

SOUTHERN UNIFORM WINTER WHEAT SCAB NURSERY

2008 NURSERY REPORT

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This Report is available on the Web at;
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TABLE OF CONTENTS

Location Notes	3
Photographs from the 2007-08 Season	6
Entry List and Pedigrees, 2008 Nursery	7
FHB Incidence	8
FHB Severity	9
FHB Severity by Individual Isolates, Szeged, Hungary	10
FHB Severity by Individual Isolates, Fundulea, Romania	11
FHB Severity expressed as AUDPC, Fundulea, Romania	12
FHB Severity, GGE Biplot Analysis	13
FHB Index	14
Percent Fusarium Damaged Kernels	15
Incidence, Severity, Kernel Rating (ISK) Index	16
Seed Characteristics	17
Grain Composition and Lodging, Szeged, Hungary	18
DON	19
Greenhouse Screening	20
SSR Analyses	21
Heading Date	22
Plant Height	23
Winter Survival / Freeze Damage	24
Leaf and Viral Disease Ratings	25
Hessian Fly Screening	26
Milling and Baking Quality	27
Means Across Locations	28
Genotype-by-trait Biplot	29
Correlations Between Traits	30

LOCATION NOTES

Bay, Arkansas

- Cooperator: June Hancock, Agripro-Syngenta Seeds Inc.
- Reps: 2 RCB. Plot size: 2 row x 3'. Seed date: 11/12/07. Harvest date: 5/28/08
- Field inoculation method: corn spawn split applied.
- Precipitation during grain fill: Misted daily.
- Temperature during grain fill: Av day 78.9, night 56.3. Slightly cooler than normal.

Fayetteville and Kibler, Arkansas

- Cooperator: Gene Milus
- University of Arkansas
- Reps: 3 RCB. Plot size: 2 row x 4'. Seed date Kibler: 10/25/07. Harvest date Kibler: 6/4/08. Seed date Fayetteville 10/20/07. Harvest date Fayetteville: 6/11/08
- Field inoculation method: Colonized corn kernels.
- Precipitation during grain fill: Misted daily.
- Greenhouse inoculation method: Type 1 spray.

Urbana, Illinois

- Cooperators: Fred Kolb and Eric Brucker.
- University of Illinois
- Reps: 3 RCB. Plot size: 1 row x 3'. Seed date: 9/28/07. Harvest date: 7/03/08
- Fertilizer: 40 lb N/ac. preplant. P and K okay; no spring topdress.
- Field inoculation method: 256 lbs / ac corn spawn split applied on 4/7, 4/21, and 4/28.
- Precipitation during grain fill: Misted four times per day for 60 minutes each during flowering.

Lexington, Kentucky

- Cooperators: Nicki Mundell and Dave Van Sanford
- University of Kentucky
- Reps: 2 RCB. Plot size: one 4' row. Seed date: 10/15/07. Harvest date: 7/03/08
- Fertilizer: P, K, according to soil tests, 110 lb N split application
- Field inoculation method: scabby corn
- Precipitation during grain fill: 4.82 in plus mist irrigation.
- Avg temperature during grain fill: 70°F.

Blacksburg, Virginia

- Cooperators: Carl A. Griffey, Shuyu Liu.
- Virginia Tech
- Reps: 2. Plot size: 4 x 5 ft (20 ft²). Seed date: 10/05/07. Harvest date: 7/03/08
- Field inoculation method: conidial suspension plus scabby corn.
- Greenhouse inoculation method: point inoculation.

Kinston, North Carolina

- Cooperators: Rene Navarro, Paul Murphy, Christina Cowger
- North Carolina State University
- Reps: 2 RCB. Plot size: 4 rows x 3.5' long. Seed date: 10/21/2007. Harvest date: 6/2/2008.
- Fertilizer: 130 lbs N split application. P and K as per soil test.

- Field Inoculation method: Conidial suspension (3×10^4 spores/ml) sprayed on plots at anthesis. Scabby corn distributed three weeks prior to anthesis.
- Precipitation during grain fill: Misted three times per day for 3 weeks beginning at anthesis.
- Greenhouse: point inoculation with 10 μ L at 50,000 spores per ml.
- Avg temp. during grain fill: Day 74.5F night 52.7F.

Columbia, Missouri

- Cooperators: Anne L. McKendry and David Tague.
- University of Missouri
- Fertilizer: 40 Fall/80 Spring N.
- Reps: 3 RCB. Plot size: 4 rows x 3', 7" spacing. Seed date: 10/06/07. Harvest date: 7/09/08
- Field inoculation method: Planted on corn stalk debris. Sprayed at 75% heading with a suspension of 70,000 macroconidia/mL.
- Precipitation during grain fill: Overhead mist irrigation. Excessive rain this season.
- Greenhouse: point inoculation with 10 μ L at 50,000 spores per ml. Misted 72 hours, rated 21 days after inoculation.

Salisbury, Maryland.

- Cooperators: Jose Costa, and Aaron Cooper.
- University of Maryland.
- Reps: 2 RCB. Plot size: 1 rows x 4' long. Seed date: 10/05/07. Harvest date: 6/18/08.
- Fertilizer: 130 lbs N.
- Field inoculation method: Scabby corn grain infected with Fusarium scattered three weeks before anthesis.

Brookston, Indiana

- Cooperator: Barton Fogleman, Agripro-Syngenta Seeds Inc.

Crowley, Louisiana.

- Cooperators: Harrison, Padgett, Growth, Arceneaux, Purvis and Strickland.
- Louisiana State University.
- Reps: 2 RCB. Plot size: 2 X 14" x 4' rows
- Field inoculation method: scabby corn applied at flag and boot.
- Misted daily from boot through grainfill

Griffin, Georgia

- Cooperator: Jerry Johnson.
- University of Georgia.

Szeged, Hungary.

- Cooperator: Akos Mesterhazy.
- Cereal Research Institute.
- Fertilizer: NPK
- Field inoculation method: Four separate isolates sprayed on each plot and inoculated heads enclosed in plastic bags.

Fundulea, Romania.

- Cooperator: Marianna Ittu.
- National Agricultural Research Development Institute.
- Seed date: 10/19/07. Harvest date: 6/23/08.
- Fertilizer: 110 kg N
- Two replications. Plot size: 0.5 sq.m.
- Field inoculation method: Syringe (point) inoculation at anthesis with five *F. graminearum* and *F. culmorum* isolates. Twenty - 25 heads inoculated per replication per isolate.
- Field scoring: Percent of damaged spikelets at 10 and 20 days post inoculation.
- Precipitation during grain fill: 68 mm (variable for the same period over 43 yrs=67 mm)
- Temperature during grain fill: Sum of grads =986° C

Raleigh, North Carolina

Cooperator: Gina Brown-Guedira

USDA-ARS Eastern Regional Small Grains Genotyping Lab

- SSR Analyses

West Lafayette, Indiana

Cooperator: Sue Cambron

USDA-ARS Crop Production and Pest Control Research Unit:

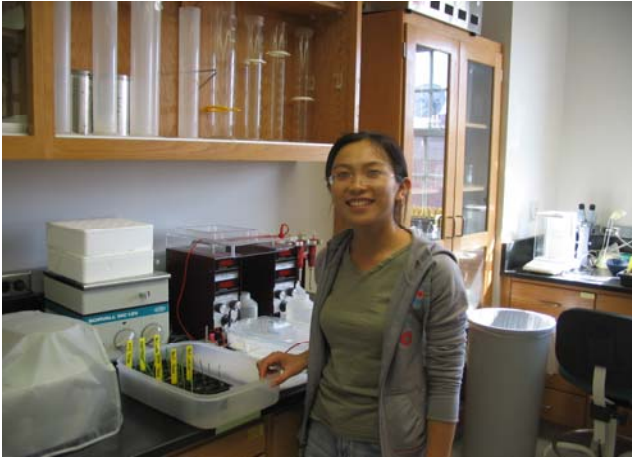
- Hessian Fly resistance evaluations.

Wooster, Ohio

Cooperator: Ed Souza

USDA-ARS Soft Wheat Quality Laboratory

- Milling and Baking Quality evaluations.



Jing Kang working with Jose Costa's project at the University of Maryland.

Syngenta's Richard Gray, Craig Allen and David Hill spreading the first batch of infected corn kernels of the year in Bay AR .



Rene Navarro, in charge of FHB phenotyping at NC State , applying spores in the misted nursery in Kinston, NC

View original, color versions of photographs at:
http://www.scabusa.org/research_vdhr.html#vdhr-updates

Entry List and Pedigrees, 2008 Nursery

ENTRY NO	CULTIVAR/ DESIGNATION	PEDIGREE	CONTRIBUTOR IN NURSERY SINCE	
1	ERNIE	<i>Pike /3/ Stoddard / Blueboy // Stoddard D1707</i>	CHECK(RES)	1999-00
2	COKER 9835	<i>CK68-19 // CK61-19*3 / IN4946A4-18-2-10-2 /4/ Bb /3/ CK65-20*5 / W17-TRANS // TIFT /5/ P 2550</i>	CHECK(SUS)	2000-01
3	BESS	<i>MO 11769/Madison</i>	CHECK(RES)	2006-07
4	JAMESTOWN	<i>Roane / Pioneer 2691</i>	Check (RES)	2007-08
5	TRIBUTE	<i>VA98W-593=92-51-39(IN71761A4-31-5-48// 71-54-147/MCN1813)/AL870365 (CK747*2/Amigo)</i>	Check (RES)	2007-08
6	AR 97002-10-2	<i>AR 369-4-2 / NING 8026</i>	Bacon	2005-06
7	AR 97002-2-1	<i>AR 369-4-2 / NING 8026</i>	Bacon	2005-06
8	AR 97124-4-2	<i>P88288C1-6-1-2 / TERRA SR204</i>	Bacon	2005-06
9	MD01W233-06-1	<i>McCormick/Choptank</i>	Costa	2006-07
10	GA991109-6E8	<i>Ernie / Pio 2684 // 901146</i>	Johnson	2006-07
11	GA991371-6E12	<i>GA931521 / 2*AGS 2000</i>	Johnson	2006-07
12	AR 99028-1-1	<i>Sabbe / P89204A8-1-59</i>	Bacon	2007-08
13	AR 99039-5-2	<i>ARR664-21-1 / NC97BGTD7</i>	Bacon	2007-08
14	AR 99263-7-1	<i>P2118b4 / Jaypee</i>	Bacon	2007-08
15	ARGE97-1047-2	<i>P2684/3/N7840//Parula/Veery#6</i>	Harrison / Milus	2007-08
16	B030543	<i>VA93-54-429/LA85422</i>	Hancock	2007-08
17	D04*5546	<i>MASON/PIO26R61</i>	Hancock	2007-08
18	D05*6437	<i>PIO2552/L96*9266</i>	Hancock	2007-08
19	GA031454-DH7	<i>VA01W-461 / USG 3592</i>	Johnson	2007-08
20	GA031454-DH31	<i>VA01W-461 / USG 3592</i>	Johnson	2007-08
21	GA031307-DH6	<i>AGS 2000 / VA01W-461</i>	Johnson	2007-08
22	GA031307-DH14	<i>AGS 2000 / VA01W-461</i>	Johnson	2007-08
23	GA031354-DH30	<i>VA01W-461 / USG 3592</i>	Johnson	2007-08
24	GA981621-5E34	<i>AGS 2485 / P26R61</i>	Johnson	2007-08
25	LA01141D-138-4-B	<i>LA841/PI225160//LA841</i>	Harrison	2007-08
26	LA01150D-79-7-B	<i>CK9663/FUTAI8944//AGS2000</i>	Harrison	2007-08
27	LA01162D-131-8-B	<i>LA422/CIM1FHBN#5//PIONEER 26R61</i>	Harrison	2007-08
28	LA01162D-136-8-B	<i>LA422/CIM1FHBN#5//PIONEER 26R61</i>	Harrison	2007-08
29	LA01164D-94-2-B	<i>LA422/FUTAI8944//PIONEER 26R61</i>	Harrison	2007-08
30	NC05-25062	<i>SHAAN85-15 / SS 520 // NC-NEUSE(SCAB)</i>	Murphy	2007-08
31	NC05-25059	<i>SHAAN85-15 / SS 520 // NC-NEUSE(SCAB)</i>	Murphy	2007-08
32	NC05-25066	<i>SHAAN85-15 / SS 520 // NC-NEUSE(SCAB)</i>	Murphy	2007-08
33	NC05-21090	<i>BURR / NC96BGTA6 SIB // NATCHEZ</i>	Murphy	2007-08
34	NC05-19896	<i>BURR / NC96BGTA6 SIB // NATCHEZ</i>	Murphy	2007-08
35	NC05-24730	<i>NC-NEUSE SIB / C9663</i>	Murphy	2007-08
36	NC05-24112	<i>TRIBUTE / NC98-25388(CLB)</i>	Murphy	2007-08
37	MD01W233-06-16	<i>McCormick/Choptank</i>	Costa	2007-08
38	MD99W483-06-11	<i>VA97W358/RENWOOD3260</i>	Costa	2007-08
39	M03-3616B	<i>HOPEWELL/PATTON</i>	Fogleman	2007-08
40	M03-3616C	<i>HOPEWELL/PATTON</i>	Fogleman	2007-08
41	M04-4802	<i>FFR518//ELKHART/MV18</i>	Fogleman	2007-08
42	M04-4566	<i>BRADLEY/ROANE</i>	Fogleman	2007-08
43	M04-4715	<i>MASON/ERNIE</i>	Fogleman	2007-08
44	M04*5109	<i>VA94-54-479/PIO2628</i>	Fogleman	2007-08
45	M05-1172	<i>M94-1048-1/PIO2552</i>	Fogleman	2007-08
46	M05*1589	<i>GA871339/PIO2540</i>	Fogleman	2007-08
47	VA04W-360	<i>French Line VR95B717/Roane//VA96W-391 (IN81401A1-32-2/ CK9803)</i>	Griffey	2007-08
48	VA05W-510	<i>Roane / Pion 2684 // OH 552</i>	Griffey	2007-08
49	VA05W-714	<i>Pion2684*2//Futai8944/Pion2684</i>	Griffey	2007-08
50	VA05W-641	<i>Renwood 3260*2//Futai8944/Renwood 3260/3/Renwood 3260</i>	Griffey	2007-08
51	VA06W-600	<i>Goldfield (P89118RC1-X-9-3-3-1=INW9241/P79410D1-3// Clark)/Tribute // Gibson (M94-1069)</i>	Griffey	2007-08
52	VA06W-608	<i>Freedom/Neuse"S" (NC96-13374)//RC-Strategy (VA98W-586)</i>	Griffey	2007-08

