/tex)	Uniformity				
	Lint	Seed	Lint	Seed									
FM 9058 F	568	849	35.2	52.6	313	36	3.8	26.6	77.7	56.65	321.68	63.67	385.35
FM 9060 F	532	776	33.3	48.6	312	36	3.93	25.1	77.4	56.20	299.03	58.19	357.21
FM 960 R	555	830	34.9	52.1	314	34	3.6	28.3	78.7	51.95	288.55	62.23	350.78
DPL 147 F	531	643	42.2	51.1	412	36	3.96	26.4	79.5	54.80	290.98	48.22	339.20
DPL 494 R	487	689	34.8	49.2	313	34	4.15	25.6	80	54.20	263.96	51.69	315.65
DPL 455 BR	489	659	37.2	50.2	311	33	3.88	26.6	78.9	51.15	249.87	49.40	299.27
NG 3550 RF	473	761	32.6	52.5	413	34	4.07	24.2	78.4	50.60	239.30	57.05	296.35
NG 2448 R	448	813	29.4	53.4	414	34	3.72	28.8	81.8	51.90	232.32	60.94	293.26
FM 800 R	453	627	35.6	49.3	414	36	4.01	29.4	80.6	53.95	244.54	47.06	291.59
DPL 110 F	439	678	32.6	50.4	413	35	3.89	29	81.3	53.95	236.58	50.85	287.43
Phy 370 WR	434	665	32.8	50.2	413	33	4.23	25.9	80.7	50.55	219.47	49.87	269.34
FM 989 R	420	666	31.1	49.3	311	33	3.86	27.6	79.2	51.15	214.85	49.98	264.83
DPL 117 B2F	416	634	31.8	48.4	414	34	4.06	27.1	78	51.20	213.20	47.55	260.75
CG 3220 B2F	419	679	33.0	53.4	312	33	4.25	23.4	79	49.60	207.90	50.90	258.80
DPL 434 R	404	592	35.2	51.6	413	35	4.08	24.5	79.2	52.55	212.36	44.42	256.78
All-Tex ApexB2F	393	662	31.1	52.4	413	35	3.99	23.8	80	52.65	206.89	49.63	256.51
ST 4357 B2F	394	689	28.9	50.5	413	34	3.89	22.4	78.7	50.00	197.09	51.66	248.75
DPL 167 F	353	595	29.2	49.1	412	35	3.98	25.3	79.9	53.40	188.71	44.61	233.33
ST 4664 F	368	579	30.0	47.2	414	33	4.14	25.8	80.1	50.00	184.22	43.46	227.68
DPL 445 BR	359	508	33.9	47.9	413	34	4.25	25.9	80.7	52.60	188.81	38.08	226.89
All-Tex Arid B2F	350	716	28.6	58.4	314	33	3.86	25.3	78	49.20	172.43	53.71	226.13
AFD 3074 F	349	664	28.3	53.9	411	33	3.9	25.6	79.1	50.05	174.46	49.77	224.23
DPL 444 BR	342	521	33.3	50.7	411	34	3.73	24.9	81.6	52.05	178.16	39.04	217.20
AFD 3070 F	346	700	28.5	57.5	412	33	3.88	21	79.3	47.50	164.58	52.48	217.06
AFD 3511 R	313	590	30.9	58.4	313	34	4.01	28.3	80.8	54.20	169.44	44.27	213.72
DPL 121 F	343	527	32.1	49.4	414	33	4.26	24.4	80.1	48.70	166.85	39.53	206.38

Seed income calculated using a price of \$150 per ton.

Acknowledgements:

A word of thanks to Chris Brown for his management of this dryland cotton variety test.

Also a word of thanks to the seed companies that provided cottonseed, they include:

Stoneville Pedigreed Seed owned by BayerCropScience who provided Stoneville ST 4357 B2F and Stoneville ST 4664 F.

Delta and Pine Land Company who provided Deltapine 110 F, Deltapine 117 B2F, Deltapine 121 F, Deltapine 147 F, Deltapine 167 F, Deltapine 434 R, Deltapine 444 BR, Deltapine 445 BR, Deltapine 455 BR, and Deltapine 494 R.

Dow Agrosiences who provided Phytogen 370 WF.

Croplan Genetics who provided Croplan Genetics 3220 B2F.

Bayer CropScience who provided FiberMax 800 R, FiberMax 906 R, FiberMax 989 R, FiberMax 9060 F, FiberMax 9058 F, AFD 3070 F, AFD 3074 F, and AFD 3511 R.

American Cotton Breeders who provided NexGen 2448 R and NexGen 3550 F.

AllTex Seed who provided All-Tex Apex B2F and AllTex ARID B2F.

Trade names of commercial products used in this report are included only for better understanding and clarity. 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 University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.