Commercial cotton varieties response to Verticillium wilt, 2015.

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Twelve cotton cultivars were planted and evaluated for resistance to *Verticillium dahliae*. The trial was planted on the Tate farm in northern Alabama. Plots were one row each, approximately 500 feet long and replicated 4 times in a RCBD. The field was irrigated, when needed, with a drip tape irrigation system. Disease ratings were taken September 1, 2015 in 10 foot sections of each plot. The total number of plants was determined, and stems were cut longitudinally to assess disease incidence. Disease severity ratings of foliar symptoms were evaluated on a scale from 1 to 5 with 1= no foliar wilting, 3= interveinal chlorosis and necrosis of the leaves, and 5=completely defoliated plants. Petioles were sampled from infected plants of each variety by re-isolating to confirm the presence of *Verticillium dahliae* by the presence of distinct morphological characteristics. The trial was harvested by hand on 20 Oct. Analysis of variance was conducted using SAS 9.4 (SAS Institute), and means were compared using Tukey-Kramer Honest Significant Difference (HSD) ($\alpha \leq .10$).

Verticillium wilt pressure was medium to high during the 2015 season with 37 to 81 % of the plants infected with Verticillium wilt in each plot. The cultivar with the lowest incidence of Verticillium wilt was ST 4747 GLB2 with the 37% of the plants infected with Verticillium although statistically this incidence was similar to all other cultivars in the test. ST 4747 GLB2 was the cultivar also with the lowest disease severity (<2) rating of the twelve that were tested. The three cultivars that had the highest ratings were DP 1553 B2XF, DP 1538 B2XF, and CP 3475 B2RF. These cultivars had mean scores above 3.8, with plants almost completely defoliated. Four cultivars yielded up to 50% higher than the lowest yielding cultivar. ST 4747 GLB2, PHY 312 WRF, PHY 333 WRF, and PHY 499 WRF all produced yields over 2600 lb/A.

Table 1. Cultivar responses to Verticillium wilt as measured by incidence and severity and seed cotton yields, 2015.

Cultivar	Plants 10 ft row		Verticillium wilt incidence		Percent Verticillium infestation		Verticillium severity		Seed cotton lb/A	
ST 4747 GLB2	33.3	a	12.3	a	37.1	a	1.8	b	3310	a
PHY 312 WRF	29.3	a	16.3	a	56.4	a	2.9	ab	2857	ab
PHY 333 WRF	27.8	a	17.8	a	62.5	a	3.5	ab	2815	ab
PHY 499 WRF	26.8	a	15.3	a	56.9	a	3.1	ab	2607	abc
ST 4946 GLB2	27.8	a	19.0	a	69.9	a	3.6	ab	2213	bcd
DP 1522 B2XF	27.8	a	18.5	a	66.0	a	3.3	ab	2198	bcd
PHY 444 WRF	30.8	a	19.0	a	61.1	a	2.6	ab	2061	bcd
DP 1553 B2XF	28.0	a	20.5	a	73.7	a	3.8	a	1920	bcd
CP 3475 B2XF	31.8	a	25.3	a	79.2	a	3.9	a	1689	cd
DP 1518 B2XF	28.5	a	16.3	a	56.7	a	2.5	ab	1644	cd
CP 3885 B2XF	24.8	a	19.8	a	79.3	a	3.3	ab	1643	cd
DP 1538 B2XF	28.0	a	22.8	a	80.9	a	3.9	a	1254	d

Verticillium wilt on-farm fungicide evaluations, 2015.

Three fungicides were evaluated for Verticillium wilt management on cotton. The trial was planted on the Tate farm in northern Alabama. Plots were one row each, approximately 100 feet long and replicated 4 times in a RCBD. The field was irrigated, when needed, with a drip tape irrigation system. Disease ratings were taken September 1. In 10 ft sections of in each plot, total number of plants were determined, and stems were cut longitudinally to assess disease incidence. Disease severity ratings of foliar symptoms were evaluated on a scale from 1 to 5 with 1= no foliar wilting, 3= interveinal chlorosis and necrosis of the leaves, and 5=completely defoliated plants. Four replications, evenly spaced throughout the field of each variety were counted. Petioles were sampled from infected plants of each variety by re-isolating to confirm the presence of *Verticillium dahliae* by the presence of distinct morphological characteristics. The trial was harvested by hand on 20 Oct. Analysis of variance was conducted using SAS 9.4 (SAS Institute), and means were compared using Tukey-Kramer Honest Significant Difference (HSD) ($\alpha \leq .10$).

Verticillium wilt pressure was medium to high during the 2015. Verticillium wilt incidence average 44.2 % in the untreated control plots. Verticillium wilt severity averaged 1.9 over all the fungicide treatments thus plants sisplayed wilt but had little defoliation. Ranking the fungicides by cotton yield supported, Quilt Xcel produced the largest yield with 2638 lb/a of seed cotton. This was followed by Domark with 2460 lb/A. Both of these fungicides supported more seed cotton than the untreated control.

Table 1. Cultivar responses to Verticillium wilt as measured by incidence and severity and seed cotton yields, 2015.

Cultivar	Plants per 10 ft row		Verticillium wilt incidence		Percent Verticillium infestation		Verticillium severity (1-5 scale)		Seed cotton lb/A	
Control	34.8	a	14.5	a	44.2	a	1.9	a	2254.3	a
Domark	33.5	a	14.0	a	41.5	a	1.9	a	2460.0	a
Headline SC	33.0	a	16.3	a	47.5	a	1.9	a	2171.0	a
Quilt Xcel	31.5	a	15.3	a	48.5	a	1.9	a	2638.2	a