FHB Incidence (1-100)

CULTIVAR/ DESIGNATION	COL'BIA	S'BURY	B'BURG	URBANA	KINSTON	LEX'TON	MEAN
	MO	MD	VA	IL	NC	KY	ALL LOC.
	RANK	RANK	RANK	RANK	RANK	RANK	RANK
1 ERNIE	100	50 22	13 7	88 12	21 9	40 3	52 3
2 COKER 9835	100	80 39	50 44	98 35	51 47	80 24	77 47
3 BESS	100	15 2	10 2	77 2	21 9	20 2	40 1
4 JAMESTOWN	100	85 47	23 22	93 23	29 21	55 8	64 27
5 TRIBUTE	100	35 12	25 26	93 23	16 4	80 24	58 12
6 AR 97002-10-2	100	30 7	40 37	87 9	42 38	70 17	61 19
7 AR 97002-2-1	100	45 20	18 16	--	22 13	85 32	59 14
8 AR 97124-4-2	100	60 31	13 7	93 23	33 27	45 5	57 11
9 MD01W233-06-1	100	23 5	15 10	80 3	45 44	65 13	55 8
10 GA991109-6E8	100	90 50	18 16	90 14	41 35	40 3	63 24
11 GA991371-6E12	100	85 47	55 49	--	38 31	65 13	74 45
12 AR 99028-1-1	100	80 39	38 36	95 31	22 13	95 41	72 42
13 AR 99039-5-2	100	15 2	50 44	93 23	21 9	95 41	62 23
14 AR 99263-7-1	100	33 11	15 10	90 14	31 24	55 8	54 7
15 ARGE97-1047-2	100	90 50	40 37	--	27 17	100 46	77 47
16 B030543	100	30 7	28 29	87 9	20 8	65 13	55 8
17 D04*5546	100	35 12	53 48	90 14	19 7	90 36	64 27
18 D05*6437	100	60 31	55 49	93 23	61 50	90 36	77 47
19 GA031454-DH7	100	50 22	15 10	100 36	22 13	100 46	64 27
20 GA031454-DH31	100	80 39	50 44	95 31	68 51	100 46	82 51
21 GA031307-DH6	100	75 36	48 41	--	41 35	80 24	74 45
22 GA031307-DH14	100	80 39	18 16	100 36	31 24	90 36	70 40
23 GA031354-DH30	100	55 26	55 49	--	79 52	100 46	83 52
24 GA981621-5E34	100	80 39	55 49	--	30 23	65 13	72 42
25 LA01141D-138-4-B	100	85 47	15 10	--	27 17	70 17	65 31
26 LA01150D-79-7-B	100	90 50	25 26	--	21 9	100 46	73 44
27 LA01162D-131-8-B	100	65 34	10 2	--	29 21	70 17	60 18
28 LA01162D-136-8-B	100	40 16	50 44	--	41 35	45 5	61 19
29 LA01164D-94-2-B	100	25 6	15 10	--	13 3	80 24	52 3
30 NC05-25062	100	50 22	40 37	80 3	27 17	100 46	66 33
31 NC05-25059	100	80 39	48 41	--	48 45	95 41	80 50
32 NC05-25066	100	70 35	18 16	--	35 28	95 41	69 39
33 NC05-21090	100	40 16	33 33	--	17 6	85 32	61 19
34 NC05-19896	100	60 31	30 31	--	44 42	80 24	68 37
35 NC05-24730	100	20 4	30 31	90 14	40 34	75 22	59 14
36 NC05-24112	100	75 36	35 34	93 23	35 28	90 36	71 41
37 MD01W233-06-16	90	55 26	10 2	83 5	38 31	70 17	58 12
38 MD99W483-06-11	100	80 39	18 16	97 33	42 38	15 1	59 14
39 M03-3616B	100	10 1	13 7	85 5	7 1	100 46	52 3
40 M03-3616C	100	40 16	8 1	72 1	11 2	55 8	48 2
41 M04-4802	100	40 16	48 41	90 14	44 42	70 17	65 31
42 M04-4566	100	55 26	28 29	97 33	42 38	80 24	67 35
43 M04-4715	100	80 39	25 26	92 21	55 48	50 7	67 35
44 M04*5109	90	30 7	35 34	90 14	35 28	85 32	61 19
45 M05-1172	100	45 20	40 37	87 9	39 33	95 41	68 37
46 M05*1589	90	30 7	10 2	93 23	57 49	55 8	56 10
47 VA04W-360	100	55 26	23 22	83 5	42 38	80 24	64 27
48 VA05W-510	100	35 12	20 21	93 23	23 16	85 32	59 14
49 VA05W-714	100	35 12	10 2	90 14	16 4	60 12	52 3
50 VA05W-641	100	50 22	23 22	85 5	28 20	90 36	63 24
51 VA06W-600	90	55 26	15 10	88 12	48 45	80 24	63 24
52 VA06W-608	100	75 36	23 22	92 21	32 26	75 22	66 33
Mean	99	54	29	88	34	75	62
L.S.D.(0.05)	.	30	18	12	28	4	29
CV%	.	28	32	8	42	25	23

FHB Severity (1-100)

CULTIVAR/ DESIGNATION	KIBLER	F'VILLE	COL'BIA	S'BURY	B'BURG	URBANA	KINSTON	LEX'TON	SZEGED ¹	FUN'LEA ¹	MEAN
	AR	AR	MO	MD	VA	IL	NC	KY	HUN	ROM	ALL LOC.
	RANK	RANK	RANK	RANK	RANK	RANK	RANK	RANK	RANK	RANK	RANK
1 ERNIE	.	17 16	42 24	20 15	5 1	37 5	15 24	16 5	1 6	26 3	24 5
2 COKER 9835	96 48	63 52	70 50	60 49	28 33	91 36	80 52	80 52	24 52	85 48	70 52
3 BESS	40 24	15 9	40 21	8 2	8 5	47 8	14 23	26 11	1 6	30 6	26 6
4 JAMESTOWN	33 13	17 16	30 3	40 35	23 28	48 11	24 35	12 4	2 17	25 2	29 9
5 TRIBUTE	43 29	18 24	36 12	20 15	30 37	51 14	10 9	33 18	5 28	44 26	33 15
6 AR 97002-10-2	32 12	15 9	63 46	23 19	50 50	75 32	30 43	38 26	8 34	51 33	38 30
7 AR 97002-2-1	43 29	15 9	29 1	20 15	18 21	-- .	9 7	28 15	5 28	30 6	28 7
8 AR 97124-4-2	30 11	15 9	47 26	30 31	15 13	51 14	32 45	29 16	3 22	43 22	33 15
9 MD01W233-06-1	17 2	12 3	31 5	8 2	15 13	35 4	17 25	26 11	6 30	31 9	22 3
10 GA991109-6E8	35 15	12 3	36 12	55 48	20 23	56 18	39 49	10 2	15 42	52 35	37 28
11 GA991371-6E12	37 19	35 49	61 43	60 49	28 33	-- .	22 30	23 8	8 34	90 50	40 33
12 AR 99028-1-1	43 29	30 45	47 26	50 45	60 51	66 23	23 34	56 43	19 47	60 40	52 49
13 AR 99039-5-2	28 9	17 16	52 33	10 4	13 8	73 31	25 37	57 45	20 49	54 36	41 36
14 AR 99263-7-1	23 4	13 6	36 12	11 6	13 8	43 7	11 15	20 7	12 41	30 6	23 4
15 ARGE97-1047-2	42 26	40 50	59 40	70 51	48 49	-- .	19 26	62 47	19 47	47 32	53 50
16 B030543	35 15	20 27	55 36	15 7	20 23	54 16	34 46	27 13	3 22	35 11	33 15
17 D04*5546	37 19	27 38	48 28	23 19	38 44	70 27	10 9	25 10	11 39	91 51	41 36
18 D05*6437	42 26	25 35	57 38	40 35	60 51	72 29	29 41	38 26	15 42	93 52	49 46
19 GA031454-DH7	35 15	18 24	63 46	30 31	25 32	87 34	13 22	48 39	15 42	51 33	42 40
20 GA031454-DH31	60 39	40 50	87 52	48 44	45 47	92 37	63 51	56 43	21 51	68 43	61 51
21 GA031307-DH6	37 19	27 38	33 8	40 35	20 23	-- .	22 30	64 48	10 37	46 31	42 40
22 GA031307-DH14	35 15	23 30	35 10	45 42	23 28	88 35	10 9	24 9	15 42	31 9	38 30
23 GA031354-DH30	25 6	17 16	64 49	30 31	30 37	-- .	24 35	67 50	20 49	73 44	47 45
24 GA981621-5E34	27 7	25 35	50 30	33 34	15 13	-- .	12 20	46 36	8 34	83 47	41 36
25 LA01141D-138-4-B	.	13 6	36 12	50 45	15 13	-- .	9 7	50 42	0 1	38 14	38 30
26 LA01150D-79-7-B	.	17 16	54 35	75 52	20 23	-- .	10 9	75 51	3 22	40 17	46 43
27 LA01162D-131-8-B	.	20 27	31 5	25 23	5 1	-- .	11 15	34 21	2 17	62 42	28 7
28 LA01162D-136-8-B	43 29	30 45	44 25	23 19	28 33	-- .	10 9	32 17	4 27	36 13	33 15
29 LA01164D-94-2-B	37 19	30 45	61 43	18 12	13 8	-- .	8 5	42 31	1 6	45 27	31 11
30 NC05-25062	80 45	20 27	38 16	25 23	30 37	25 1	10 9	50 41	3 22	21 1	34 21
31 NC05-25059	80 45	32 48	59 40	25 23	30 37	-- .	27 40	40 29	3 22	55 37	43 42
32 NC05-25066	75 42	23 30	29 1	40 35	20 23	-- .	11 15	40 29	1 6	28 4	37 28
33 NC05-21090	23 4	13 6	38 16	20 15	40 46	-- .	5 2	34 21	2 17	40 17	30 10
34 NC05-19896	28 9	17 16	39 16	28 28	23 28	-- .	25 37	43 32	1 6	38 14	33 15
35 NC05-24730	58 38	28 43	57 38	10 4	45 47	56 18	11 15	45 35	11 39	78 46	40 33
36 NC05-24112	75 42	27 38	61 43	40 35	30 37	69 26	31 44	43 32	1 6	85 48	49 46
37 MD01W233-06-16	63 41	17 16	30 3	15 7	13 8	47 8	19 26	46 36	0 1	43 22	31 11
38 MD99W483-06-11	85 47	28 44	78 51	45 42	15 13	68 25	22 30	8 1	2 17	44 25	46 43
39 M03-3616B	8 1	3 1	31 5	5 1	8 5	25 1	8 5	46 36	6 30	56 38	17 1
40 M03-3616C	17 2	8 2	41 23	15 7	5 1	29 3	4 1	16 5	0 1	29 5	18 2
41 M04-4802	33 13	23 30	60 42	15 7	15 13	70 27	21 29	27 13	7 32	74 45	35 25
42 M04-4566	43 29	27 38	63 46	40 35	38 44	81 33	35 47	57 45	1 6	41 20	51 48
43 M04-4715	57 37	23 30	56 37	50 45	33 42	64 22	25 37	10 2	1 6	45 27	41 36
44 M04*5109	45 35	25 35	49 29	28 28	18 21	54 16	12 20	36 25	7 32	61 41	34 21
45 M05-1172	27 7	12 3	39 20	15 7	15 13	41 6	29 41	66 49	18 46	45 27	31 11
46 M05*1589	40 24	18 24	40 21	28 28	13 8	58 20	38 48	33 18	2 17	41 20	34 21
47 VA04W-360	43 29	15 9	50 30	25 23	28 33	50 13	11 15	43 32	1 6	35 11	35 25
48 VA05W-510	38 23	15 9	35 10	23 19	15 13	49 12	6 4	48 39	1 6	39 16	31 11
49 VA05W-714	42 26	15 9	53 34	18 12	5 1	72 29	5 2	38 26	0 1	59 39	36 27
50 VA05W-641	62 40	27 38	50 30	25 23	33 42	61 21	20 28	35 23	1 6	45 27	40 33
51 VA06W-600	75 42	23 30	34 8	18 12	8 5	47 8	22 30	33 18	0 1	43 22	34 21
52 VA06W-608	47 36	17 16	38 16	40 35	23 28	66 23	39 49	35 23	11 38	40 17	33 15
Mean	44	22	47	30	23.5	56	20	39	7	51	36
L.S.D.(0.05)	14	9	.	18	30.3	20	21	18	2	.	26
CV%	19	28	.	30	64.3	21	55	177	.	.	36

¹DATA BY INDIVIDUAL ISOLATES ON FOLLOWING PAGES

Severity by Individual Isolates, Szeged, Hungary

Cultivar/ Designation	<i>F. culmor.</i>	<i>F. culmor.</i>	<i>F. gramin.</i>	<i>F. culmor.</i>	Mean	RANK
	Isol. 12375	Isol. 12551	Isol. 12377	Isol. 12375B	All Isolates	
1 ERNIE	0	0	4	0	1	6
2 COKER 9835	25	6	62	2	24	52
3 BESS	0	0	4	0	1	6
4 JAMESTOWN	0	1	8	1	2	17
5 TRIBUTE	3	4	13	1	5	28
6 AR 97002-10-2	8	3	21	0	8	34
7 AR 97002-2-1	9	2	9	1	5	28
8 AR 97124-4-2	0	0	10	1	3	22
9 MD01W233-06-1	5	1	16	2	6	30
10 GA991109-6E8	10	4	42	3	15	42
11 GA991371-6E12	3	2	22	4	8	34
12 AR 99028-1-1	23	4	47	4	19	47
13 AR 99039-5-2	14	10	53	5	20	49
14 AR 99263-7-1	9	7	31	4	12	41
15 ARGE97-1047-2	26	4	43	4	19	47
16 B030543	3	2	5	0	3	22
17 D04*5546	6	1	34	5	11	39
18 D05*6437	7	2	48	5	15	42
19 GA031454-DH7	8	4	42	7	15	42
20 GA031454-DH31	12	8	55	8	21	51
21 GA031307-DH6	5	2	28	6	10	37
22 GA031307-DH14	10	0	43	6	15	42
23 GA031354-DH30	10	2	57	10	20	49
24 GA981621-5E34	6	2	22	1	8	34
25 LA01141D-138-4-B	0	0	1	0	0	1
26 LA01150D-79-7-B	1	1	8	1	3	22
27 LA01162D-131-8-B	0	0	7	0	2	17
28 LA01162D-136-8-B	3	3	8	1	4	27
29 LA01164D-94-2-B	0	0	3	0	1	6
30 NC05-25062	4	2	6	1	3	22
31 NC05-25059	7	2	4	1	3	22
32 NC05-25066	0	0	2	0	1	6
33 NC05-21090	1	0	4	1	2	17
34 NC05-19896	0	0	3	0	1	6
35 NC05-24730	6	7	28	5	11	39
36 NC05-24112	0	0	4	0	1	6
37 MD01W233-06-16	0	0	2	0	0	1
38 MD99W483-06-11	5	1	2	0	2	17
39 M03-3616B	0	0	23	0	6	30
40 M03-3616C	0	0	2	0	0	1
41 M04-4802	3	0	24	3	7	32
42 M04-4566	0	0	3	0	1	6
43 M04-4715	1	1	3	0	1	6
44 M04*5109	7	1	17	2	7	32
45 M05-1172	4	2	53	14	18	46
46 M05*1589	1	1	4	1	2	17
47 VA04W-360	1	0	1	0	1	6
48 VA05W-510	1	0	2	0	1	6
49 VA05W-714	0	0	0	0	0	1
50 VA05W-641	0	0	4	0	1	6
51 VA06W-600	0	0	0	0	0	1
52 VA06W-608	5	1	36	1	11	38
Mean	5	2	19	2	7	
L.S.D.(0.05)	2	

