

SCREENING COMMERCIAL COTTON VARIETIES AGAINST FUSARIUM WILT
(Cotton-03-327AL)

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Introduction: Fusarium wilt has been successfully controlled through the use of resistant varieties during the past 50 years. Many of the newer genetically engineered cotton varieties do not have good Fusarium wilt resistance. Consequently, wilt has become a serious problem in wilt infested fields where these varieties are grown. The Fusarium wilt nursery at the Plant Breeding Unit helps us identify these susceptible commercial varieties as well as the FW resistant varieties. A list of the commercial varieties and their relative susceptibility or resistance to Fusarium Wilt is published in the Alabama Cotton IPM recommendations and in the Cotton Variety Report annually.

Method and Materials: Fifteen of the most commonly grown cotton varieties were screened for wilt. Rowden, an extremely susceptible cotton variety, was used as the Fusarium wilt susceptible control. Plots were 20 feet long and 16 rows wide. The test contained 5 replicates. Plants were first evaluated for wilt soon after they reach the first true leaf stage. Thereafter, plots were evaluated for wilt on a weekly basis throughout the growing season until just before harvest. Plants were counted and removed as soon as they showed symptoms of Fusarium wilt.

Results and Discussion: A list of containing the past three years of commercial cotton varieties and their relative susceptibility is shown in table 1. Fusarium wilt incidence was especially low this year (2006) compared to previous years. This low FW incidence makes it difficult to accurately assess FW susceptibility or resistance among the commercial cotton varieties tested in 2006. Dry weather which suppressed Root-knot nematode populations was a major reason for this low FW disease incidence.

Table1. Commercial Varieties Response to Fusarium Wilt and to Root-knot Nematodes. (2006)

COTTON VARIETY	PERCENT FUSARIUM WILT		
	2004	2005	2006
Rowden	79	68	44
DP 454 BG/RR		19	4
DP 555 BG/RR	7	5	3
DP 147 B2AF			2
FM 965 LLB2			2
PHY 480 WR			2
PHY 485 WRF			1
FM 960 BR	10	3	1
DP 143 B2RF			1
DP 515 BG/RR			1
FM 9063 B2F			1
ST 6611 B2RF			1
ST 4664 RF			0
DP 445 BG/RR			0
DG 2520 B2RF			0
CG 3020 B2RF			0
ST4892 BR	10	8 X	
PHY 410 RR	8	10	
FM 989 BR	15	1	
ST 5599 BR	2	6	
DP 491	3	4	
DP 444 BG/RR	3	2	
FM 958 LL	59	18	
DP 449 BG/RR	5	7	
ST 5303 R	5	3	
DP 488 BG/RR	3	5	
DP 451 BG/RR	1		
ST 4686 R		1	
FM 991 BR		1	

**Cotton variety not in test that year.