

2004
National
Cotton
Fusarium
Wilt
Report



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ALABAMA AGRICULTURAL EXPERIMENT STATION

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THIS REPORT IS A JOINT CONTRIBUTION BETWEEN
USDA-ARS, CROP SCIENCE RESEARCH LABORATORY, MISSISSIPPI STATE UNIVERSITY, MISSISSIPPI, AND
THE ALABAMA AGRICULTURAL EXPERIMENT STATION, AUBURN UNIVERSITY, ALABAMA

2004 NATIONAL COTTON FUSARIUM WILT REPORT

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Cotton cultivars and elite breeding lines submitted by 30 cooperators were evaluated for Fusarium wilt resistance under field conditions at the E. V. Smith Research Center, Plant Breeding Unit, Tallahassee, Alabama. These entries were grown on an Independence loamy fine sand highly infested with the Fusarium wilt fungus (*Fusarium oxysporum*) Schlect. f. *vasinfectum* [Atk.] (Snyd. & Hans.) and southern root-knot nematodes (*Meloidogyne incognita*).

In 1994, a soil analysis for nematodes revealed that southern root-knot (*Meloidogyne incognita*) and lance (*Hoplolaimus galeatus*) are the predominant nematode species in the test plots. High populations of both species are found throughout the test area. Other nematode genera present are stubby root (*Trichodorus* sp.) and stunt (*Tylenchorhynchus* sp.). Root-knot nematodes, however, appear to be causing the major damage to cotton in the Fusarium Wilt Test as indicated by the high galling indices found on the roots of all cotton lines.

Entries were planted in single 20-foot rows on 40-inch centers, separated by 5-foot alleys. Four replications of the test entries and checks were evaluated in a randomized complete block design with a split plot restriction on randomization. The set of eight test cultivars submitted by a cooperator was always evaluated as a group together with two control plots within each replicate. Both susceptible (Rowden) and resistant (M-315) cultivars were included as check subplots in the two center rows of each main plot (Fig. 1).

Plots were planted May 20. Initial plant counts were made on June 17. Wilted plants were counted and removed on July 1, July 15, July 29, August 10, and August 26. The remaining live plants were counted and recorded on August 26. Total percent wilted plants were then determined and mean wilting for a given entry calculated.

The average % wilted plants for the susceptible check **Rowden** was 65%, with a range from 0 to 100% on an individual plot basis (Fig. 1). Given the large variability of wilt development in Rep 4 (minimum 0%, average 29%, maximum 93%) resulting in a range of 93% compared to 60-70% for the other replicates, it might be advisable for individual cooperators ignore data from Rep 4. The resistant check **M-315** had, on the average, 3 % wilted plants with a range from 0 to 21% on an individual plot basis. There were, on the average, 3x more wilted plants in **Rowden** plots than in **M-315** plots if all replicates are considered and 25x for replicates 1-3. **Critical evaluations of breeding lines should be made relative to the two checks listed at the bottom of each group.**

It was a very wet spring. Sulfur deficiency was noted in early season and corrected through foliar application of Magnesium sulfate at 2 lbs/acre.

Fig. 1. Field plot layout and % wilt for control plot of Rowden (susceptible) and M-315 (resistant). Distances (ft) from the NE corner of the trial are given in the left hand column and the bottom row.