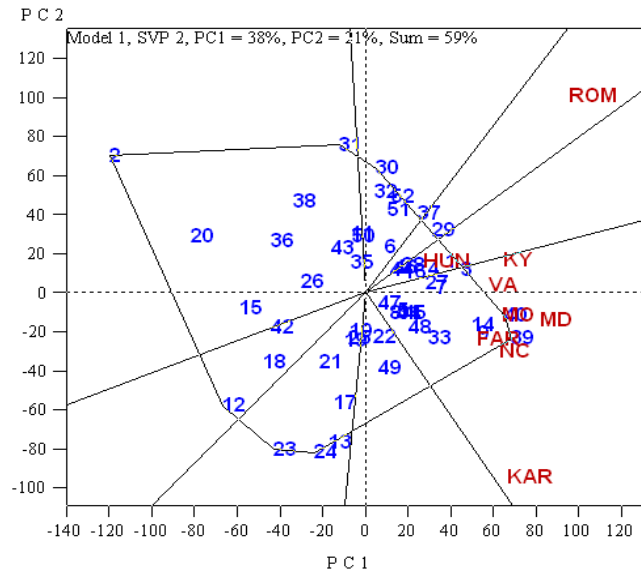
Severity by Individual Isolates 20 Days After Inoculation Fundulea, Romania.

20 Days after Inoculation							
Cultivar/ Designation	F. gram.					Mean All Isolates	Rank
	Isol 8713	Isol 96	Isol 735	Isol 771	Isol 46		
1 ERNIE	8	38	13	32	38	26	3
2 COKER 9835	93	69	100	100	65	85	48
3 BESS	24	34	23	36	34	30	6
4 JAMESTOWN	8	33	28	21	36	25	2
5 TRIBUTE	15	50	42	59	54	44	26
6 AR 97002-10-2	31	20	81	99	22	51	33
7 AR 97002-2-1	18	48	20	31	35	30	6
8 AR 97124-4-2	39	51	30	45	50	43	22
9 MD01W233-06-1	12	42	35	35	32	31	9
10 GA991109-6E8	37	68	45	44	68	52	35
11 GA991371-6E12	100	62	100	100	-	90	50
12 AR 99028-1-1	30	94	49	29	100	60	40
13 AR 99039-5-2	23	100	38	25	85	54	36
14 AR 99263-7-1	22	27	28	23	50	30	6
15 ARGE97-1047-2	13	62	45	59	58	47	32
16 B030543	16	36	38	42	41	35	11
17 D04*5546	78	87	100	98	91	91	51
18 D05*6437	100	82	100	100	81	93	52
19 GA031454-DH7	25	56	44	71	60	51	33
20 GA031454-DH31	35	31	95	89	89	68	43
21 GA031307-DH6	15	51	24	49	90	46	31
22 GA031307-DH14	13	61	15	9	59	31	9
23 GA031354-DH30	22	88	87	70	100	73	44
24 GA981621-5E34	22	100	99	96	100	83	47
25 LA01141D-138-4-B	19	68	15	26	62	38	14
26 LA01150D-79-7-B	31	32	43	37	55	40	17
27 LA01162D-131-8-B	60	41	89	74	45	62	42
28 LA01162D-136-8-B	45	28	23	38	46	36	13
29 LA01164D-94-2-B	51	15	57	84	18	45	27
30 NC05-25062	16	14	16	21	37	21	1
31 NC05-25059	60	10	78	81	45	55	37
32 NC05-25066	15	36	20	35	34	28	4
33 NC05-21090	25	48	49	44	37	40	17
34 NC05-19896	38	47	42	25	40	38	14
35 NC05-24730	99	36	98	100	56	78	46
36 NC05-24112	100	42	100	96	89	85	48
37 MD01W233-06-16	46	17	66	45	43	43	22
38 MD99W483-06-11	27	58	31	33	71	44	25
39 M03-3616B	94	18	42	100	27	56	38
40 M03-3616C	28	18	35	25	41	29	5
41 M04-4802	69	22	99	99	80	74	45
42 M04-4566	19	77	18	26	65	41	20
43 M04-4715	38	58	31	45	52	45	27
44 M04*5109	51	17	100	69	66	61	41
45 M05-1172	23	32	71	63	37	45	27
46 M05*1589	19	40	47	57	44	41	20
47 VA04W-360	16	63	31	27	37	35	11
48 VA05W-510	29	56	38	25	46	39	16
49 VA05W-714	32	65	33	77	86	59	39
50 VA05W-641	44	40	43	44	52	45	27
51 VA06W-600	43	45	40	40	45	43	22
52 VA06W-608	21	20	44	100	16	40	17
Mean	38	47	51	56	55	50	

Head Severity Expressed as Area Under the Disease Progress Curve (AUDPC) Fundulea, Romania

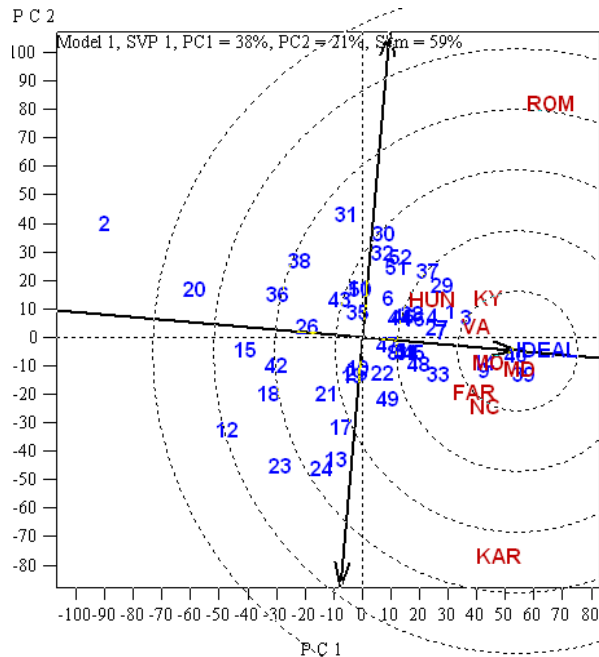
CULTIVAR/ DESIGNATION	Isol FG 96	Isol FG 8713	Isol F 735	Isol F 771	Isol FC 46	Mean	
						All Isolates	
						RANK	
1 ERNIE	382	73	131	439	458	297	7
2 COKER 9835	595	704	891	938	677	761	51
3 BESS	273	172	224	432	289	278	3
4 JAMESTOWN	214	68	214	320	357	234	1
5 TRIBUTE	553	104	421	770	630	495	34
6 AR 97002-10-2	248	326	641	936	262	483	32
7 AR 97002-2-1	438	236	250	461	423	361	10
8 AR 97124-4-2	567	444	379	642	518	510	36
9 MD01W233-06-1	380	90	262	419	316	293	6
10 GA991109-6E8	565	308	458	540	826	540	40
11 GA991371-6E12	517	927	989	897	833	833	52
12 AR 99028-1-1	786	189	380	377	868	520	37
13 AR 99039-5-2	774	320	420	406	756	535	39
14 AR 99263-7-1	304	269	293	403	400	334	8
15 ARGE97-1047-2	570	114	429	665	561	468	29
16 B030543	382	119	420	565	430	383	17
17 D04*5546	637	547	926	814	620	709	50
18 D05*6437	572	662	758	882	549	684	48
19 GA031454-DH7	414	367	639	911	528	572	42
20 GA031454-DH31	284	468	842	944	629	634	45
21 GA031307-DH6	391	160	291	585	643	414	21
22 GA031307-DH14	656	130	161	306	628	376	15
23 GA031354-DH30	768	239	707	695	718	625	44
24 GA981621-5E34	773	268	694	796	797	665	47
25 LA01141D-138-4-B	429	184	147	435	669	373	13
26 LA01150D-79-7-B	226	333	377	465	411	362	12
27 LA01162D-131-8-B	300	455	694	775	377	520	37
28 LA01162D-136-8-B	277	387	240	460	379	349	9
29 LA01164D-94-2-B	193	428	415	691	234	392	19
30 NC05-25062	142	188	167	392	301	238	2
31 NC05-25059	101	505	521	680	395	440	27
32 NC05-25066	316	145	197	456	328	288	4
33 NC05-21090	462	213	360	512	363	382	16
34 NC05-19896	431	267	298	343	467	361	10
35 NC05-24730	252	723	650	861	481	594	43
36 NC05-24112	313	830	727	959	641	694	49
37 MD01W233-06-16	200	324	472	527	345	373	13
38 MD99W483-06-11	693	234	336	454	743	492	33
39 M03-3616B	205	611	405	843	279	468	29
40 M03-3616C	176	241	282	389	352	288	4
41 M04-4802	216	505	984	936	646	658	46
42 M04-4566	686	153	158	406	657	412	20
43 M04-4715	667	301	247	502	695	482	31
44 M04*5109	189	402	720	650	557	504	35
45 M05-1172	455	237	505	589	518	461	28
46 M05*1589	431	202	485	581	464	433	23
47 VA04W-360	585	214	411	427	533	434	24
48 VA05W-510	624	217	324	365	568	420	22
49 VA05W-714	469	397	438	856	600	552	41
50 VA05W-641	330	495	380	484	500	438	26
51 VA06W-600	369	441	391	540	436	436	25
52 VA06W-608	230	236	453	792	206	383	18
Mean	423	330	454	606	517	466	

FHB Severity GGE Biplot Analysis



The Illinois data were omitted from this analysis due to excessive freeze damage. Test location main effect accounted for 46% of the variation in FHB Severity. All seven US locations fell within a single Mega-environment while the two European locations fell in their own Mega-environments.

Szeged, Hungary and Kibler, Arkansas were the most discriminating and diverse locations. Maryland, Missouri, North Carolina and Fayetteville, Arkansas formed a tight cluster of environments. Entry main effect accounted for 20% of variation in FHB Severity and Entry x Location accounted for 34% of variation.



The single arrowed-line passing through the biplot origin approximated the genotype (G) effect. Entries towards the right of the line (e.g. 3, 9, 14, 39 and 40) had lower overall Severity scores while entries towards the left of the abscissa (e.g. 2 and 20) had the highest Severity scores.

The Average Environment Coordinate ordinate (double-armed line perpendicular to the abscissa) approximated the genotype x location (GxE) interaction associated with each entry. The greater the projection onto the ordinate, in either direction, the greater the instability of the entry over locations. Most of the more resistant entries exhibited stability.

FHB Index (1-100)

CULTIVAR/ DESIGNATION	COL'BIA	S'BURY	B'BURG	URBANA	KINSTON	LEX'TON	MEAN
	MO	MD	VA	IL	NC	KY	ALL LOC.
	RANK	RANK	RANK	RANK	RANK	RANK	RANK
1 ERNIE	42 24	10 22	1 2	32 5	2 7	6 5	15 3
2 COKER 9835	69 50	48 48	14 42	89 37	41 51	64 50	54 51
3 BESS	38 17	1 1	1 2	36 7	3 14	5 3	14 2
4 JAMESTOWN	30 4	34 41	5 22	45 12	7 29	7 6	21 11
5 TRIBUTE	36 13	7 10	7 29	47 14	2 7	26 21	21 11
6 AR 97002-10-2	63 47	8 13	17 46	64 27	13 43	26 21	32 38
7 AR 97002-2-1	28 1	9 21	3 15	-- .	2 7	24 19	18 7
8 AR 97124-4-2	47 27	18 32	2 9	48 16	11 37	13 9	23 14
9 MD01W233-06-1	31 5	2 3	2 9	28 4	8 31	17 12	15 3
10 GA991109-6E8	35 10	50 49	4 18	50 18	15 46	4 2	26 25
11 GA991371-6E12	61 44	51 50	16 45	-- .	9 33	15 11	36 42
12 AR 99028-1-1	47 27	40 45	26 51	63 24	5 24	53 45	39 45
13 AR 99039-5-2	52 33	2 3	6 26	69 32	5 24	54 46	31 36
14 AR 99263-7-1	36 13	6 8	2 9	39 8	4 19	11 8	16 5
15 ARGE97-1047-2	58 40	63 51	19 48	-- .	5 24	62 48	47 50
16 B030543	54 35	5 7	5 22	47 14	7 29	18 13	23 14
17 D04*5546	47 27	8 13	20 49	63 24	2 7	23 17	27 26
18 D05*6437	55 37	30 37	34 52	67 31	16 48	34 30	39 45
19 GA031454-DH7	62 46	16 27	4 18	87 34	2 7	48 42	37 44
20 GA031454-DH31	87 52	38 44	23 50	87 34	46 52	56 47	56 52
21 GA031307-DH6	33 9	30 37	9 36	-- .	9 33	51 44	32 38
22 GA031307-DH14	35 10	36 42	4 18	88 36	3 14	22 16	31 36
23 GA031354-DH30	64 49	17 30	18 47	-- .	19 49	67 51	42 48
24 GA981621-5E34	50 31	26 35	8 33	-- .	4 19	30 26	29 32
25 LA01141D-138-4-B	36 13	43 47	2 9	-- .	2 7	35 35	29 32
26 LA01150D-79-7-B	54 35	68 52	5 22	-- .	2 7	75 52	46 49
27 LA01162D-131-8-B	31 5	17 30	1 2	-- .	3 14	24 19	20 9
28 LA01162D-136-8-B	44 25	11 24	14 42	-- .	4 19	14 10	23 14
29 LA01164D-94-2-B	59 41	4 6	2 9	-- .	1 2	34 30	25 21
30 NC05-25062	38 17	13 25	12 38	20 1	3 14	50 43	23 14
31 NC05-25059	59 41	20 33	12 38	-- .	12 41	38 36	34 41
32 NC05-25066	29 3	28 36	4 18	-- .	3 14	38 36	25 21
33 NC05-21090	38 17	8 13	13 41	-- .	1 2	29 25	23 14
34 NC05-19896	39 22	16 27	7 29	-- .	12 41	34 30	27 26
35 NC05-24730	56 38	2 3	14 42	51 19	4 19	34 30	27 26
36 NC05-24112	61 44	31 40	11 37	64 27	11 37	39 38	36 42
37 MD01W233-06-16	28 1	8 13	1 2	39 9	8 31	32 29	19 8
38 MD99W483-06-11	78 51	36 42	3 15	65 29	10 36	1 1	32 38
39 M03-3616B	31 5	1 1	1 2	21 2	1 2	46 41	17 6
40 M03-3616C	41 23	6 8	0 1	22 3	0 1	9 7	13 1
41 M04-4802	59 41	7 10	8 33	63 24	9 33	19 15	27 26
42 M04-4566	63 47	22 34	12 38	78 33	15 46	45 40	39 45
43 M04-4715	56 38	40 45	8 33	59 22	14 45	5 3	30 35
44 M04*5109	45 26	8 13	6 26	49 17	4 19	31 27	24 20
45 M05-1172	38 17	8 13	7 29	35 6	13 43	62 48	27 26
46 M05*1589	37 16	8 13	2 9	54 21	22 50	18 13	23 14
47 VA04W-360	48 30	16 27	6 26	42 10	5 24	34 30	25 21
48 VA05W-510	35 10	8 13	3 15	46 13	1 2	41 39	22 13
49 VA05W-714	53 34	7 10	1 2	65 29	1 2	23 17	25 21
50 VA05W-641	50 31	14 26	7 29	52 20	6 28	31 27	27 26
51 VA06W-600	32 8	10 22	1 2	42 10	11 37	27 24	20 9
52 VA06W-608	38 17	30 37	5 22	61 23	11 37	26 21	29 32
Mean	47	20	8	51	8.1	31	27
L.S.D.(0.05)	.	16	15	18	14	.	23
CV%	.	40	97	21	60	.	44

