SWEET CORN HYBRID DISEASE NURSERY – 2007

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Common rust, northern leaf blight (NLB), Stewart's wilt, maize dwarf mosaic (MDM) and southern leaf blight (SLB) can reduce yields of susceptible and moderately susceptible sweet corn hybrids. These diseases can be managed more efficiently if reactions of hybrids are known.

Resistance and susceptibility are the two extremes of a continuum of host reactions to diseases. Resistance is a measure of the ability of the host to reduce the growth, reproduction, and/or disease-producing abilities of the pathogen, thus resulting in less severe symptoms of disease. Major genes for resistance, such as *Rp1-D*, *Ht1*, or *Mdm1*, can prevent or substantially limit disease development if specific virulence (i.e., races) is not prevalent in pathogen populations. Hybrids with major gene resistance usually have clearly distinguishable phenotypes. Major gene resistance may be ineffective if specific virulence occurs, such as the Rp1-D-virulent race of the common rust fungus and race 1 of the northern leaf blight fungus.

In the absence of effective major gene resistance, disease reactions often range from partially resistant to susceptible. Hybrids can be grouped into broad classes such as: resistant (R), moderately resistant (MR), moderate (M), moderately susceptible (MS), and susceptible (S) based on severity of disease symptoms. This procedure produces statistically "overlapping" groups without clear-cut differences between groups (e.g., the hybrid with least severe symptoms in the MR class does not differ significantly from the hybrid with the most severe symptoms in the R class). Thus, disease reaction categories are somewhat arbitrary. Nevertheless, a consistent response over several trials produces a reasonable estimate of the disease reaction of a hybrid relative to the response of other hybrids. These reactions can be used to assess the potential for diseases to become severe and affect yield.

Sweet corn hybrids can also be damaged by certain postemergence herbicides. Reactions of hybrids to herbicides can be classified in a manner similar to disease reactions. This information can be used to identify sweet corn hybrids with the greatest risk of being damaged and to develop lists of hybrids on which specific herbicides should not be used.

This report summarizes the reactions of 249 sweet corn hybrids to Stewart's wilt, common rust, NLB, MDM, and SLB based on their performance in the University of Illinois sweet corn disease nursery in 2007. The reactions of these hybrids to post-emergence applications of Callisto (mesotrione) and Laudis (tembotrione) herbicides also are reported.

MATERIALS AND METHODS

Hybrids: Two hundred and forty-nine sweet corn hybrids and three popcorn lines were evaluated in 2007. This included 118 *sh2* hybrids, 66 *se* hybrids and 65 *su* hybrids. Hybrids with multiple endosperm mutations were placed in the most appropriate of these three categories. Standard hybrids with relatively consistent reactions to common rust, Stewart's wilt, NLB, MDM, and SLB (Table 1) were included to compare the results of the 2007 nursery to those from previous nurseries.

Table 1. Reactions of sweet corn hybrids included as standards in the 2007 disease nursery

	Stewart's wilt			Rust races (07)				NLB (races 0 & 1)			MDM A&B			SLB		
Hybrid	Prior	07	Rating	Prior	avir	G	D	Prior	07	Rating	Prior	07	Rating	Prior	07	Rating
277A	4	5	3.5	6	6	7	6	5	5	31%	9	7	78%	3	7	4.5
Ambrosia	2	2	1.7	5	6	7	6	5	6	35%	9	9	95%	6	.	.
Bonus	1	1	1.3	Rp	Rp	Rp	3	5	4	26%	1	2	7%	7	6	4.3
El Toro	4	2	2.0	Rp	Rp	Rp	8	7	5	30%	2	3	18%	4	3	2.5
Eliminator	2	1	1.3	Rp	Rp	Rp	7	6	6	32%	1	2	2%	6	8	5.0
Green Giant 27	2	2	1.7	2	2	3	2	3	3	22%	8	9	95%	4	2	2.0
GH 1829	5	3	2.5	Rp	Rp	5	Rp	6	5	29%	9	9	91%	6	4	3.0
Jubilee	9	9	4.8	5	7	7	7	8	9	45%	9	9	98%	4	3	2.8
Miracle	1	3	2.5	2	4	3	3	3	4	27%	9	9	98%	3	3	2.5
Sensor	5	4	3.0	4	4	4	3	4	4	24%	9	9	98%	3	4	3.0
Snow White	7	4	3.2	9	9	9	9	7	6	33%	3	3	15%	3	1	1.8
Tuxedo	3	3	2.7	3	3	4	3	2	3	22%	9	9	100%	1	1	1.8

Prior - reaction in previous years (1984-2004).
07 - reaction in 2007: 1 - resistant, 3 - moderately resistant, 5 - moderate, 7 - moderately susceptible, 9 - susceptible.
Rating -2007 mean rating: 1 to 9 for Stewart's wilt and SLB; 0 to 100% severity of NLB, 0 to 100% incidence of MDM.