NS	93	0	0	37	5	38	0	25		
500	Rowden	M-315	M-315	Rowden	M-315	Rowden	M-315	Rowden		
	74	2	14	0	0	2	8	0	0	2
475	Rowden	M-315	Rowden	M-315	M-315	Rowden	Rowden	M-315	M-315	Rowden
	82	0	0	14	0	5	0	2	1	2
450	Rowden	M-315	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden
	0	56	26	1	0	13	0	0	19	0
425	M-315	Rowden	Rowden	M-315	M-315	Rowden	Rowden	M-315	Rowden	M-315
	6	82	0	46	1	11	2	3	37	0
400	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden	Rowden	M-315
	100	6	34	18	0	89	2	21	5	41
375	Rowden	M-315	Rowden	M-315	M-315	Rowden	M-315	Rowden	M-315	Rowden
	90	1	0	81	80	0	0	89	1	58
350	Rowden	M-315	M-315	Rowden	Rowden	M-315	M-315	Rowden	M-315	Rowden
	100	4	83	0	1	73	81	1	1	75
325	Rowden	M-315	Rowden	M-315	M-315	Rowden	Rowden	M-315	M-315	Rowden
	4	98	0	94	64	0	73	3	4	58
300	M-315	Rowden	M-315	Rowden	Rowden	M-315	Rowden	M-315	M-315	Rowden
	1	92	1	66	4	82	96	2	37	3
275	M-315	Rowden	M-315	Rowden	M-315	Rowden	Rowden	M-315	Rowden	M-315
	0	89	85	1	57	2	7	86	70	8
250	M-315	Rowden	Rowden	M-315	Rowden	M-315	M-315	Rowden	Rowden	M-315
	0	89	3	72	1	43	3	61	79	2
225	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden	Rowden	M-315
	79	17	63	3	78	0	89	0	58	3
200	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315
	100	21	6	71	1	95	4	80	72	2
175	Rowden	M-315	M-315	Rowden	M-315	Rowden	M-315	Rowden	Rowden	M-315
	4	100	76	0	40	2	0	76	79	6
150	M-315	Rowden	Rowden	M-315	Rowden	M-315	M-315	Rowden	Rowden	M-315
	100	5	0	63	0	85	1	77	84	4
125	Rowden	M-315	M-315	Rowden	M-315	Rowden	M-315	Rowden	Rowden	M-315
	7	98	63	3	1	73	0	97	0	92
100	M-315	Rowden	Rowden	M-315	M-315	Rowden	M-315	Rowden	M-315	Rowden
	100	12	62	0	2	40	4	99	88	11
75	Rowden	M-315	Rowden	M-315	M-315	Rowden	M-315	Rowden	Rowden	M-315
	4	100	3	68	1	70	79	11	0	88
50	M-315	Rowden	M-315	Rowden	M-315	Rowden	Rowden	M-315	M-315	Rowden
	4	91	3	85	1	67	0	54	1	86
25	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden
	66	3	67	0	64	4	38	3	55	0
0	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315	Rowden	M-315
EW =>	27		60		93		127		160	

2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL							
Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
Fred Bourland, University of Arkansas, P.O. Box 48, Keiser, AR 72351							
	101 FB-1	64	95	76	35	67	<.0001
	102 FB-2	81	82	60	5	57	<.0001
	103 FB-3	36	2	16	1	14	0.146
	104 FB-4	56	5	36	3	25	0.010
	105 FB-5	22	29	59	30	35	0.001
	106 FB-6	13	5	7	0	6	0.510
	107 FB-7	62	35	44	3	36	0.000
	108 FB-8	66	18	75	1	40	<.0001
	Rowden	100	84	92	46	80	<.0001
	M-315	12	4	1	0	4	0.656
Don Keim, Delta and Pine Land Co., P.O. Box 157, Scott, MS 38772							
	201 DKL-103	31	6	51	2	23	0.019
	202 DKL-203	64	25	48	2	35	0.001
	203 DKL-303	14	16	19	3	13	0.178
	204 DKL-403	25	21	78	1	31	0.002
	205 DKL-503	45	21	5	0	18	0.061
	206 DKL-603	78	3	83	10	44	<.0001
	207 DKL-703	20	10	67	0	24	0.013
	208 DKL-804	40	0	9	0	12	0.200
	Rowden	73	63	82	37	64	<.0001
	M-315	1	3	4	0	2	0.842
Frank Bordelon, PhytoGen Seed Company, P.O. Box 27, Leland, MS 38756							
	301 PHY-FB1	43	1	18	0	16	0.101
	302 PHY-FB2	40	2	33	0	19	0.052
	303 PHY-FB3	18	16	6	0	10	0.288
	304 PHY-FB4	4	8	14	1	7	0.477
	305 PHY-FB5	20	12	5	0	9	0.320
	306 PHY-FB6	10	0	10	0	5	0.606
	307 PHY-FB7	17	10	0	1	7	0.442
	308 PHY-FB8	9	4	18	4	8	0.372
	Rowden	91	76	80	3	62	<.0001
	M-315	4	0	0	2	1	0.882

continued

THE P-VALUE INDICATES THE PROBABILITY THAT THE AVERAGE WILT PERCENTAGE DIFFERS FROM ZERO.