Percent Fusarium Damaged Kernels

Cultivar/ Designation	% COL'BIA MO		% URBANA IL		% KIBLER AR		% F'VILLE AR		% KINSTON NC		% S'BURY MD		% LEX'TON KY		% CROWLEY LA		% SZEGED HUN		% MEAN All LOCS	
	RANK		RANK		RANK		RANK		RANK		RANK		RANK		RANK		RANK		RANK	
1 ERNIE	5	1	23	1	15	16	26	10	22	5	15	24	15	10	3	12	1	1	16	2
2 COKER 9835	40	39	93	34	70	51	77	51	77	50	21	41	73	52	23	52	26	52	57	51
3 BESS	10	4	30	4	9	2	27	11	15	1	6	3	8	1	8	39	10	34	15	1
4 JAMESTOWN	10	4	45	14	15	16	18	1	27	13	11	14	17	17	1	1	8	31	18	7
5 TRIBUTE	25	20	35	8	22	26	35	20	31	15	15	24	16	12	3	12	3	5	24	15
6 AR 97002-10-2	25	20	77	26	28	33	48	34	42	26	21	41	36	47	8	39	13	38	36	36
7 AR 97002-2-1	40	39	--	.	13	10	28	13	34	19	12	17	22	34	1	1	3	5	26	17
8 AR 97124-4-2	30	31	43	12	15	16	50	37	40	23	17	30	21	30	8	39	16	45	29	22
9 MD01W233-06-1	25	20	28	3	12	7	21	4	24	8	5	1	14	5	5	21	6	24	17	5
10 GA991109-6E8	10	4	--	.	21	25	42	29	48	33	18	33	16	12	5	21	25	51	29	22
11 GA991371-6E12	50	45	--	.	37	42	63	48	69	47	35	51	31	45	15	49	19	47	49	50
12 AR 99028-1-1	30	31	85	33	30	37	40	27	43	29	12	17	44	49	5	21	13	38	35	32
13 AR 99039-5-2	40	39	70	21	23	30	57	40	41	25	14	21	26	39	13	46	12	37	37	37
14 AR 99263-7-1	10	4	75	24	13	10	25	8	29	14	12	17	21	30	3	12	11	35	24	15
15 ARGE97-1047-2	60	48	--	.	20	23	48	34	64	43	22	43	41	48	13	46	11	35	42	45
16 B030543	5	1	42	11	8	1	33	19	17	2	6	3	14	5	1	1	5	16	16	2
17 D04*5546	50	45	78	28	22	26	55	38	56	42	8	5	24	35	6	36	15	42	39	41
18 D05*6437	60	48	80	30	38	43	55	38	53	40	10	9	24	35	8	39	19	47	43	47
19 GA031454-DH7	75	51	--	.	13	10	43	31	44	31	19	36	28	41	1	1	7	27	37	37
20 GA031454-DH31	80	52	95	35	57	50	80	52	96	52	36	52	46	50	5	21	24	50	64	52
21 GA031307-DH6	40	39	--	.	30	37	38	23	71	48	26	49	30	44	5	21	17	46	40	42
22 GA031307-DH14	25	20	85	32	18	21	18	1	42	26	22	43	21	30	5	21	5	16	31	27
23 GA031354-DH30	30	31	--	.	22	26	47	32	65	44	16	29	26	39	1	1	20	49	35	32
24 GA981621-5E34	30	31	--	.	18	21	60	45	51	38	19	36	20	28	3	12	14	40	35	32
25 LA01141D-138-4-E	25	20	--	.	13	10	25	8	65	44	18	33	34	46	5	21	6	24	30	25
26 LA01150D-79-7-B	20	14	--	.	47	46	32	18	67	46	29	50	57	51	6	36	15	42	38	39
27 LA01162D-131-8-E	10	4	--	.	13	10	28	13	25	9	22	43	16	12	1	1	2	2	21	10
28 LA01162D-136-8-E	20	14	--	.	13	10	58	43	32	17	19	36	24	35	3	12	5	16	29	22
29 LA01164D-94-2-B	15	13	--	.	17	20	60	45	33	18	12	17	19	26	1	1	5	16	28	19
30 NC05-25062	25	20	50	15	53	48	63	48	22	5	15	24	11	2	5	21	4	13	33	30
31 NC05-25059	60	48	--	.	70	51	57	40	45	32	17	30	16	12	3	12	9	32	47	49
32 NC05-25066	25	20	--	.	32	39	37	21	34	19	9	7	15	10	3	12	4	13	28	19
33 NC05-21090	25	20	--	.	12	7	40	27	51	38	19	36	18	19	5	21	5	16	30	25
34 NC05-19896	5	1	--	.	12	7	28	13	42	26	14	21	16	12	3	12	2	2	22	11
35 NC05-24730	25	20	65	18	33	41	60	45	49	34	10	9	19	26	5	21	2	2	35	32
36 NC05-24112	30	31	83	31	47	46	58	43	50	36	15	24	18	19	5	21	5	16	41	43
37 MD01W233-06-16	25	20	37	9	32	39	28	13	26	11	10	9	12	3	1	1	3	5	23	13
38 MD99W483-06-11	30	31	77	26	53	48	38	23	43	29	18	33	14	5	5	21	9	32	38	39
39 M03-3616B	20	14	25	2	11	4	23	6	22	5	8	5	18	19	10	45	6	24	17	5
40 M03-3616C	20	14	30	4	11	4	20	3	21	4	10	9	13	4	13	46	3	5	18	7
41 M04-4802	25	20	70	21	27	31	57	40	81	51	23	47	25	38	8	39	15	42	41	43
42 M04-4566	50	45	75	24	28	33	47	32	71	48	23	47	28	41	6	36	7	27	43	47
43 M04-4715	40	39	67	20	38	43	63	48	54	41	22	43	18	19	8	39	5	16	42	45
44 M04*5109	30	31	73	23	27	31	48	34	25	9	17	30	18	19	15	49	7	27	34	31
45 M05-1172	10	4	30	4	10	3	22	5	26	11	11	14	18	19	5	21	7	27	16	2
46 M05*1589	10	4	43	12	15	16	38	23	35	21	11	14	14	5	5	21	5	16	22	11
47 VA04W-360	20	14	50	15	22	26	27	11	49	34	14	21	28	41	3	12	3	5	26	17
48 VA05W-510	40	39	40	10	11	4	23	6	17	2	9	7	17	17	1	1	3	5	20	9
49 VA05W-714	10	4	65	18	20	23	38	23	50	36	15	24	14	5	1	1	3	5	28	19
50 VA05W-641	30	31	78	28	40	45	37	21	35	21	5	1	21	30	1	1	4	13	32	29
51 VA06W-600	10	4	33	7	28	33	30	17	31	15	10	9	18	19	18	51	3	5	23	13
52 VA06W-608	20	14	60	17	28	33	42	29	40	23	20	40	20	28	5	21	14	40	31	27
Mean	28		53		26		42		43		16		23		6		9		30	
L.S.D.(0.05)	.		24		12		17		23		12		2		69		2		22	
CV%	.		27		34		29		26		37		33		6		.		38	

Incidence, Severity, Kernel Rating (ISK) Index (0.3 * Incidence + 0.3 * Severity + 0.4 * Fusarium Damaged Kernels)

CULTIVAR/ DESIGNATION	KINSTON NC		COL'BIA MO		URBANA IL		LEX'TON KY		S'BURY MD		MEAN ALL LOC.	
	RANK		RANK		RANK		RANK		RANK		RANK	
1 ERNIE	19	5	32	3	47	4	23	4	27	25	27	5
2 COKER 9835	70	51	46	39	94	34	77	52	50	47	63	51
3 BESS	16	4	34	6	49	5	17	2	9	2	23	2
4 JAMESTOWN	26	13	34	6	63	15	27	7	42	39	36	20
5 TRIBUTE	29	21	40	22	57	10	40	18	22	14	32	12
6 AR 97002-10-2	38	37	40	22	79	26	47	33	15	6	40	30
7 AR 97002-2-1	23	9	46	39	--	.	43	23	24	18	34	17
8 AR 97124-4-2	35	30	42	32	61	14	31	8	34	31	39	28
9 MD01W233-06-1	28	17	40	22	46	3	33	11	11	3	26	4
10 GA991109-6E8	43	43	34	6	--	.	21	3	51	48	46	36
11 GA991371-6E12	45	44	50	45	--	.	39	16	57	50	57	50
12 AR 99028-1-1	31	25	42	32	82	29	63	48	44	41	46	36
13 AR 99039-5-2	30	23	46	39	78	25	56	45	13	4	38	27
14 AR 99263-7-1	24	11	34	6	70	17	31	8	18	9	32	12
15 ARGE97-1047-2	39	38	54	48	--	.	65	49	57	50	56	49
16 B030543	23	9	32	3	59	11	33	11	16	7	29	6
17 D04*5546	31	25	50	45	79	26	44	27	20	11	41	31
18 D05*6437	48	47	54	48	82	29	48	37	34	31	51	47
19 GA031454-DH7	28	17	60	51	--	.	56	45	31	28	46	36
20 GA031454-DH31	78	52	62	52	97	35	65	49	53	49	71	52
21 GA031307-DH6	47	46	46	39	--	.	55	43	45	42	49	41
22 GA031307-DH14	29	21	40	22	90	33	43	23	46	44	47	39
23 GA031354-DH30	57	50	42	32	--	.	60	47	32	29	50	43
24 GA981621-5E34	33	28	42	32	--	.	42	22	41	38	43	32
25 LA01141D-138-4-B	37	34	40	22	--	.	50	40	48	45	45	34
26 LA01150D-79-7-B	36	31	38	15	--	.	75	51	61	52	50	43
27 LA01162D-131-8-B	22	8	34	6	--	.	37	15	36	33	33	15
28 LA01162D-136-8-B	28	17	38	15	--	.	33	11	26	22	35	18
29 LA01164D-94-2-B	19	5	36	13	--	.	44	27	17	8	30	7
30 NC05-25062	20	7	40	22	52	7	49	39	29	26	30	7
31 NC05-25059	41	41	54	48	--	.	47	33	38	35	50	43
32 NC05-25066	27	14	40	22	--	.	46	31	36	33	37	21
33 NC05-21090	27	14	40	22	--	.	43	23	23	17	33	15
34 NC05-19896	37	34	32	3	--	.	43	23	32	29	37	21
35 NC05-24730	39	38	40	22	70	17	44	27	13	4	37	21
36 NC05-24112	40	40	42	32	82	29	47	33	40	37	48	40
37 MD01W233-06-16	27	14	37	14	54	8	40	18	25	20	31	11
38 MD99W483-06-11	36	31	42	32	80	28	13	1	45	42	49	41
39 M03-3616B	13	1	38	15	43	2	51	41	8	1	20	1
40 M03-3616C	13	1	38	15	42	1	26	6	20	11	24	3
41 M04-4802	52	48	40	22	76	24	39	16	26	22	45	34
42 M04-4566	52	48	50	45	83	32	52	42	38	35	53	48
43 M04-4715	46	45	46	39	74	21	25	5	48	45	50	43
44 M04*5109	24	11	39	21	73	20	44	27	24	18	37	21
45 M05-1172	31	25	34	6	50	6	55	43	22	14	30	7
46 M05*1589	42	42	31	1	63	15	32	10	18	9	35	18
47 VA04W-360	36	31	38	15	60	13	48	37	30	27	37	21
48 VA05W-510	15	3	46	39	59	11	47	33	21	13	30	7
49 VA05W-714	30	23	34	6	75	22	35	14	22	14	37	21
50 VA05W-641	28	17	42	32	75	22	46	31	25	20	39	28
51 VA06W-600	34	29	31	1	54	8	41	20	26	22	32	12
52 VA06W-608	37	34	38	15	71	19	41	20	42	39	43	32
Mean	33		41		64		43		31		37	
L.S.D.(0.05)	17		.		13		.		15		17	
CV%	25		.		12		.		24		23	