Experimental design and procedures: Each disease or herbicide trial was a separate experiment with two replicates of hybrids arranged in randomized complete blocks. Each trial was split into two main blocks: *sh2* hybrids and *su* or *se* hybrids. Each experimental unit was a 12-ft. row with about 18 plants per row. Seven trials were planted May 21 on the University of Illinois South Farms including: Stewart's wilt, D-virulent common rust, NLB, SLB, MDM, and evaluations of two herbicides, Callisto (mesotrione) and Laudis (tembotrione). Two trials in which avirulent and G-virulent common rust were evaluated were in isolated fields planted June 6. Hybrid responses to Callisto also were evaluated from all of the above mentioned disease trials. Two additional trials to evaluate hybrid responses to Laudis were planted June 21.

Inoculation and disease assessment: Trials were inoculated with: *Erwinia stewartii* (Stewart's wilt), *Exserohilum turcicum* (NLB) races 0 and 1, *Bipolaris maydis* (SLB) race O, maize dwarf mosaic (MDM) virus strains A and B (SCMV), and three isolates of *Puccinia sorghi*: Rp1-D/Rp-G-avirulent (avirulent), Rp1-D-virulent (D-rust), and Rp-G-virulent (G-rust). Plants were inoculated with *E. stewartii* on June 15 and 19 by wounding leaves in the whorl and introducing bacteria into wounds. A mixture of conidia of races 0 and 1 of *E. turcicum* were sprayed into plant whorls June 19, 22, 27 and July 6. Conidia of *B. maydis* were sprayed into whorls on June 20, 22, and July 3. Plants were inoculated with MDMV-A and B on June 13 and 20 by wounding leaves in the whorl and introducing viruses into wounds. Plants in the Stewart's wilt trial also were mistakenly inoculated with MDM on June 18. In the trials inoculated with each of the races of rust, urediniospores of *P. sorghi* were sprayed into plant whorls: D-virulent: June 18, 21, 29, and July 3; G-virulent: June 25, July 2, 5, and 12; and avirulent: June 25, 27, and July 5.

The total number of plants and the number of plants infected with MDM were counted July 11 and July 19 in the MDM and Stewart's wilt trials, respectively. Incidence (%) of MDM-infected plants was calculated for each hybrid from totals from both replicates of both trials. For the other diseases, symptom severity was rated. Each plot (row) was given a separate rating by two people. Stewart's wilt was rated July 13 using a scale from 1 (symptoms within 2 cm of inoculation wounds) to 9 (severe systemic infection or dead plants). Percent leaf area infected with common rust was rated August 9 in the D-virulent trial, August 13 in the G-virulent rust trial, and August 14 in the avirulent trial. Leaf area infected with NLB was rated from 0 to 100% August 8. Hybrids with chlorotic lesions typical of Ht-resistance also were noted. Symptoms of SLB were rated on a 1 to 9 scale (very mild to severe) August 10.

Herbicide application and assessment: Post-emergence herbicides were applied when plants ranged from the 4- to 5-leaf stages and from about 8 to 12 inches. Laudis was applied at a 2X rate of 6 oz./A with a 1% (v/v) crop oil concentrate (COC) and 2% (v/v) 28% UAN. In one trial, Callisto was applied at a 2X rate of 6.0 oz./A with 1% (v/v) COC and 3.6% (v/v) 28% UAN. In all other trials, Callisto was applied at the recommended rate of 3.0 oz./A with 1% (v/v) (COC) and 3.6% v/v 28% UAN. All fields were treated pre-emergence with metachlor + atrazine.

Corn injury was rated visually 7 days after application. Each row was classified from 0 to 10, where 0 = no injury apparent, 5 = moderate injury, 9 = severe injury, 10=dead plants. Injury was then calculated as a percentage of the most severe rating of 10.

Data analysis: Disease and herbicide injury ratings were analyzed by ANOVA. Hybrid reactions to diseases and herbicides were classified from 1 (highly resistant) to 9 (highly susceptible) according to standard deviations from the mean (z-scores), Bayesian least significant difference (BLSD) separations (k=100), ranks of standard hybrids, and/or the FASTCLUS procedure of SAS using various groupings of 6 to 12 clusters.

RESULTS AND DISCUSSION

Symptoms ranged from slight disease to severely infected plants (Table 3). Reactions of standard hybrids to Stewart's wilt, common rust, NLB, MDM, and SLB were within expected ranges (Table 1). The criteria for classifying hybrid reactions are listed in Table 2. Table 3 includes reactions and actual ratings of 249 hybrids **based solely on the 2007 trial**. This is the only data we have for some of these hybrids. For hybrids that have been evaluated previously, an assessment of disease reactions based on multiple trials is most representative of hybrid performance.