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
Mustafa McPherson, PhytoGen Seed Company, P.O. Box 27, Leland, MS 38756							
401	PHY-RM1	8	7	4	0	5	0.625
402	PHY-RM2	0	9	16	1	7	0.491
403	PHY-RM3	3	3	0	4	2	0.809
404	PHY-RM4	9	3	0	11	6	0.527
405	PHY-RM5	10	15	1	4	8	0.427
406	PHY-RM6	2	26	2	4	9	0.364
407	PHY-RM7	13	17	2	3	9	0.345
408	PHY-RM8	2	3	3	1	2	0.817
	Rowden	63	85	81	74	76	<.0001
	M-315	3	0	0	2	1	0.897
Gary L. Rea, Delta and Pine Land Co., 247 US HWY 380 W, Haskell, TX 79521							
501	GLR-1	37	27	0	0	16	0.096
502	GLR-2	7	0	3	0	3	0.778
503	GLR-3	6	0	3	2	3	0.790
504	GLR-4	31	16	7	2	14	0.144
505	GLR-5	53	35	24	3	29	0.004
506	GLR-6	60	6	19	0	21	0.028
507	GLR-7	57	57	41	16	43	<.0001
508	GLR-8	8	0	0	2	2	0.804
	Rowden	98	43	89	2	58	<.0001
	M-315	7	1	0	0	2	0.832
Johnie Jenkins, USDA-ARS, Mississippi State, MS 39762							
601	JNK-1	11	18	0	1	8	0.418
602	JNK-2	17	8	19	0	11	0.252
603	JNK-3	6	4	20	0	8	0.427
604	JNK-4	18	44	6	1	17	0.071
605	JNK-5	12	22	6	4	11	0.252
606	JNK-6	8	19	5	0	8	0.396
607	JNK-7	5	0	0	0	1	0.895
608	JNK-8	13	11	6	0	8	0.427
	Rowden	99	63	75	19	64	<.0001
	M-315	4	0	1	0	1	0.893

continued

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants					P-value
		Rep1	Rep2	Rep3	Rep4	Avg.	
Richard Sheetz, Delta and Pine Land Co., RR 2, Box 60, Hale Center, TX 79041							
	701 RHS-1	23	18	11	3	14	0.154
	702 RHS-2	28	17	0	2	12	0.210
	703 RHS-3	0	21	22	1	11	0.246
	704 RHS-4	52	5	6	3	7	0.056
	705 RHS-6	9	21	10	2	10	0.276
	706 RHS-7	12	5	0	2	5	0.629
	707 RHS-8	16	8	3	0	7	0.471
	708 RHS-8	13	28	9	1	13	0.174
	Rowden	40	78	83	25	56	<.0001
	M-315	2	0	0	0	1	0.950
Curtis Williams, Delta and Pine Land Co., 381 William Gibbs Rd, Tifton, GA 31794							
	801 CW-1	77	27	36	6	36	0.000
	802 CW-2	46	64	87	40	59	<.0001
	803 CW-3	75	26	48	14	41	<.0001
	804 CW-4	58	5	27	0	23	0.019
	805 CW-5	89	14	33	2	35	0.001
	806 CW-6	100	57	95	17	67	<.0001
	807 CW-7	66	24	8	8	27	0.007
	808 CW-8	60	26	29	7	30	0.002
	Rowden	100	72	57	41	67	<.0001
	M-315	5	2	2	5	3	0.716
Steve Calhoun, Stoneville Pedigreed Seed Co., Rt. 2, Box 233, Hwy 82 East, Idalou, TX 79239							
	901 SC-1	10	10	5	0	6	0.512
	902 SC-2	6	1	5	0	3	0.738
	903 SC-3	8	25	0	7	10	0.293
	904 SC-4	36	35	4	17	23	0.019
Jody Butler, Stoneville Pedigreed Seed Co., 2409 Commerce Lane, Albany, GA 31707							
	905 JB-1	9	2	38	4	13	0.162
	906 JB-2	29	6	31	3	17	0.071
	907 JB-3	27	29	14	0	18	0.067
Daryl Bowman, North Carolina State University, Raleigh, NC							
	908 NC 96-11	91	84	83	83	85	<.0001
	Rowden	79	85	94	13	68	<.0001
	M-315	11	1	0	0	3	0.755