SEED CHARACTERISTICS

		100	
	Cultivar/ Designation	GR. WT. S'BURY MD	RANK
1	ERNIE	3.0	5
2	COKER 9835	2.1	42
3	BESS	1.9	48
4	JAMESTOWN	2.6	16
5	TRIBUTE	2.4	28
6	AR 97002-10-2	1.9	48
7	AR 97002-2-1	1.8	50
8	AR 97124-4-2	2.1	42
9	MD01W233-06-1	2.7	14
10	GA991109-6E8	3.3	2
11	GA991371-6E12	2.5	23
12	AR 99028-1-1	1.5	52
13	AR 99039-5-2	1.8	50
14	AR 99263-7-1	2.0	45
15	ARGE97-1047-2	2.6	16
16	B030543	2.6	16
17	D04*5546	2.2	41
18	D05*6437	2.6	16
19	GA031454-DH7	2.0	45
20	GA031454-DH31	2.8	10
21	GA031307-DH6	2.8	10
22	GA031307-DH14	2.9	8
23	GA031354-DH30	2.4	28
24	GA981621-5E34	3.0	5
25	LA01141D-138-4-B	2.3	37
26	LA01150D-79-7-B	2.4	28
27	LA01162D-131-8-B	2.4	28
28	LA01162D-136-8-B	2.5	23
29	LA01164D-94-2-B	2.6	16
30	NC05-25062	3.4	1
31	NC05-25059	3.0	5
32	NC05-25066	3.1	3
33	NC05-21090	2.1	42
34	NC05-19896	2.4	28
35	NC05-24730	2.8	10
36	NC05-24112	2.8	10
37	MD01W233-06-16	2.7	14
38	MD99W483-06-11	2.4	28
39	M03-3616B	2.4	28
40	M03-3616C	2.9	8
41	M04-4802	2.4	28
42	M04-4566	2.5	23
43	M04-4715	2.6	16
44	M04*5109	3.1	3
45	M05-1172	2.6	16
46	M05*1589	2.0	45
47	VA04W-360	2.3	37
48	VA05W-510	2.3	37
49	VA05W-714	2.4	28
50	VA05W-641	2.5	23
51	VA06W-600	2.5	23
52	VA06W-608	2.3	37

Mean	2.5
L.S.D.(0.05)	0.6
CV%	12.3

Grain Composition and Lodging, Szeged, Hungary

Cultivar/ Designation	LODGING (%)	NIR %WET GLUTEN	NIR HARD- NESS	NIR %GRAIN PROTEIN
1 ERNIE	0	28	37	12
2 COKER 9835	0	29	40	13
3 BESS	0	24	37	12
4 JAMESTOWN	0	26	38	12
5 TRIBUTE	0	28	62	12
6 AR 97002-10-2	0	31	43	13
7 AR 97002-2-1	0	30	33	13
8 AR 97124-4-2	0	31	45	13
9 MD01W233-06-1	0	33	53	13
10 GA991109-6E8	0	23	38	11
11 GA991371-6E12	0	31	52	13
12 AR 99028-1-1	0	26	26	12
13 AR 99039-5-2	0	29	34	13
14 AR 99263-7-1	0	27	48	12
15 ARGE97-1047-2	0	28	49	12
16 B030543	0	24	43	11
17 D04*5546	0	28	52	12
18 D05*6437	0	30	47	13
19 GA031454-DH7	0	30	58	13
20 GA031454-DH31	0	35	62	14
21 GA031307-DH6	0	31	47	13
22 GA031307-DH14	0	27	49	12
23 GA031354-DH30	0	33	60	13
24 GA981621-5E34	0	28	51	12
25 LA01141D-138-4-B	0	33	69	13
26 LA01150D-79-7-B	0	28	31	13
27 LA01162D-131-8-B	0	30	39	13
28 LA01162D-136-8-B	0	29	40	13
29 LA01164D-94-2-B	0	29	44	13
30 NC05-25062	0	32	62	13
31 NC05-25059	0	31	63	13
32 NC05-25066	0	34	69	14
33 NC05-21090	0	29	30	13
34 NC05-19896	0	27	41	12
35 NC05-24730	0	27	34	12
36 NC05-24112	40	28	56	12
37 MD01W233-06-16	0	33	63	13
38 MD99W483-06-11	0	32	46	13
39 M03-3616B	0	27	36	12
40 M03-3616C	0	27	33	12
41 M04-4802	0	27	44	12
42 M04-4566	0	28	38	13
43 M04-4715	0	30	48	13
44 M04*5109	0	26	48	12
45 M05-1172	0	31	53	13
46 M05*1589	60	27	24	12
47 VA04W-360	0	32	32	14
48 VA05W-510	100	32	52	13
49 VA05W-714	0	32	42	14
50 VA05W-641	0	33	52	14
51 VA06W-600	0	26	31	12
52 VA06W-608	100	31	49	13
Mean	.	29	46	13

DON (ppm)

Cultivar/ Designation	DON B'BURG VA		DON URBANA IL		DON KINSTON NC		DON F'VILLE AR		DON KIBLER AR		DON S'BURY MD		DON LEX'TON KY		MEAN ALL LOC.	
	RANK		RANK		RANK		RANK		RANK		RANK		RANK		RANK	
1 ERNIE	1	2	14	5	4	18	9	35	6	28	3	26	28	46	6	6
2 COKER 9835	3	23	60	33	7	43	11	42	15	51	5	49	27	43	17	51
3 BESS	2	14	18	8	3	10	6	16	3	2	2	12	11	6	6	6
4 JAMESTOWN	1	2	24	15	3	10	4	4	4	12	2	12	17	24	6	6
5 TRIBUTE	1	2	21	11	4	18	6	16	5	22	3	26	11	6	7	11
6 AR 97002-10-2	4	36	60	33	5	32	6	16	5	22	4	40	23	36	14	47
7 AR 97002-2-1	0	1	--	.	3	10	5	7	3	2	1	1	12	10	7	11
8 AR 97124-4-2	3	23	20	10	4	18	7	27	3	2	2	12	18	27	7	11
9 MD01W233-06-1	2	14	9	1	3	10	3	1	3	2	1	1	10	4	3	1
10 GA991109-6E8	1	2	--	.	5	32	7	27	4	12	4	40	20	32	9	21
11 GA991371-6E12	6	48	--	.	10	49	13	46	10	43	6	51	33	48	14	47
12 AR 99028-1-1	4	36	42	28	4	18	9	35	11	46	1	1	28	46	12	35
13 AR 99039-5-2	8	51	39	26	4	18	10	39	7	33	3	26	17	24	12	35
14 AR 99263-7-1	3	23	22	12	4	18	5	7	3	2	3	26	24	41	7	11
15 ARGE97-1047-2	5	41	--	.	9	47	12	43	11	46	4	40	34	49	13	41
16 B030543	3	23	14	5	2	2	5	7	2	1	1	1	11	6	4	2
17 D04*5546	5	41	49	29	5	32	10	39	5	22	1	1	14	16	13	41
18 D05*6437	4	36	40	27	8	46	13	46	10	43	2	12	27	43	13	41
19 GA031454-DH7	2	14	--	.	5	32	9	35	4	12	4	40	16	18	9	21
20 GA031454-DH31	0	1	11	2	22	52	22	52	12	50	6	51	41	51	29	52
21 GA031307-DH6	5	41	--	.	6	41	13	46	11	46	5	49	40	50	13	41
22 GA031307-DH14	3	23	61	35	7	43	8	31	7	33	3	26	23	36	15	49
23 GA031354-DH30	7	50	--	.	10	49	15	51	6	28	4	40	23	36	13	41
24 GA981621-5E34	6	48	--	.	9	47	13	46	7	33	3	26	24	41	12	35
25 LA01141D-138-4-B	3	23	--	.	4	18	7	27	4	12	2	12	23	36	9	21
26 LA01150D-79-7-B	4	36	--	.	4	18	5	7	8	40	3	26	48	52	10	31
27 LA01162D-131-8-B	1	2	--	.	3	10	4	4	3	2	1	1	16	18	7	11
28 LA01162D-136-8-B	9	52	--	.	2	2	12	43	4	12	3	26	16	18	11	35
29 LA01164D-94-2-B	3	23	--	.	2	2	13	46	3	2	2	12	16	18	9	21
30 NC05-25062	5	41	33	21	3	10	10	39	9	41	2	12	18	27	10	31
31 NC05-25059	3	23	--	.	5	32	12	43	15	51	3	26	19	30	12	35
32 NC05-25066	1	2	--	.	2	2	6	16	9	41	2	12	13	13	9	21
33 NC05-21090	3	23	--	.	4	18	6	16	3	2	4	40	20	32	9	21
34 NC05-19896	5	41	--	.	5	32	7	27	3	2	2	12	21	36	9	21
35 NC05-24730	3	23	25	16	5	32	6	16	5	22	2	12	11	6	8	18
36 NC05-24112	5	41	50	30	3	10	6	16	11	46	1	1	16	18	12	35
37 MD01W233-06-16	1	2	23	13	2	2	4	4	7	33	1	1	10	4	6	6
38 MD99W483-06-11	1	2	37	24	5	32	6	16	10	43	3	26	9	1	10	31
39 M03-3616B	4	36	12	3	1	1	3	1	5	22	1	1	12	10	4	2
40 M03-3616C	3	23	13	4	2	2	3	1	3	2	1	1	17	24	4	2
41 M04-4802	2	14	33	21	5	32	9	35	7	33	4	40	20	32	10	31
42 M04-4566	5	41	53	31	12	51	8	31	7	33	4	40	27	43	15	49
43 M04-4715	1	2	34	23	7	43	5	7	7	33	3	26	12	10	9	21
44 M04*5109	3	23	53	31	4	18	8	31	5	22	3	26	19	30	13	41
45 M05-1172	2	14	15	7	4	18	5	7	4	12	3	26	15	17	5	5
46 M05*1589	2	14	28	18	4	18	6	16	4	12	2	12	20	32	8	18
47 VA04W-360	1	2	23	13	4	18	6	16	4	12	2	12	13	13	7	11
48 VA05W-510	3	23	19	9	2	2	5	7	4	12	3	26	18	27	6	6
49 VA05W-714	2	14	28	18	2	2	5	7	4	12	2	12	9	1	7	11
50 VA05W-641	2	14	38	25	3	10	5	7	6	28	1	1	13	13	9	21
51 VA06W-600	1	2	27	17	4	18	6	16	6	28	2	12	9	1	8	18
52 VA06W-608	2	14	32	20	6	41	8	31	6	28	4	40	16	18	9	21

Mean	3	30	5	8	6	3	19	8
L.S.D.(0.05)	3	15	3	5	3	2	5	13
CV%	67	24	32	37	30	37	21	81

Greenhouse Screening

Cultivar/ Designation	MO	VA	MEAN	RANK	NC	MO	VA	MEAN	RANK	AR	GA
	SEVERITY %	SEVERITY %	SEVERITY %		SPREAD #	SPREAD #	SPREAD #	SPREAD %		TYPE 1	RATING 0-4
1 ERNIE	6	35	21	14	1	1	5	2	4	2.1	2.75
2 COKER 9835	44	96	70	50	13	6	13	11	49	1.9	2.57
3 BESS	6	31	18	11	1	1	5	2	4	0.4	1.29
4 JAMESTOWN	13	50	32	26	1	1	7	3	14	6.4	3
5 TRIBUTE	20	80	50	40	4	2	12	6	34	0.1	1.71
6 AR 97002-10-2	20	84	52	41	9	4	13	9	44	0.1	3.71
7 AR 97002-2-1	7	17	12	4	1	1	2	1	1	1.4	2.6
8 AR 97124-4-2	16	83	49	38	11	3	12	9	44	0.9	1.86
9 MD01W233-06-1	11	19	15	8	2	2	3	2	4	0	1.6
10 GA991109-6E8	9	100	55	42	13	1	15	9	44	0.1	2.67
11 GA991371-6E12	27	98	63	48	15	4	14	11	49	0.3	2.17
12 AR 99028-1-1	7	42	24	17	NV	1	6	4	23	0.6	1.8
13 AR 99039-5-2	18	39	28	20	12	3	5	7	38	3.3	1
14 AR 99263-7-1	5	41	23	16	2	1	5	3	14	0.1	2.29
15 ARGE97-1047-2	17	100	58	44	17	2	14	11	49	0.3	2.85
16 B030543	6	88	47	36	1	1	12	5	27	0.6	2.5
17 D04*5546	23	61	42	32	5	3	6	5	27	0	1.57
18 D05*6437	34	86	60	46	5	5	13	8	43	1.7	2
19 GA031454-DH7	46	100	73	51	12	7	15	11	49	0	2.85
20 GA031454-DH31	31	100	65	49	NV	4	13	9	44	1	2.71
21 GA031307-DH6	18	33	25	18	NV	3	4	3	14	0.9	2.14
22 GA031307-DH14	16	69	42	32	NV	2	9	5	27	3.7	.
23 GA031354-DH30	17	49	33	27	NV	3	8	5	27	0.3	1
24 GA981621-5E34	15	79	47	36	NV	2	12	7	38	0	1
25 LA01141D-138-4-B	13	100	56	43	6	1	15	7	38	0.3	1.71
26 LA01150D-79-7-B	9	89	49	38	3	1	13	6	34	1.4	2.14
27 LA01162D-131-8-B	5	21	13	5	1	1	3	1	1	0.9	1.57
28 LA01162D-136-8-B	14	31	22	15	5	3	4	4	23	0.1	2.71
29 LA01164D-94-2-B	13	43	28	20	1	2	7	3	14	0.4	2
30 NC05-25062	7	26	16	10	NV	1	3	2	4	0.7	1.33
31 NC05-25059	8	7	7	1	4	1	1	2	4	1.1	1.86
32 NC05-25066	7	8	8	2	1	1	1	1	1	0.4	1.67
33 NC05-21090	15	15	15	8	1	2	2	2	4	0.2	3
34 NC05-19896	17	38	28	20	2	2	5	3	14	1	3
35 NC05-24730	26	93	59	45	13	3	13	10	48	0	2.85
36 NC05-24112	34	58	46	34	2	4	8	5	27	1	1.43
37 MD01W233-06-16	15	77	46	34	1	2	11	5	27	0.9	1.43
38 MD99W483-06-11	46	17	31	24	3	6	2	4	23	6	2.29
39 M03-3616B	8	13	11	3	NV	2	2	2	4	3	1.14
40 M03-3616C	8	18	13	5	2	1	3	2	4	2.1	1.14
41 M04-4802	20	100	60	46	1	4	17	7	38	0.6	1.43
42 M04-4566	32	46	39	31	5	6	7	6	34	0.9	2.71
43 M04-4715	47	100	74	52	5	5	12	7	38	3	2.29
44 M04*5109	12	57	34	29	2	2	5	3	14	1.4	1.17
45 M05-1172	25	42	34	28	5	4	8	6	34	0.6	2.29
46 M05*1589	13	28	20	13	4	2	4	3	14	0	1
47 VA04W-360	7	19	13	5	2	1	4	2	4	0.1	2.43
48 VA05W-510	12	48	30	23	1	1	6	3	14	1	1.86
49 VA05W-714	15	39	27	19	2	2	6	3	14	0	2
50 VA05W-641	6	56	31	24	6	1	10	5	27	0	3
51 VA06W-600	13	58	35	30	1	2	9	4	23	1	2
52 VA06W-608	19	17	18	11	1	3	2	2	4	1	1