Table 2. Criteria for classifying hybrid reactions to diseases in the 2007 nursery

	Classification of reaction									
	Rp	Resistant	Moderately resistant			Moderate	Moderately susceptible			Susceptible
Disease (rating)	0	1	2	3	4	5	6	7	8	9
Rust: avirulent (%)	0	< 10	< 18	< 24	< 28	< 31	< 34	< 37	< 40	≥ 40
Rust: G-virulent (%)	0		< 20	< 23	< 28	< 32	< 36	< 39	< 45	≥ 45
Rust: D-virulent (%)	0		< 17	< 22	< 26	< 29	< 33	< 38	< 45	≥ 45
NLB races 0&1 (%)		< 10	< 19	< 24	< 28	< 32	< 37	< 40	< 44	≥ 44
Stewart's wilt (1-9)		< 1.6	< 2.3	< 2.8	< 3.3	< 3.6	< 4.1	< 4.6	< 5	≥ 5
MDM-A&B (%)		0	< 10	< 20	< 30	< 50	< 70	< 80	< 90	≥ 90
SLB (1-9)		< 2	< 2.5	< 3	< 3.5	< 4	< 4.5	< 5	< 6	≥ 6
Callisto (%)		0	< 5	< 10	< 20	< 30	< 50		< 70	≥ 70
Laudis (%)		0								≥ 70

See text for description of disease and herbicide assessments.

Stewart's wilt. Stewart's wilt ratings ranged from 1.2 to 6.0 with a mean of 3.1. Stewart's wilt ratings were confounded somewhat by the presence of MDM throughout the trial. Thirty-four hybrids that were rated 4.6 or higher (i.e., frequent systemic infection) were classified as moderately susceptible to susceptible (7 to 9). Hybrids that were rated from 2.8 to 4.5 (i.e., occasional systemic infection) were classified as moderate (4 to 6). Symptoms of Stewart's wilt were minor on 47 hybrids classified as resistant or R/MR (1 or 2) and on 43 hybrids that were classified as moderately resistant (3). Nine hybrids rated 1.5 or below were not different from Mirai 334 BC and Tamarack, the hybrids with the least severe symptoms. These included: Bonus, Eliminator, EX 0870 5640, EX 0873 5807, EX 0875 5780, EX 0875 5821, GG Code 175, GG Code 197, and GG Code 199. Yield is affected minimally if Stewart's wilt is non-systemic, i.e., ratings <3.

Northern leaf blight. Severity of NLB (% leaf area symptomatic) ranged from 1% to 56% and averaged 28% in the 2007 trial. In comparison, severity ranged from 8% to 86% and averaged 38% in 2005. NLB severity was 37% or higher on 38 hybrids with moderately susceptible to susceptible reactions (7 to 9). One-hundred-and-forty-eight hybrids with 24% to 36% severity were classified between MR and MS (4 to 6).

Severity was less than 10% on 7 hybrids classified as resistant (1), including: 0874 5919, 7641WMR, ACX 5009 MRY, ACX 5010 MRBC, BSS 1693, Calvary, and Ranger. Twenty-one hybrids with 10% to 18% leaf area infected were classified as R/MR (2). Thirty-four hybrids that were classified as moderately resistant (3) had 19% to 23% leaf area infected. Effects of NLB on yield are minimal when severity is below 20%.

Forty-eight of the 62 hybrids classified from R to MR for NLB had chlorotic lesions indicative of an *Ht* gene that conveyed resistance to *E. turcicum* race 0. Only 3 of 38 hybrids classified as MS to S had Ht-gene resistant reactions. NLB severity averaged 21% and ranged from 1% to 54% on 87 hybrids with Ht-gene reactions. Severity averaged 31% and ranged from 10% to 56% for 158 hybrids without Ht-gene reactions.

Maize dwarf mosaic. Incidence of MDM-infected plants 2 weeks after inoculation (about 6- to 7-leaf stage) ranged from 0 to 100% and averaged 69%. Fourteen hybrids classified as resistant were completely asymptomatic, including: BC 503, Evita, EX 0873 5414, EX 0873 5807, EX 0875 5780, EX 0875 6690, Exp 17, Exp 26, Garrison, GG Code 186, GG Code 199, HMX 6384, Ranger, and Symmetry. All of these hybrids except Ranger also were Rp-resistant to at least two races of *P. sorghi*; and seven were Rp-resistant to all three rust races (avirulent, G-virulent, and D-virulent). Twenty-six additional hybrids were rated R-MR with less than 10% symptomatic plants; and 33 hybrids were rated from MR to M with 10% to 49% MDM-infected plants. Of the 73 hybrids rated from R to M with less than 50% MDM-infected plants, 66 were Rp-resistant to common rust and 22 were resistant to all three races.