continued

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
Jack E. Jones,Jajo Genetics, 246 Maxine Dr., Baton Rouge, LA 70808-6831							
1001	Jajo-1	4	11	62	68	36	0.000
1002	Jajo-2	0	9	13	31	13	0.159
1003	Jajo-3	5	24	13	4	11	0.234
1004	Jajo-4	6	28	6	0	10	0.290
1005	Jajo-5	27	21	34	53	34	0.001
1006	Jajo-6	2	17	12	5	9	0.344
1007	Jajo-7	3	10	25	0	10	0.305
1008	Jajo-8	24	15	13	36	22	0.023
	Rowden	55	77	96	56	71	<.0001
	M-315	0	1	2	0	1	0.935
Dawn Fraser,Delta and Pine Land Co., P.O. Box 1529, Hartsville, SC 29550							
1101	DF-1	0	16	58	0	19	0.052
1102	DF-2	38	25	80	2	36	0.000
1103	DF-3	13	50	10	0	18	0.058
1104	DF-4	18	30	26	0	18	0.057
1105	DF-5	2	14	6	0	6	0.555
1106	DF-6	4	25	4	0	8	0.381
1107	DF-7	7	14	24	6	13	0.184
1108	DF-8	0	43	50	0	23	0.017
	Rowden	68	89	98	0	64	<.0001
	M-315	3	0	4	0	2	0.860
Doug Wessel,Delta and Pine Land Co., 38768 W. Farrell Rd, Maricopa, AZ 85239							
1201	DW-1	14	0	0	3	4	0.651
1202	DW-2	11	22	3	3	10	0.294
1203	DW-3	0	10	8	0	4	0.649
1204	DW-4	18	12	2	0	8	0.415
1205	DW-5	2	6	0	2	3	0.783
1206	DW-6	30	59	2	7	24	0.012
1207	DW-7	3	35	5	10	13	0.162
1208	DW-8	10	49	27	8	23	0.016
	Rowden	67	100	58	11	59	<.0001
	M-315	1	4	1	1	2	0.841

continued

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
Chris Tinius, Stoneville Pedigreed Seed Co., 7622 Moore Road, Memphis, TN 38120							
	1301 CT1	24	32	7	0	16	0.095
	1302 CT2	18	14	1	1	8	0.373
	1303 CT3	26	9	0	3	9	0.317
	1304 CT4	14	9	4	2	7	0.443
	1305 CT5	2	33	2	0	9	0.331
	1306 CT6	48	46	22	1	29	0.003
Ira Stein, Stoneville Pedigreed Seed Co., 2409 Commerce Lane, Albany, GA 31707							
	1307 IS-1	51	42	20	10	31	0.002
	1308 IS-2	17	21	3	5	11	0.227
	Rowden	67	95	34	26	55	<.0001
	M-315	0	1	18	1	5	0.576
Mark Barfield, Stoneville Pedigreed Seed Co., 2409 Commerce Lane, Albany, GA 31707							
	1401 MB1	0	10	0	0	3	0.791
	1402 MB2	11	20	14	0	11	0.242
	1403 MB3	45	34	26	0	26	0.007
	1404 MB4	45	40	55	9	37	0.000
	1405 MB5	43	7	17	3	17	0.071
	1406 MB6	28	11	48	0	22	0.024
Ira Stein, Stoneville Pedigreed Seed Co., 2409 Commerce Lane, Albany, GA 31707							
	1407 IS-3	51	8	0	2	15	0.108
	1408 IS-4	57	4	8	0	17	0.073
	Rowden	100	76	86	14	69	<.0001
	M-315	4	0	7	0	3	0.774