Mean	17	55	36	.	2	8	5	1.1	2.0
L.S.D.(0.05)	.	39	.	.	.	6	.	.	0.75
CV%	.	51	.	.	.	52	.	.	0.33

SSR Analyses of 3BS, 5A, and 2DL Regions Associated with FHB Resistance and Other Pertinent Loci

CULTIVAR/ DESIGNATION	<i>Fhb1</i>	<i>3BSc</i>	<i>2DS</i> <i>Wuhan1</i>	<i>5AS</i> <i>Chinese</i>	<i>Sr24</i>	<i>1RS</i>	<i>Sr36</i>	<i>H13</i>	<i>H9</i>	<i>Bx7</i> oe allele	<i>Yr17/Lr37/</i> <i>Sr38</i>	<i>BVd2/</i> <i>Bvd3</i>	<i>Lr34/</i> <i>Yr18</i>
1 ERNIE	yes ¹						yes						
2 COKER 9835													
3 BESS													
4 JAMESTOWN													
5 TRIBUTE					yes	<i>t1RS.1AL</i>							
6 AR 97002-10-2				hetero									
7 AR 97002-2-1				yes			yes						
8 AR 97124-4-2													
9 MD01W233-06-1						<i>t1RS.1AL</i>							
10 GA991109-6E8													
11 GA991371-6E12						<i>t1RS.1AL</i>					yes		
12 AR 99028-1-1													
13 AR 99039-5-2		?											
14 AR 99263-7-1													
15 ARGE97-1047-2													
16 B030543							yes						
17 D04*5546										yes			
18 D05*6437													
19 GA031454-DH7											yes		
20 GA031454-DH31											yes		
21 GA031307-DH6													
22 GA031307-DH14										yes	yes		
23 GA031354-DH30													
24 GA981621-5E34										yes			
25 LA01141D-138-4-B										yes	yes		
26 LA01150D-79-7-B										yes	yes		
27 LA01162D-131-8-B	yes									yes	yes		
28 LA01162D-136-8-B	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
29 LA01164D-94-2-B	yes			yes			yes			yes	yes		
30 NC05-25062	yes						yes						
31 NC05-25059	yes						yes						nd
32 NC05-25066	yes				nd		yes						
33 NC05-21090		?					yes				yes		
34 NC05-19896							yes				yes		
35 NC05-24730							yes						
36 NC05-24112					yes	<i>t1RS.1AL</i>	yes						nd
37 MD01W233-06-16					yes	<i>t1RS.1AL</i>							
38 MD99W483-06-11							yes						
39 M03-3616B													
40 M03-3616C					no								
41 M04-4802	hetero												
42 M04-4566													
43 M04-4715	yes												
44 M04*5109										hetero			
45 M05-1172							yes						
46 M05*1589		?											yes
47 VA04W-360							yes						hetero
48 VA05W-510	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
49 VA05W-714	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
50 VA05W-641	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
51 VA06W-600	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
52 VA06W-608	yes				nd		yes						

¹ 'yes' indicates gene is present, a blank indicates the gene is absent. 'nd' indicateds no data were obtained. 'hetero' indicates the locus was heterozygous

Heading Date (Julian Days*)

	URBANA IL	COL'BIA MO	KINSTON NC	B'BURG VA	S'BURY MD	LEX'TON KY	F'VILLE AR	BAY AR	CROWLEY LA	FUN'LEA ROM	SZEGED HUN	MEAN ALL LOC.	RANK
1 ERNIE	145	141	95	127	117	128	109	118	90	129	134	117	5
2 COKER 9835	149	149	104	131	119	135	111	122	88	134	140	121	21
3 BESS	148	148	106	130	118	133	111	124	100	133	139	122	29
4 JAMESTOWN	145	143	89	126	116	126	109	117	89	126	137	116	1
5 TRIBUTE	145	145	104	127	118	131	112	120	96	133	137	121	21
6 AR 97002-10-2	149	148	110	132	123	132	114	122	110	134	137	125	47
7 AR 97002-2-1	--	145	103	127	116	128	110	117	99	127	135	119	11
8 AR 97124-4-2	143	147	106	129	118	128	113	122	102	133	135	121	21
9 MD01W233-06-1	147	144	109	131	118	132	113	124	100	132	135	123	34
10 GA991109-6E8	147	144	90	126	117	127	108	118	88	126	135	116	1
11 GA991371-6E12	--	145	90	129	117	132	110	123	86	133	135	118	9
12 AR 99028-1-1	145	146	98	128	119	134	112	122	97	129	134	120	16
13 AR 99039-5-2	149	148	112	136	126	140	116	129	110	136	140	128	52
14 AR 99263-7-1	146	148	103	134	121	134	114	124	97	136	139	123	34
15 ARGE97-1047-2	--	148	89	128	116	131	110	120	88	132	138	117	5
16 B030543	149	149	104	132	119	133	113	123	103	133	137	123	34
17 D04*5546	148	148	95	133	119	131	113	124	89	136	137	121	21
18 D05*6437	149	148	104	134	120	134	113	123	99	136	138	123	34
19 GA031454-DH7	146	143	93	131	119	132	113	122	100	132	136	121	21
20 GA031454-DH31	151	147	106	131	119	132	113	122	102	134	137	123	34
21 GA031307-DH6	--	143	101	130	118	131	113	123	103	132	137	122	29
22 GA031307-DH14	149	146	103	127	116	128	110	120	96	129	135	120	16
23 GA031354-DH30	--	148	107	135	120	139	115	128	102	138	140	126	50
24 GA981621-5E34	--	146	93	134	119	135	112	125	93	137	138	121	21
25 LA01141D-138-4-B	--	143	96	126	116	132	108	116	87	126	134	116	1
26 LA01150D-79-7-B	--	145	93	126	116	134	107	120	87	130	135	117	5
27 LA01162D-131-8-B	--	147	89	127	118	133	108	123	89	130	136	117	5
28 LA01162D-136-8-B	--	148	89	134	119	134	112	126	90	133	137	120	16
29 LA01164D-94-2-B	--	147	94	131	119	135	110	126	88	134	137	120	16
30 NC05-25062	150	151	92	135	119	137	113	124	97	135	139	122	29
31 NC05-25059	--	146	92	132	119	134	112	124	96	133	139	121	21
32 NC05-25066	--	146	93	129	117	129	110	118	96	129	138	118	9
33 NC05-21090	--	147	105	132	119	133	113	123	107	130	137	123	34
34 NC05-19896	--	149	107	130	117	131	112	123	103	129	136	122	29
35 NC05-24730	147	149	107	131	119	135	113	127	99	133	138	123	34
36 NC05-24112	149	150	89	129	118	132	111	121	87	135	138	119	11
37 MD01W233-06-16	148	149	106	131	119	134	112	123	97	133	137	123	34
38 MD99W483-06-11	144	142	88	126	115	126	108	116	93	128	135	116	1
39 M03-3616B	146	148	113	133	122	138	119	129	110	136	139	127	51
40 M03-3616C	143	149	110	131	120	133	116	124	110	132	135	124	45
41 M04-4802	146	149	110	132	119	133	114	126	110	134	139	125	47
42 M04-4566	146	149	108	133	119	133	113	123	107	130	136	123	34
43 M04-4715	142	141	103	127	116	127	111	119	97	128	135	119	11
44 M04*5109	147	149	93	131	120	132	112	121	100	134	137	121	21
45 M05-1172	145	148	110	132	120	136	114	126	103	137	139	125	47
46 M05*1589	145	149	108	129	120	133	114	125	110	129	136	123	34
47 VA04W-360	145	149	105	128	118	131	112	125	97	128	136	121	21
48 VA05W-510	146	145	95	126	118	131	110	122	92	129	139	119	11
49 VA05W-714	146	149	96	128	118	128	111	122	92	134	137	119	11
50 VA05W-641	146	143	94	128	118	129	111	122	97	133	135	120	16
51 VA06W-600	144	150	107	130	120	130	112	123	107	133	135	123	34
52 VA06W-608	147	147	105	128	119	133	113	124	110	133	137	124	45

Mean	146	147	100	130	118	132	112	98	132	137	120
L.S.D.(0.05)	3		5	3	2	0.3	.	1	.	.	7
CV%	6		3	1	1	1	.	2	.	.	3

Plant Height (in)

CULTIVAR/ DESIGNATION	KINSTON	LEX'TON	S'BURY	FUN'LEA	SZEGED	MEAN	RANK
	NC	KY	MD	ROM	HUN	ALL LOC.	
1 ERNIE	37	32	25	38	35	33	7
2 COKER 9835	34	31	24	40	29	32	4
3 BESS	40	35	27	40	33	35	30
4 JAMESTOWN	34	32	29	35	31	33	7
5 TRIBUTE	36	34	23	33	31	32	4
6 AR 97002-10-2	37	35	28	40	44	35	30
7 AR 97002-2-1	38	32	25	38	40	33	7
8 AR 97124-4-2	42	38	32	42	35	38	49
9 MD01W233-06-1	37	33	30	35	31	34	18
10 GA991109-6E8	38	34	32	38	33	35	30
11 GA991371-6E12	37	33	30	38	33	34	18
12 AR 99028-1-1	36	28	25	31	34	30	1
13 AR 99039-5-2	33	35	31	38	38	34	18
14 AR 99263-7-1	41	38	32	44	42	39	51
15 ARGE97-1047-2	38	35	26	42	29	35	30
16 B030543	39	33	28	35	38	34	18
17 D04*5546	38	37	31	35	38	35	30
18 D05*6437	42	35	30	38	42	36	39
19 GA031454-DH7	41	36	30	42	44	37	45
20 GA031454-DH31	43	36	30	40	38	37	45
21 GA031307-DH6	36	34	28	35	35	33	7
22 GA031307-DH14	40	33	27	35	33	34	18
23 GA031354-DH30	33	31	27	29	31	30	1
24 GA981621-5E34	45	39	31	42	42	39	51
25 LA01141D-138-4-B	37	32	27	44	44	35	30
26 LA01150D-79-7-B	39	33	27	38	40	34	18
27 LA01162D-131-8-B	39	35	30	42	44	36	39
28 LA01162D-136-8-B	41	35	31	38	33	36	39
29 LA01164D-94-2-B	42	36	31	40	40	37	45
30 NC05-25062	36	34	32	35	38	34	18
31 NC05-25059	36	32	28	35	40	33	7
32 NC05-25066	40	34	30	38	39	35	30
33 NC05-21090	40	32	24	40	40	34	18
34 NC05-19896	39	32	27	35	38	33	7
35 NC05-24730	37	30	30	38	36	33	7
36 NC05-24112	31	31	24	38	38	31	3
37 MD01W233-06-16	37	31	27	35	38	33	7
38 MD99W483-06-11	38	32	25	40	42	33	7
39 M03-3616B	34	35	29	35	38	33	7
40 M03-3616C	38	35	28	38	38	35	30
41 M04-4802	39	34	27	38	38	34	18
42 M04-4566	43	35	31	38	50	36	39
43 M04-4715	40	34	26	40	40	35	30
44 M04*5109	41	35	33	44	48	38	49
45 M05-1172	40	34	29	44	54	37	45
46 M05*1589	39	37	30	38	42	36	39
47 VA04W-360	38	33	28	38	46	34	18
48 VA05W-510	37	33	28	40	46	34	18
49 VA05W-714	37	36	31	42	48	36	39
50 VA05W-641	38	32	28	38	42	34	18
51 VA06W-600	39	34	25	35	42	33	7
52 VA06W-608	35	33	24	35	42	32	4

Mean	38	34	28	38	39	34
L.S.D.(0.05)	4	0.3	4	.	.	4
CV%	5	5	7	.	.	6

Winter Survival / Freeze Damage

	Winter Survival %	Freeze Damage (0-9)
	URBANA IL	B'STON IN
1 ERNIE	33	3
2 COKER 9835	47	5
3 BESS	22	2
4 JAMESTOWN	7	3
5 TRIBUTE	78	7
6 AR 97002-10-2	4	6
7 AR 97002-2-1	0	6
8 AR 97124-4-2	100	2
9 MD01W233-06-1	43	2
10 GA991109-6E8	1	3
11 GA991371-6E12	0	7
12 AR 99028-1-1	40	3
13 AR 99039-5-2	57	2
14 AR 99263-7-1	4	3
15 ARGE97-1047-2	0	8
16 B030543	32	6
17 D04*5546	78	5
18 D05*6437	13	7
19 GA031454-DH7	2	7
20 GA031454-DH31	4	9
21 GA031307-DH6	0	9
22 GA031307-DH14	2	9
23 GA031354-DH30	1	8
24 GA981621-5E34	0	6
25 LA01141D-138-4-B	0	7
26 LA01150D-79-7-B	0	6
27 LA01162D-131-8-B	1	7
28 LA01162D-136-8-B	0	6
29 LA01164D-94-2-B	0	5
30 NC05-25062	4	5
31 NC05-25059	1	7
32 NC05-25066	2	4
33 NC05-21090	0	4
34 NC05-19896	1	6
35 NC05-24730	47	4
36 NC05-24112	14	2
37 MD01W233-06-16	30	2
38 MD99W483-06-11	25	2
39 M03-3616B	100	1
40 M03-3616C	100	3
41 M04-4802	75	1
42 M04-4566	100	2
43 M04-4715	100	2
44 M04*5109	25	4
45 M05-1172	100	2
46 M05*1589	100	2
47 VA04W-360	52	4
48 VA05W-510	55	3
49 VA05W-714	35	3
50 VA05W-641	11.7	2.5
51 VA06W-600	100	5
52 VA06W-608	30	2.5

Mean	32	4
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Leaf and Viral Disease Ratings

