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Results of 2003 Early, Mid and Full Season, and Roundup Ready Cotton Variety Tests in Florida[1]

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Cotton was planted with a cone planter at the seeding rate of 85 seeds/20 ft of row with 36" row spacing on 5 May, 2003 after strip tilling into tilled small grain cover crops. Thimet 20 G was applied in furrow at 6.5 lb/A.

Early Season Cotton Variety Trial

Sixteen cotton varieties were planted in this trial on 12 May. On 13 May, the study was fertilized with 3-9-18 (N-P_2O_5-K_2O) fertilizer at 400 lb/A placed 2-3 inch from the planted row using an FP row fertilizer applicator. The variety trial was broadcast sprayed with Cotoran @ 1 qt/A + Prowl @ 1 qt/A on 15 May, Cotoran @ 1 pt/A + Bueno 6 @ 1 pt/A on 2 June, and Dual II Magnum @ 1 pt/A on 6 June. On 10 June, cotton was side-dressed with ammonium nitrate (34 % N) at 176.5 lb/A (60 lb N/A). The study was direct sprayed with Cotoran @ 1 qt/A + Karmex @ 1.5 lb/A + Induce @ 2 qt/100 gal of solution on 23 June and broadcast sprayed with Mepex @ 12 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 30 June, Poast Plus @ 3.75 pt/A + Agridex oil @ 2 pt/A on 9 July, Mepex @ 12 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 17 July, Mepex @ 16 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 30 July, Penncap M @ 3 pt/A on 31 July, Mepex @ 8 oz/A + Induce @ 1 qt/A on 14 August, Baythroid 2 @ 2.6 oz/A + Induce @ 1 qt/A on 25 August, and defoliated with Finish @ 1.5 pt/A + Ginstar @ 6 oz/A on 2 October. On 1 November, the early variety trial was picked with the International Cotton Spindle Picker. The plot area was irrigated with 0.25 inch water on 9 May and 0.5 inch water on 13 May.

Mid and Full Season Cotton Variety Trial

The mid and full season variety trial was planted with sixteen cotton varieties on 14 May. The same day, cotton was fertilized with 3-9-18 (N-P_2O_5-K_2O) fertilizer at 400 lb/A placed 2-3 inch from the planted row using an FP row fertilizer applicator. The study was broadcast sprayed with Cotoran @ 1 qt/A + Prowl @ 1 qt/A on 15 May, Cotoran @ 1 pt/A +

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Bueno 6 @ 1 pt/A on 2 June, and Dual II Magnum @ 1 pt/A on 6 June. On 10 June, cotton was side-dressed with ammonium nitrate (34 % N) at 176.5 lb/A (60 lb N/A). The study was direct sprayed with Cotoran @ 1 qt/A + Karmex @ 1.5 lb/A + Induce @ 2 qt/100 gal of solution on 23 June. Cotton was broadcast sprayed with Mepex @ 12 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 30 June, Poast Plus @ 3.75 pt/A + Agridex oil @ 2 pt/A on 9 July, Mepex @ 12 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 17 July, Mepex @ 16 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 30 July, Penncap M @ 3 pt/A on 31 July, Mepex @ 8 oz/A + Induce @ 1 qt/A on 20 August, Baythroid 2 @ 2.6 oz/A + Induce @ 1 qt/A on 25 August, and defoliated with Finish @ 1.5 pt/A + Ginstar @ 6 oz/A on 17 October. On 20 and 21 November, the variety trial was picked with the Cotton Spindle Picker. The study was irrigated with 0.5 inch water on 13 and 15 May.

Roundup Ready Variety Trial

On 8 May, 26 Roundup Ready cotton varieties were planted in this trial and fertilized with 3-9-18 (N-P_2O_5-K_2O) fertilizer at 400 lb/A placed 2-3 inch from the planted row using an FP row fertilizer applicator. Cotton was broadcast sprayed with Roundup WeatherMax @ 1 pt/A on 9 May, and Roundup WeatherMax @ 1 qt/A + Dual 2 Magnum @ 1 pt/A on 23 May. On 10 June, cotton was side-dressed with ammonium nitrate (34 % N) at 176.5 lb/A (60 lb N/A). The study was direct sprayed with Cotoran @ 1 qt/A + Karmex @ 1.5 lb/A + Induce @ 2 qt/100 gal of solution and broadcast sprayed with Mepex @ 16 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 23 June. On 24 June, cotton was broadcast sprayed with Staple @ 1.8 oz/A + Induce @ 1 qt/100 gal of solution. The study was broadcast sprayed with Mepex @ 12 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 17 July, Mepex @ 16 oz/A + Agridex oil @ 2 pt/A + Kinetic @ 9 oz/100 gal of solution on 30 July, Penncap M @ 3 pt/A on 31 July, Mepex @ 8 oz/A + Induce @ 1 qt/A on 14 August, Baythroid 2 @ 2.6 oz/A + Induce @ 1 qt/A on 25 August, and defoliated with Finish @ 1.5 pt/A + Ginstar @ 6 oz/A on 7 October. On 21 and 22 November, the variety trial was picked with the Cotton Spindle Picker. The study was irrigated with 0.3 inch water on 9 May and 0.5 inch water on 13 and 15 May.