continued

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants					P-value
		Rep1	Rep2	Rep3	Rep4	Avg.	
Al Balducchi, Stoneville Pedigreed Seed Co., 7622 Moore Rd, Memphis, TN 38120							
1501	AB1	29	70	19	3	30	0.002
1502	AB2	3	18	7	0	7	0.463
1503	AB3	14	13	4	0	7	0.428
1504	AB4	8	11	3	0	6	0.559
1505	AB5	0	19	13	0	8	0.409
1506	AB6	59	59	26	4	37	0.000
Ira Stein, Stoneville Pedigreed Seed Co., 2409 Commerce Lane, Albany, GA 31707							
1507	IS-5	2	22	4	0	7	0.453
1508	IS-6	65	42	67	5	45	<.0001
	Rowden	70	100	90	8	67	<.0001
	M-315	1	21	1	0	6	0.538
Randy Wood, Stoneville Pedigreed Seed Co., P.O. Box 569, Maricopa, AZ 85239							
1601	RW1	37	9	16	0	15	0.105
1602	RW2	17	60	4	3	21	0.030
1603	RW3	38	26	20	2	22	0.025
1604	RW4	16	65	4	0	21	0.027
1605	RW5	27	39	19	0	21	0.027
1606	RW6	14	6	7	0	7	0.479
Joe Ware, Stoneville Pedigreed Seed Co., 2409 Commerce Lane, Albany, GA 31707							
1607	JW-1	25	41	8	10	21	0.031
1608	JW-2	6	9	15	0	8	0.423
	Rowden	88	40	58	5	48	<.0001
	M-315	0	2	4	0	1	0.877
Laval Verhalen, Oklahoma State University, 368 Agricultural Hall, Stillwater, OK 74078							
1701	OKLA-1	8	0	0	0	2	0.825
1702	OKLA-2	0	0	0	7	2	0.860
1703	OKLA-3	0	7	0	0	2	0.850
1704	OKLA-4	0	5	0	0	1	0.900
1705	OKLA-5	0	4	0	0	1	0.919
1706	OKLA-6	0	5	0	0	1	0.898
1707	OKLA-7	0	0	0	0	0	1.000
1708	OKLA-8	13	35	39	6	23	0.018
	Rowden	86	58	89	14	62	<.0001
	M-315	1	3	0	0	1	0.907

continued

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
Mike Robinson, Stoneville Pedigreed Seed Co., 4852 Old Leland Rd, Leland, MS 38776							
	1801 MR1	9	18	18	0	11	0.230
	1802 MR2	15	7	1	0	6	0.546
	1803 MR3	33	63	79	20	49	<.0001
	1804 MR4	6	11	22	0	10	0.293
	1805 MR5	17	18	7	1	11	0.253
	1806 MR6	34	45	18	1	25	0.012
Joe Ware, Bayer Crop Science, 1602 Paradise Dr., Sellers, SC 25992							
	1807 JW-3	7	3	31	0	10	0.269
	1808 JW-4	7	43	23	15	22	0.022
	Rowden	64	71	73	37	61	<.0001
	M-315	4	6	3	0	3	0.732
Charlie Cook, Syngenta Seeds, Inc., 356 Hosek Rd., Victoria, TX 77905-5636							
	1901 CC1	0	6	0	1	2	0.859
	1902 CC2	8	2	5	17	8	0.414
	1903 CC3	7	6	22	44	20	0.038
	1904 CC4	9	21	34	9	18	0.058
	1905 CC5	65	68	84	72	72	<.0001
	1906 CC6	2	73	22	11	27	0.006
	1907 CC7	14	37	29	19	25	0.011
	1908 CC8	16	25	16	62	30	0.002
	Rowden	38	79	37	82	59	<.0001
	M-315	3	6	3	6	4	0.647

continued

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
Bon Prince,Syngenta Seeds, Inc., 356 Hosek Rd., Victoria, TX 77905-5636							
	2001 BP1	100	96	96	43	83	<.0001
	2002 BP2	19	10	1	4	8	0.382
	2003 BP3	12	47	7	2	17	0.073
	2004 BP4	60	42	100	35	59	<.0001
	2005 BP5	30	97	88	27	60	<.0001
	2006 BP6	5	95	8	4	28	0.005
Joe Ware,Stoneville Pedigreed Seed Co., 2410 Commerce Lane, Albany, GA 31707							
	2007 JW-5	20	63	32	4	30	0.003
Kathryn Glass,Agronomy & Soils Dept., 201 Funchess Hall, Auburn University, AL 36849							
	2008 DPL 424 BGII/RR	0	0	0	0	0	1.000
	Rowden	97	79	100	21	74	<.0001
	M-315	0	17	6	2	6	0.515
Jack McCarty,USDA, Mississippi State, MS 39762							
	2101 JCM-1	3	9	18	0	7	0.431
	2102 JCM-2	24	14	38	0	19	0.046
	2103 JCM-3	4	16	24	4	12	0.205
	2104 JCM-4	21	13	3	0	9	0.325
	2105 JCM-5	32	28	31	0	23	0.019
	2106 JCM-6	6	14	23	0	11	0.260
	2107 JCM-7	20	13	8	0	10	0.286
	2108 JCM-8	21	11	3	0	9	0.357
	Rowden	66	79	73	2	55	<.0001
	M-315	3	2	1	1	2	0.847