CULTIVAR/ DESIGNATION	POWDERY MILDEW						BYDV % Plot	LEAF RUST		LEAF RUST %	STAG NODOR. (0-9)	LEAF SPOTS %
	(1-9)	(1-9)	(1-9)	%	%	%		(0-9)	%			
	B'BURG	K'TON	S'BURY	F'VILLE	Kibler	SZEGED		B'BURG	SZEGED			
	VA	NC	MD	AR	AR	HUN		VA	HUN			
1 ERNIE	5	3.0	5	15	0	0	1	2.5	40	50 MS	6	50
2 COKER 9835	5	4.0	0	5	1	0	2	0.5	0	20 MR-MS	2	10
3 BESS	5	4.0	3	43	1	5	0	7	20	80S	6	30
4 JAMESTOWN	3	1.0	0	4	0	0	1	2	0	R	5	10
5 TRIBUTE	0	0.5	0	1	0	0	2	0.5	0	TR MR	1	0
6 AR 97002-10-2	3	6.5	7	50	37	40	4	1	0	20 MR	6	40
7 AR 97002-2-1	6	5.0	5	43	17	50	3	0.5	0	TR MR	4	40
8 AR 97124-4-2	5	5.5	3	25	4	10	1	0.5	0	R	5	10
9 MD01W233-06-1	0	0.5	0	0	0	0	0	0	0	R	0	0
10 GA991109-6E8	8	4.5	4	8	0	0	1	5.5	0	R	6	0
11 GA991371-6E12	0	3.0	0	22	0	0	1	0.5	0	R	1	50
12 AR 99028-1-1	1	2.0	0	4	0	0	1	1.5	0	R	8	30
13 AR 99039-5-2	2	3.5	4	15	0	10	1	6	0	50 MR-MS	3	30
14 AR 99263-7-1	5	4.0	5	20	12	40	3	4.5	10	10 MR	6	5
15 ARGE97-1047-2	2	2.0	0	11	0	0	1	0.5	0	20 MR-MS	3	20
16 B030543	4	4.0	4	37	1	0	0	2	20	40 MS	4	20
17 D04*5546	5	4.5	3	50	1	20	2	0	0	R	3	30
18 D05*6437	2	2.5	0	15	1	0	0	0	0	R	4	30
19 GA031454-DH7	5	2.5	0	12	0	10	2	0	0	TR MR	2	10-70
20 GA031454-DH31	1	2.5	0	0	0	0	2	0	0	R	1	20
21 GA031307-DH6	1	1.0	0	0	0	0	0	2	0	20 MS	0	5
22 GA031307-DH14	0	1.0	0	0	1	0	3	0.5	0	TR MR	2	0-60
23 GA031354-DH30	1	1.0	0	1	0	0	0	4.5	0	R	3	50
24 GA981621-5E34	3	2.5	0	22	0	10	2	0	0	R	2	30
25 LA01141D-138-4-B	5	2.5	0	37	1	50	0	1	0	R	4	30
26 LA01150D-79-7-B	0	0.5	0	2	0	5	3	1	0	TR MR	2	30
27 LA01162D-131-8-B	7	3.5	0	30	1	40	1	0	0	R	2	30
28 LA01162D-136-8-B	6	3.0	0	25	6	40	0	0	0	R	7	30-60
29 LA01164D-94-2-B	3	3.5	3	25	3	20	2	0.5	0	R	6	30
30 NC05-25062	5	2.5	0	11	0	40	2	6	0	10 R-MR	8	30
31 NC05-25059	1	1.5	0	12	1	10	1	3	0	TR R	6	50
32 NC05-25066	5	1.0	0	12	1	20	2	1	0	20 R-MR	8	30
33 NC05-21090	1	1.0	5	1	1	60	2	0	0	10 MR	5	30
34 NC05-19896	6	2.5	6	8	0	60	2	0	0	TR MS	2	30
35 NC05-24730	7	4.5	5	37	6	70	0	1.5	0	20 MR-MS	8	40
36 NC05-24112	0	0.0	0	0	0	0	3	0.5	0	TR R	1	20
37 MD01W233-06-16	0	0.0	0	1	0	0	2	0	0	TR MR	0	10-50
38 MD99W483-06-11	5	2.0	5	12	0	50	1	5	70	50 MR-MS	5	40
39 M03-3616B	6	3.5	0	15	0	60	2	1	60	R	0	30
40 M03-3616C	3	2.0	0	10	0	40	2	5	S5	TR MR	1	50
41 M04-4802	0	3.5	0	7	0	0	2	4	t	70 MS-S	7	40
42 M04-4566	0	2.0	0	1	0	0	1	4.5	t	80 S	0	5
43 M04-4715	6	1.5	6	3	0	20	1	5	0	TR MR	0	70
44 M04*5109	7	4.0	7	30	3	40	1	3	5	80 S	6	50
45 M05-1172	6	5.5	2	37	2	40	0	6	0	20 MR MS	6	0
46 M05*1589	6	5.5	4	20	0	30	1	1	0	40 MS	3	40
47 VA04W-360	0	0.0	0	0	0	10	0	1	30	30 MR-MS	5	40
48 VA05W-510	2	0.5	0	1	0	30	0	6	0	TR MR	2	10
49 VA05W-714	1	0.0	3	1	0	20	3.5	4	0	R	4	50
50 VA05W-641	0	0.5	0	0	0	50	0.5	4	70	R	2	40
51 VA06W-600	6	4.5	0	30	1	60	1	1	10	30 MR-MS	3	20
52 VA06W-608	1	0.5	0	1	0	0	0.5	3	0	TR MR	4	0

Mean	3	3	2	15	2	20	1	2	7	.	3	28
L.S.D.(0.05)	3.6	2.0	.	11.6	7	.	2.0	2.3	.	.	3.6	.
CV%	58.6	34.4	.	35.5	166	.	87.9	55.4	.	.	58.7	.

Hessian Fly Screening (Resistant - Susceptible Plants)¹

CULTIVAR/ DESIGNATION	Biotype B	Biotype C	Biotype D	Biotype O	Biotype L
1 ERNIE	0-13	0-13	0-14	0-16	0-16
2 COKER 9835	0-16	1-16	0-15	16-2	0-15
3 BESS	0-16	0-17	0-13	0-17	0-15
4 JAMESTOWN	16-0	19-1	11-7	0-17	0-14
5 TRIBUTE	0-16	0-20	0-16	6-10	0-12
6 AR 97002-10-2	15-2	2-14	0-15	0-17	0-17
7 AR 97002-2-1	0-19	5-14	0-17	0-17	0-18
8 AR 97124-4-2	17-2	0-22	0-19	0-14	0-15
9 MD01W233-06-1	0-16	0-16	0-18	0-15	0-16
10 GA991109-6E8	0-21	0-19	0-17	0-14	0-16
11 GA991371-6E12	0-14	0-17	0-15	2-10	0-16
12 AR 99028-1-1	0-18	0-18	0-17	0-16	0-15
13 AR 99039-5-2	0-18	0-17	0-19	0-17	0-18
14 AR 99263-7-1	0-16	0-20	4-16	2-14	0-15
15 ARGE97-1047-2	0-14	0-21	0-20	0-17	0-16
16 B030543	0-15	0-20	0-19	0-18	0-13
17 D04*5546	0-18	0-18	0-17	18-0	0-18
18 D05*6437	0-19	0-18	0-21	15-0	0-15
19 GA031454-DH7	0-14	0-15	0-15	0-13	0-15
20 GA031454-DH31	0-17	0-16	0-11	0-13	0-16
21 GA031307-DH6	0-19	0-15	0-14	0-14	0-16
22 GA031307-DH14	0-7	0-14	0-9	0-9	0-10
23 GA031354-DH30	0-18	0-17	0-11	0-11	0-13
24 GA981621-5E34	0-18	0-18	1-17	1-17	0-15
25 LA01141D-138-4-B	0-18	0-15	0-16	0-16	0-15
26 LA01150D-79-7-B	0-20	0-15	0-16	0-16	0-14
27 LA01162D-131-8-B	0-18	0-19	0-17	0-17	0-16
28 LA01162D-136-8-B	0-21	0-21	0-15	0-15	0-14
29 LA01164D-94-2-B	0-16	0-17	0-19	0-19	0-15
30 NC05-25062	3-12	3-12	0-19	0-19	5-13 (?)
31 NC05-25059	2-13	4-9	0-13	0-13	0-15
32 NC05-25066	3-10	0-17	0-18	0-18	0-15
33 NC05-21090	0-18	0-21	0-19	0-19	0-19
34 NC05-19896	0-18	0-21	0-15	0-15	0-15
35 NC05-24730	0-14	0-13	0-13	0-13	0-15
36 NC05-24112	0-17	0-17	0-19	0-19	0-16
37 MD01W233-06-16	0-13	0-15	0-15	0-15	0-16
38 MD99W483-06-11	1-18	0-17	0-19	0-19	0-19
39 M03-3616B	19-0	19-0	18-0	18-0	0-16
40 M03-3616C	18-0	19-0	20-0	20-0	0-17
41 M04-4802	0-15	0-18	0-18	0-18	0-20
42 M04-4566	0-13	0-20	0-18	0-18	0-15
43 M04-4715	0-17	0-19	0-15	0-15	0-15
44 M04*5109	0-17	0-20	0-16	0-16	0-18
45 M05-1172	4-15	0-20	0-17	0-17	0-14
46 M05*1589	0-16	0-17	0-18	0-18	0-15
47 VA04W-360	0-17	0-19	0-18	0-18	0-16
48 VA05W-510	0-15	13-4	0-20	0-20	0-15
49 VA05W-714	0-15	0-18	0-18	0-18	0-14
50 VA05W-641	0-16	0-20	0-20	0-20	0-15
51 VA06W-600	0-16	0-18	0-14	0-14	0-16
52 VA06W-608	0-15	2-16	0-19	0-19	0-13

¹ Sue Cambron, USDA-ARS, Dept Entomology, Purdue Univ.

Milling and Baking Quality Scores¹

Cultivar/ Designation	MILLING QUALITY SCORE	BAKING QUALITY SCORE	SOFT. EQUIV. SCORE	TEST WT. LB/BU	ADJ. YIELD %	SOFT. EQUIV. %	FLOUR PROT. %	LACTIC ACID SRC	SUCRE. SRC %			
1 ERNIE	54.6	D	75.8	B	75.7	B	61.5	67.2	52.5	10.05	100.9	92.5
2 COKER 9835	66.8	C	78.8	B	92.9	A	61.2	69.6	58.5	9.73	77.5	96.1
3 BESS	67.8	C	73.0	B	73.8	B	62.4	69.8	51.9	10.14	87.6	93.1
4 JAMESTOWN	62.3	C	70.8	B	72.3	B	64.5	68.7	51.3	10.63	82.4	92.6
5 TRIBUTE	68.0	C	76.7	B	67.0	C	63.8	69.9	49.5	10.49	97.5	89.1
6 AR 97002-10-2	75.1	B	98.4	A	79.1	B	61.7	71.3	53.7	10.56	85.2	82.6
7 AR 97002-2-1	64.1	C	83.0	A	75.1	B	61.0	69.1	52.3	10.74	75.5	87.9
8 AR 97124-4-2	65.9	C	90.5	A	74.6	B	62.3	69.5	52.2	10.37	89.6	85.3
9 MD01W233-06-1	52.6	D	58.9	D	77.8	B	62.2	66.8	53.3	13.29	72.8	93.6
10 GA991109-6E8	67.9	C	70.7	B	65.0	C	64.2	69.8	48.8	9.45	97.0	93.3
11 GA991371-6E12	77.2	B	67.1	C	75.7	B	62.4	71.7	52.5	11.37	89.5	93.5
12 AR 99028-1-1	56.5	D	89.0	A	88.0	A	61.9	67.6	56.8	11.06	84.1	87.8
13 AR 99039-5-2	56.7	D	46.8	E	76.3	B	62.6	67.6	52.7	11.68	91.1	101.7
14 AR 99263-7-1	65.6	C	77.3	B	66.9	C	61.5	69.4	49.5	10.90	92.9	88.0
15 ARGE97-1047-2	75.4	B	84.1	A	76.3	B	62.4	71.3	52.8	10.48	87.4	88.2
16 B030543	70.9	B	85.5	A	58.0	D	63.3	70.4	46.3	10.32	78.9	83.5
17 D04*5546	74.4	B	85.0	A	79.2	B	61.8	71.1	53.8	10.34	92.9	88.8
18 D05*6437	65.8	C	83.0	A	83.6	A	61.7	69.4	55.3	10.27	95.5	91.0
19 GA031454-DH7	72.1	B	75.6	B	68.6	C	59.4	70.7	50.1	12.39	81.0	86.1
20 GA031454-DH31	63.0	C	55.1	D	69.4	C	61.5	68.9	50.3	11.75	106.7	96.3
21 GA031307-DH6	61.6	C	67.1	C	56.2	D	62.3	68.6	45.7	11.36	83.1	88.8
22 GA031307-DH14	67.7	C	73.2	B	62.4	C	63.7	69.8	47.9	10.98	88.5	88.4
23 GA031354-DH30	76.2	B	38.8	F	25.6	F	61.9	71.5	35.0	14.99	60.1	85.9
24 GA981621-5E34	71.4	B	75.6	B	89.7	A	60.3	70.5	57.4	11.30	87.3	93.5
25 LA01141D-138-4-B	66.7	C	51.2	D	67.2	C	62.6	69.6	49.6	11.91	72.9	97.1
26 LA01150D-79-7-B	62.8	C	47.2	E	72.3	B	63.3	68.8	51.3	11.23	110.8	101.5
27 LA01162D-131-8-B	77.7	B	71.5	B	71.2	B	61.8	71.8	51.0	10.90	86.4	91.5
28 LA01162D-136-8-B	68.4	C	48.4	E	66.2	C	58.9	69.9	49.2	12.18	60.7	97.5
29 LA01164D-94-2-B	71.3	B	75.1	B	67.5	C	58.7	70.5	49.7	11.58	65.1	87.7
30 NC05-25062	70.1	B	26.6	F	9.9	F	60.8	70.3	29.5	14.13	51.1	89.0
31 NC05-25059	75.3	B	50.6	D	19.6	F	61.2	71.3	32.9	13.92	52.1	81.6
32 NC05-25066	76.5	B	39.3	F	16.9	F	62.4	71.6	32.0	14.13	59.8	85.3
33 NC05-21090	65.9	C	77.9	B	79.2	B	62.2	69.5	53.8	10.36	97.2	91.9
34 NC05-19896	77.6	B	80.7	A	62.1	C	63.7	71.8	47.8	10.66	96.7	85.8
35 NC05-24730	73.8	B	82.5	A	61.9	C	62.1	71.0	47.7	10.71	93.7	84.9
36 NC05-24112	64.8	C	57.1	D	64.7	C	63.5	69.2	48.7	10.84	99.0	96.2
37 MD01W233-06-16	51.9	D	65.4	C	60.7	C	64.6	66.7	47.3	11.25	82.2	90.8
38 MD99W483-06-11	70.8	B	65.3	C	71.4	B	63.3	70.4	51.0	10.36	95.3	95.4
39 M03-3616B	69.3	C	94.8	A	75.4	B	62.2	70.1	52.4	10.14	64.4	84.1
40 M03-3616C	60.9	C	88.1	A	71.0	B	63.1	68.5	50.9	10.54	69.9	85.1
41 M04-4802	65.7	C	82.1	A	93.2	A	59.7	69.4	58.7	9.61	110.6	95.1
42 M04-4566	72.6	B	85.1	A	83.3	A	61.5	70.8	55.2	9.19	87.4	92.2
43 M04-4715	52.0	D	70.2	B	61.1	C	60.6	66.7	47.4	10.61	95.9	90.2
44 M04*5109	73.0	B	90.1	A	77.3	B	63.2	70.9	53.1	9.52	102.5	87.9
45 M05-1172	62.4	C	74.3	B	53.7	D	65.1	68.8	44.8	9.84	91.1	88.2
46 M05*1589	62.4	C	94.7	A	77.4	B	63.0	68.7	53.1	9.82	97.7	85.3
47 VA04W-360	65.7	C	68.6	C	81.9	A	63.0	69.4	54.7	10.77	114.9	95.7
48 VA05W-510	69.1	C	79.0	B	66.9	C	64.0	70.1	49.5	9.90	88.3	89.3
49 VA05W-714	63.2	C	81.3	A	57.3	D	62.3	68.9	46.1	10.85	79.8	84.0
50 VA05W-641	62.3	C	52.9	D	64.7	C	62.9	68.7	48.7	10.87	103.9	98.0
51 VA06W-600	64.7	C	83.8	A	83.5	A	63.1	69.2	55.3	9.51	100.3	92.2
52 VA06W-608	62.5	C	86.5	A	80.0	A	62.2	68.8	54.1	9.75	96.3	89.6
Mean	66.9	C	72.1		68.2		62.2	69.7	49.9	11.0	86.8	90.4