Results

The seed + lint and lint yields, percent lint, and lint quality analysis for the Early and Mid + Full Season, and Roundup Ready cotton are shown in Tables 1-3.

Key Management Considerations for Cotton Production

1. Variety selection – check variety trials from as many locations close to your area as possible to select those varieties that yield high and have good lint characteristics.

2. Conservation tillage - Strip-till planting decreases erosion, increases soil organic matter, soil moisture, and improves soil texture and may result in increased yields. Cover crops should be killed 3 to 4 weeks prior to planting to reduce insect problems and prevent soil moisture depletion.

3. Planting dates – plantings made from mid April to mid-June are suitable for cotton in Florida.

4. Plant populations – desired cotton plant population is 2-3 plants per foot of row. To get this population, plant 4-5 seeds per foot of row.

5. Adequate and timely N fertilization – both insufficient and excess nitrogen can lead to fruit shed or boll rot. Nitrogen should be applied near the row, early in the season at first squaring. Two applications may be made on sandy soils (at squaring and 3 weeks later). The recommended rate of nitrogen ranges from 50 to 90 lbs N/A on most soils.

6. Weed control – effective weed control is one of many critical components of successful cotton production. Weeds must be controlled early for best yields and lowest cost. Use of varieties with insect and herbicide tolerance make management decisions easier.

7. Insect control – effective scouting with timely and proper insect management of bollworms, armyworms, and stinkbugs is very important.

8. Timely defoliation and harvest – if the defoliation is delayed until 60-65 percent of the total crop to be harvested is open, 90 percent of the crop can likely be harvested within two weeks after the application.

Table 1. Early Season Cotton Variety Trial at Quincy, FL in 2003.

Brand	Variety	Seed + lint cotton yield -- lb/A --	Percent lint -- % --	Lint cotton yield -- lb/A --	Mic.	Length	Staple	Strength	Uniform.
Delta and Pine Land	DP 432 RR	3138	40.9	1284	4.0	1.14	37	27.3	84
Delta and Pine Land	SG 215 BG/RR	2883	40.9	1177	4.2	1.08	35	25.9	83
Delta and Pine Land	DPLx00W12	2726	41.8	1137	4.2	1.19	38	28.8	84
Delta and Pine Land	DP 451 B/RR	2676	40.5	1084	4.0	1.15	37	27.6	83
Delta and Pine Land	DP 444 BG/RR	2517	42.7	1072	3.4	1.12	36	27.4	83
Bayer CropScience	FiberMax 989 BR	2599	40.7	1057	4.0	1.12	36	30.5	83
Delta and Pine Land	Sure-Grow 105	2567	40.0	1028	4.1	1.12	36	28.5	83
Delta and Pine Land	DPLx02x71R	2462	40.3	989	4.1	1.10	35	27.2	83
Delta and Pine Land	Sure-Grow 521 R	2419	40.8	984	3.9	1.09	35	25.8	83
Bayer CropScience	FiberMax 960 BR	2494	39.2	978	4.2	1.12	36	31.9	84
Delta and Pine Land	DP 436 RR	2359	39.7	937	4.1	1.13	37	26.6	83
Delta and Pine Land	DP 424 BGII/RR	2339	39.6	930	4.2	1.10	36	27.2	84
Delta and Pine Land	DPLx01Z34	2235	41.6	930	3.7	1.13	37	28.4	83
Delta and Pine Land	DPLx01W99R-074	2171	40.9	888	3.5	1.20	39	27.2	82
Bayer CropScience	FiberMax 989 RR	2073	40.9	847	4.0	1.12	36	30.8	84
Delta and Pine Land	DP 449 BG/RR	1886	41.1	776	3.6	1.13	36	29.3	83
Mean		2471	40.7	1006	3.9	1.13	36	28.1	83
LSD(0.05)		NS	1.2	NS	NS	0.05	1.8	NS	NS

Table 2. Mid and Full Season Cotton Variety Trial at Quincy, FL in 2003.