continued

2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL							
Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
O. Lloyd May, University of Georgia, Coastal Plain Exp. Station, Tifton, GA 31793							
2201	GA-200035	56	6	26	3	23	0.020
2202	GA-200036	25	33	17	9	21	0.029
2203	GA-200042	44	33	28	1	27	0.006
2204	GA-2001078	27	0	35	23	21	0.028
2205	GA-2002167	33	27	8	8	19	0.047
2206	GA-2002207	50	7	0	18	19	0.051
2207	GA-2002212	19	18	12	14	16	0.101
2208	GA-99090	35	21	6	36	24	0.012
	Rowden	85	72	70	82	77	<.0001
	M-315	3	3	8	0	4	0.707
Roy Creech, USDA, Mississippi State, MS 39762							
2301	RGC-1	27	27	0	6	15	0.114
2302	RGC-2	10	5	21	1	9	0.325
2303	RGC-3	36	19	13	3	18	0.064
2304	RGC-4	9	18	2	0	7	0.446
2305	RGC-5	51	23	37	0	28	0.005
2306	RGC-6	24	10	1	0	9	0.357
2307	RGC-7	39	22	63	0	31	0.002
2308	RGC-8	9	6	14	4	8	0.377
	Rowden	62	61	66	2	47	<.0001
	M-315	0	3	1	0	1	0.902
Jeff Klingenberg, Bayer Crop Science, 1602 Paradise Dr., Sellers, SC 25992							
2401	BCSI-JK-1	37	26	56	30	37	0.000
2402	BCSI-JK-2	54	35	21	16	31	0.002
2403	BCSI-JK-3	48	30	90	20	47	<.0001
2404	BCSI-JK-4	10	21	12	3	12	0.221
2405	BCSI-JK-5	5	7	72	21	26	0.007
2406	BCSI-JK-6	7	13	62	3	21	0.028
2407	BCSI-JK-7	4	7	56	7	18	0.055
2408	BCSI-JK-8	3	4	1	0	2	0.821
	Rowden	88	80	100	93	90	<.0001
	M-315	11	4	4	0	5	0.599

continued

 2004 Fusarium Wilt Test, Plant Breeding Unit, EVSRC, Tallassee, AL

Entry	Cultivar/Line	Percent wilted plants				Avg.	P-value
		Rep1	Rep2	Rep3	Rep4		
Jeff Gwyn, Bayer Crop Science, 117 Kennedy Flat Rd., Leland, MS 38756							
	2501 BCSI-JJG-1	30	22	8	0	15	0.117
	2502 BCSI-JJG-2	16	8	5	0	7	0.440
	2503 BCSI-JJG-3	83	35	32	0	37	0.000
	2504 BCSI-JJG-4	23	26	13	0	15	0.108
	2505 BCSI-JJG-5	5	10	14	0	7	0.442
	2506 BCSI-JJG-6	29	27	56	1	28	0.004
	2507 BCSI-JJG-7	15	10	11	0	9	0.350
	2508 BCSI-JJG-8	2	2	0	2	1	0.894
	Rowden	54	89	81	2	57	<.0001
	M-315	0	0	1	0	0	0.973
Michael Swindle, Bayer Crop Science, 124 Kennedy Flat Rd., Leland, MS 38756							
	2601 BCSI-MS-1	31	55	28	10	31	0.002
	2602 BCSI-MS-2	53	69	16	31	43	<.0001
	2603 BCSI-MS-3	20	32	22	0	19	0.053
	2604 BCSI-MS-4	8	9	2	3	6	0.553
	2605 BCSI-MS-5	1	59	37	5	26	0.009
	2606 BCSI-MS-6	64	57	90	7	54	<.0001
	2607 BCSI-MS-7	12	33	2	12	14	0.129
	2608 BCSI-MS-8	33	29	48	5	29	0.004
	Rowden	92	89	64	38	71	<.0001
	M-315	0	0	0	5	1	0.885