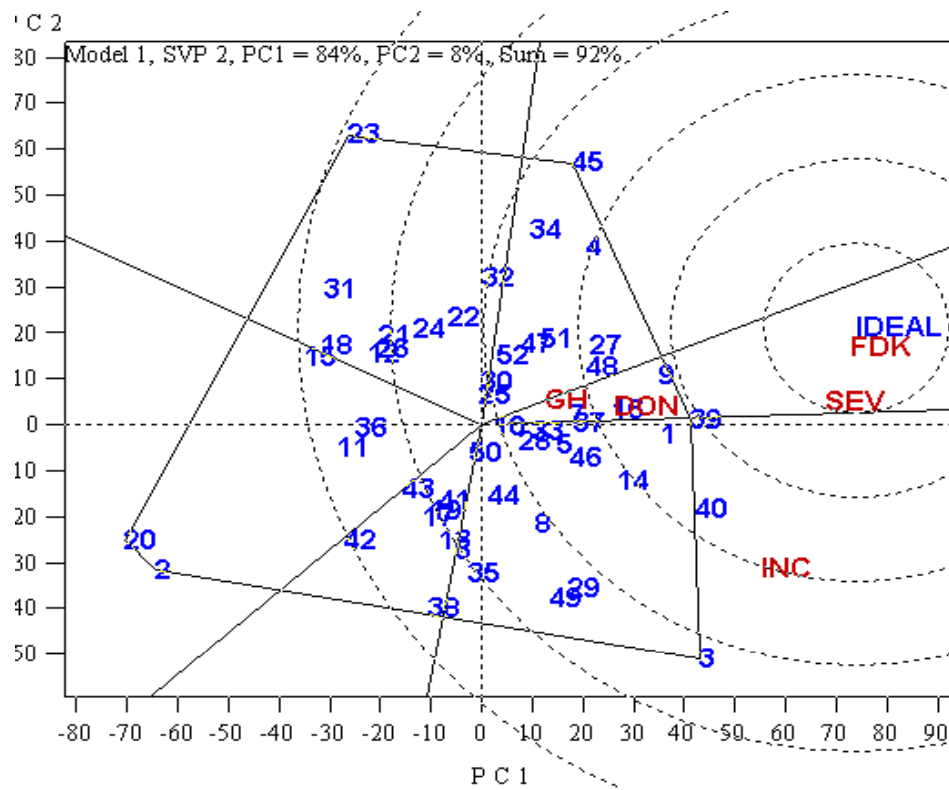
¹ Seed kindly supplied to USDA-ARS Wooster Quality Lab by Ben Edge, Clemson University

Means Across Locations 2007-08

Cultivar/ Designation	FHB	FHB	FHB	FDK		ISK		DON	G'hse	Heading	Plant	Fhb1 3BS	Qfhs.ifa-5A							
	Incidence	Severity	Index	RANK	RANK	RANK	RANK	RANK	# Florets	Date	Height									
1 ERNIE	52	24	15	3	16	2	27	5	6	2	4	117	5							
2 COKER 9835	77	47	54	51	57	51	63	51	17	51	11	49	121	21						
3 BESS	40	1	14	2	15	1	23	2	6	6	2	4	122	29						
4 JAMESTOWN	64	27	29	9	21	11	18	7	36	20	6	6	3	14	116	1	33	7		
5 TRIBUTE	58	12	33	15	21	11	24	15	32	12	7	11	6	34	121	21	32	4		
6 AR 97002-10-2	61	19	38	30	32	38	36	36	40	30	14	47	9	44	125	47	35	30		hetero
7 AR 97002-2-1	59	14	28	7	18	7	26	17	34	17	7	11	1	1	119	11	33	7		yes
8 AR 97124-4-2	57	11	33	15	23	14	29	22	39	28	7	11	9	44	121	21	38	49		
9 MD01W233-06-1	55	8	22	3	15	3	17	5	26	4	3	1	2	4	123	34	34	18		
10 GA991109-6E8	63	24	37	28	26	25	29	22	46	36	9	21	9	44	116	1	35	30		
11 GA991371-6E12	74	45	40	33	36	42	49	50	57	50	14	47	11	49	118	9	34	18		
12 AR 99028-1-1	72	42	52	49	39	45	35	32	46	36	12	35	4	23	120	16	30	1		
13 AR 99039-5-2	62	23	41	36	31	36	37	37	38	27	12	35	7	38	128	52	34	18		
14 AR 99263-7-1	54	7	23	4	16	5	24	15	32	12	7	11	3	14	123	34	39	51		
15 ARGE97-1047-2	77	47	53	50	47	50	42	45	56	49	13	41	11	49	117	5	35	30		
16 B030543	55	8	33	15	23	14	16	2	29	6	4	2	5	27	123	34	34	18		
17 D04*5546	64	27	41	36	27	26	39	41	41	31	13	41	5	27	121	21	35	30		
18 D05*6437	77	47	49	46	39	45	43	47	51	47	13	41	8	43	123	34	36	39		
19 GA031454-DH7	64	27	42	40	37	44	37	37	46	36	9	21	11	49	121	21	37	45		
20 GA031454-DH31	82	51	61	51	56	52	64	52	71	52	29	52	9	44	123	34	37	45		
21 GA031307-DH6	74	45	42	40	32	38	40	42	49	41	13	41	3	14	122	29	33	7		
22 GA031307-DH14	70	40	38	30	31	36	31	27	47	39	15	49	5	27	120	16	34	18		
23 GA031354-DH30	83	52	47	45	42	48	35	32	50	43	13	41	5	27	126	50	30	1		
24 GA981621-5E34	72	42	41	36	29	32	35	32	43	32	12	35	7	38	121	21	39	51		
25 LA01141D-138-4-B	65	31	38	30	29	32	30	25	45	34	9	21	7	38	116	1	35	30		
26 LA01150D-79-7-B	73	44	46	43	46	49	38	39	50	43	10	31	6	34	117	5	34	18		
27 LA01162D-131-8-B	60	18	28	7	20	9	21	10	33	15	7	11	1	1	117	5	36	39	yes	
28 LA01162D-136-8-B	61	19	33	15	23	14	29	22	35	18	11	35	4	23	120	16	36	39	nd	nd
29 LA01164D-94-2-B	52	3	31	11	25	21	28	19	30	7	9	21	3	14	120	16	37	45	yes	yes
30 NC05-25062	66	33	34	21	23	14	33	30	30	7	10	31	2	4	122	29	34	18	yes	
31 NC05-25059	80	50	43	42	34	41	47	49	50	43	12	35	2	4	121	21	33	7	yes	
32 NC05-25066	69	39	37	28	25	21	28	19	37	21	9	21	1	1	118	9	35	30	yes	
33 NC05-21090	61	19	30	10	23	14	30	25	33	15	9	21	2	4	123	34	34	18		
34 NC05-19896	68	37	33	15	27	26	22	11	37	21	9	21	3	14	122	29	33	7		
35 NC05-24730	59	14	40	33	27	26	35	32	37	21	8	18	10	48	123	34	33	7		
36 NC05-24112	71	41	49	46	36	42	41	43	48	40	12	35	5	27	119	11	31	3		
37 MD01W233-06-16	58	12	31	11	19	8	23	13	31	11	6	6	5	27	123	34	33	7		
38 MD99W483-06-11	59	14	46	43	32	38	38	39	49	41	10	31	4	23	116	1	33	7		
39 M03-3616B	52	3	17	1	17	6	17	5	20	1	4	2	2	4	127	51	33	7		
40 M03-3616C	48	2	18	2	13	1	18	7	24	3	4	2	2	4	124	45	35	30		
41 M04-4802	65	31	35	25	27	26	41	43	45	34	10	31	7	38	125	47	34	18		
42 M04-4566	67	35	51	48	39	45	43	47	53	48	15	49	6	34	123	34	36	39		
43 M04-4715	67	35	41	36	30	35	42	45	50	43	9	21	7	38	119	11	35	30		
44 M04*5109	61	19	34	21	24	20	34	31	37	21	13	41	3	14	121	21	38	49		
45 M05-1172	68	37	31	11	27	26	16	2	30	7	5	5	6	34	125	47	37	45		
46 M05*1589	56	10	34	21	23	14	22	11	35	18	8	18	3	14	123	34	36	39		
47 VA04W-360	64	27	35	25	25	21	26	17	37	21	7	11	2	4	121	21	34	18		
48 VA05W-510	59	14	31	11	22	13	20	9	30	7	6	6	3	14	119	11	34	18		nd
49 VA05W-714	52	3	36	27	25	21	28	19	37	21	7	11	3	14	119	11	36	39		nd
50 VA05W-641	63	24	40	33	27	26	32	29	39	28	9	21	5	27	120	16	34	18		nd
51 VA06W-600	63	24	34	21	20	9	23	13	32	12	8	18	4	23	123	34	33	7		nd
52 VA06W-608	66	33	33	15	29	32	31	27	43	32	9	21	2	4	124	45	32	4		

Mean	62	36	27	30	37	8	5	120	34		
L.S.D.(0.05)	29	26	23	22	17	13	4	7	4		
CV%	23	36	44	38	23	81	60	3	6		

Genotype-by-Trait Biplot

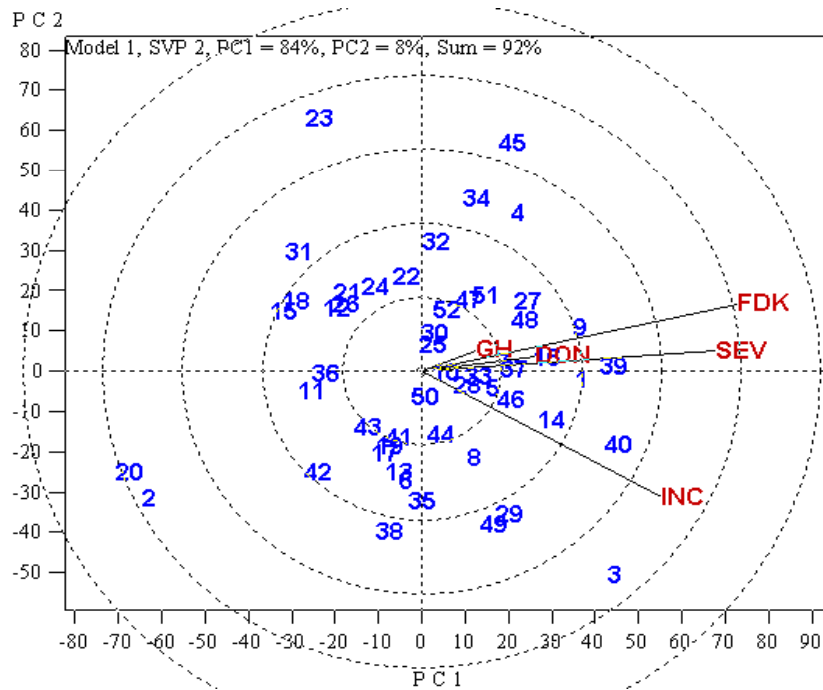


The FHB Index and ISK were omitted from this analysis.

The theoretical 'Ideal' FHB phenotypic trait for this data set was a combination of FDK and Severity. FDK, Severity, DON and Greenhouse evaluations comprised one "Mega-Trait". Entries 3, 39, 40 and 49 displayed notably low Incidence, and entries 1, 3, 9, 16, 37, 39 and 40, displayed overall superiority for FDK, Severity, DON and Greenhouse evaluations.

Correlations Between Traits Over Locations

	SEVERITY	INDEX	FDK	ISK	DON	G'HOUSE TYPE 2	HEADING DATE	PLANT HEIGHT
INCIDENCE	0.76	0.82	0.73	0.82	0.70	0.40	ns	ns
SEVERITY		0.94	0.86	0.8	0.58	0.57	ns	ns
INDEX			0.85	0.91	0.81	0.63	ns	ns
FDK				0.91	0.87	0.59	ns	ns
ISK					0.83	0.62	ns	ns
VOMITOXIN (DON)						0.46	ns	ns
G'HOUSE TYPE 2							ns	ns
HEADING DATE								ns



Vector view of the entry-by-trait biplot showing the interrelationships among resistance traits. Field-based estimates of Severity, FDK and DON, plus greenhouse-based Number of Florets Infected, had greater correlations with each other than they had with field-based Incidence. Incidence, Severity and FDK were the most discriminating variables and displayed the largest standard deviation.

Entries 3 (Bess) 9 (MD01W233-06-1) 39 (M03-3616B) and 49 (M03-3616C) displayed the best resistance based on the combined estimates of Incidence, Severity, FDK DON and GH.