Brand	Variety	Seed + lint cotton yield -- lb/A --	Percent lint -- % --	Lint cotton yield -- lb/A --	Mic.	Length	Staple	Strength	Uniform.
Delta and Pine Land	DP 555 BG/RR	2701	42.3	1146	3.9	1.08	35	29.6	82
Stoneville	ST 5242BR	2468	40.3	996	3.9	1.14	37	28.9	83
Delta and Pine Land	DP 449 BG/RR	2503	38.8	972	3.7	1.13	37	30.5	83
Bayer CropScience	FiberMax 991 RR	2453	38.4	942	3.8	1.14	37	32.0	84
Delta and Pine Land	DP 494RR	2339	39.7	930	3.8	1.10	35	33.0	84
Delta and Pine Land	DPLx02x38 R	2282	39.7	909	3.9	1.17	38	28.0	83
Bayer CropScience	FiberMax 991 BR	2282	38.9	889	4.2	1.15	37	33.1	84
Delta and Pine Land	DPLx03x176 BR	2199	40.2	885	3.9	1.13	36	32.0	85
Delta and Pine Land	DP 491	2116	40.0	847	3.9	1.12	36	31.6	84
Delta and Pine Land	DP 493	1952	42.6	834	4.0	1.12	36	30.1	83
Delta and Pine Land	DP 448 B	2245	36.5	819	3.7	1.16	37	29.1	83
Delta and Pine Land	DPLx02x25 R	2044	39.6	811	4.0	1.20	39	30.2	83
Stoneville	ST 5303 R	2070	39.2	807	3.8	1.13	37	31.4	83
Delta and Pine Land	DP 458 B/RR	1980	38.8	769	3.8	1.15	37	29.9	82
Delta and Pine Land	DP 5690 RR	1980	38.0	753	3.7	1.10	35	32.3	82
Delta and Pine Land	Delta Pearl	1871	39.2	734	3.9	1.16	37	31.7	83
Delta and Pine Land	DP 468 BGII/RR	1997	33.9	680	3.7	1.10	35	28.6	82
Mean		2205	39.2	866	3.8	1.13	36	30.7	83
LSD(0.05)		NS	1.0	NS	0.26	NS	1.9	1.8	NS

Table 3. Roundup Ready Cotton Variety Trial at Quincy, FL in 2003.

Brand	Variety	Seed + lint cotton yield -- lb/A --	Percent lint -- % --	Lint cotton yield -- lb/A --	Mic.	Length	Staple	Strength	Uniform.
Stoneville	ST 5242 BR	2879	41.6	1196	4.2	1.16	37	26.2	84
Delta and Pine Land	SG 215 BG/RR	2662	40.0	1065	4.2	1.11	36	25.7	83
Delta and Pine Land	DPLx03x176BR	2509	41.5	1040	4.1	1.10	35	29.5	83
Bayer CropScience	FiberMax 989 BR	2481	40.6	1006	4.0	1.11	36	30.3	82
Delta and Pine Land	DP 555 BG/RR	2296	43.1	989	4.0	1.10	35	28.9	82
Bayer CropScience	FiberMax 989 RR	2437	40.6	989	4.2	1.11	36	29.7	83
Delta and Pine Land	DP 424 BGII/RR	2562	37.9	970	4.5	1.11	36	26.3	84
Delta and Pine Land	DPLx01W99R-074	2295	42.3	970	3.9	1.12	36	27.0	83
Delta and Pine Land	DP 451 B/RR	2558	37.8	966	4.2	1.11	36	27.0	82
Delta and Pine Land	DP 449 BG/RR	2399	39.9	959	4.3	1.10	36	28.2	83
Delta and Pine Land	DPLx02x38R	2327	41.1	954	4.4	1.12	36	27.2	82
Delta and Pine Land	Sure-Grow 521 R	2302	40.2	925	4.1	1.15	37	26.4	83
Stoneville	ST 5303 R	2302	40.0	922	4.0	1.09	35	29.7	84
Delta and Pine Land	DP 494 RR	2254	40.8	920	4.3	1.08	35	29.7	82
Bayer CropScience	FiberMax 960 BR	2243	40.6	910	4.3	1.09	35	30.0	82
Bayer CropScience	FiberMax 991 BR	2188	39.7	865	4.4	1.10	35	31.8	83
Delta and Pine Land	DPLx02x25R	2046	41.8	852	4.5	1.11	36	29.4	83
Bayer CropScience	FiberMax 991 RR	2093	39.3	822	4.2	1.11	36	30.2	82
Delta and Pine Land	DP 5415 RR	2018	40.0	806	4.3	1.13	37	28.7	82
Delta and Pine Land	DP 458 B/RR	1944	40.5	787	4.5	1.11	36	28.5	82
Delta and Pine Land	DP 432 RR	1764	40.9	718	4.4	1.08	35	27.8	84
Delta and Pine Land	DP 468 BGII/RR	1979	36.4	717	4.3	1.12	36	28.6	83
Delta and Pine Land	DP 436 RR	1908	36.5	696	4.1	1.14	37	26.8	82
Delta and Pine Land	DP 5690 RR	1695	39.2	664	4.3	1.06	34	29.3	81
Delta and Pine Land	DP 444 BG/RR	1449	43.1	623	3.8	1.14	37	28.6	83
Delta and Pine Land	DPLx02x71R	1500	41.1	613	4.5	1.14	36	28.2	83
Mean		2196	40.2	882	4.2	1.11	36	28.4	82
LSD(0.05)		694	1.0	280	0.35	NS	NS	1.6	NS