Southern leaf blight. SLB ratings (1 to 9 scale) ranged from 1.3 to 6.8 and averaged 3.3. Ratings were 5 or above for 51 hybrids classified as moderately susceptible to susceptible to SLB (reactions of 7 to 9). Eighty hybrids with ratings from 3 to 5 were classified between MR and MS (4 to 6). One hundred and three hybrids were classified as R to MR with ratings lower than 3. Thirty-six hybrids with ratings of below 2 were rated R.

Common rust. Fifty-six percent of the hybrids (139 of 249) in the 2007 nursery had an Rp-resistant reaction characterized by the absence of rust pustules. Thirty four hybrids were Rp-resistant to all three races: avirulent, G-virulent, and D-virulent. These hybrids probably carry the *Rp1-D* gene and an Rp gene that conveys resistance to the D-virulent race (e.g., *Rp-G*, *Rp1-E*, or *Rp1-I*). In some of these hybrids, each inbred parent may contribute a different Rp gene. In other hybrids, one inbred may contribute multiple Rp genes via the compound rust resistance genes in which different combinations of closely linked Rp genes are in coupling phase, e.g., *Rp1-DGJ*. Eighty-five hybrids were Rp-resistant to the avirulent and G-virulent race, but susceptible to the D-virulent race. These hybrids probably carry the *Rp1-D* gene. Severity of D-virulent rust on these 85 hybrids ranged from 10% (R-MR) to 54% (S). Twenty hybrids were Rp-resistant to the avirulent and D-virulent races but susceptible to the G-virulent race. These hybrids probably carry the *Rp-G*, *Rp1-I*, or *Rp1-E* genes. Severity of G-virulent rust on these 20 hybrids ranged from 20% (MR) to 43% (MS-S).

In the trial inoculated with avirulent *P. sorghi,* severity of rust on 113 hybrids that did not have Rp-resistance ranged from 2% to 58% and averaged 30%. Four hybrids with less than 18% rust were classified as R or R-MR (1 or 2), including Green Giant Code 6, GG Code 27, GG Code 74, and Mirai 148Y. Seven hybrids with 18% to 23% rust were classified as MR (3).

In the trial inoculated with G-virulent *P. sorghi,* severity of rust on 130 hybrids that did not have Rp-resistance ranged from 15% to 64% and averaged 33%. Three hybrids with less than 20% rust were classified R-MR (2), including GG Code 74, HY1089OM and Mirai 334BC. Seven hybrids with 20% to 22% rust were classified MR (3), including two hybrids that were Rp-resistant to avirulent and D-virulent rust: GG Code 180 and GG Code 197.

In the trial inoculated with D-virulent *P. sorghi,* severity of rust on 194 hybrids that did not have Rp-resistance ranged from 10% to 54% and averaged 29%. Seven hybrids with less than 17% rust were classified MR (2), including GG Code 6, GG Code 27, and five hybrids that were Rp-resistant to avirulent and G-virulent rust: 0874 5919, GG Code 175, Harvest Gold, HM 2390, and Turbo. Twelve hybrids with 17% to 21% rust were classified MR (3) including five hybrids that were Rp-resistant to avirulent and D-virulent rust: Bonus, HMX 7387, Kokanee, Sockeye, and Symmetry.

Reactions to herbicides. Sweet corn hybrids were either uninjured or severely injured by Laudis; whereas a range of responses was observed 7 days after application of Callisto. No visual symptoms of injury from either herbicide were seen on 88 hybrids. An additional 106 hybrids were uninjured by Laudis and had less than 10% injury from Callisto. These 194 hybrids appeared to be tolerant of both herbicides. Fifty-one hybrids were uninjured by Laudis but displayed intermediate levels of injury (10% to 50%) following applications of Callisto. Seven hybrids were severely injured (>50%) by both herbicides, including: 0873 5623, 177A, DM 20-38, HMX 6386S, Merit, Shogun, and XTH 3175. Injury from Laudis and Callisto 7 days after treatment were nearly equal on these 7 herbicide-sensitive hybrids; however, by 21 days after treatment; hybrids treated with Callisto appeared to have recovered from herbicide injury whereas hybrids treated with Laudis were dead or nearly dead. Thus, the most sensitive hybrids in the nursery were injured more severely by Laudis than by Callisto; while hybrids with intermediate reactions to Callisto were uninjured by Laudis. We believe that the 7 hybrids sensitive to both herbicides are homozygous for a non-functional, mutant gene on chromosome 5S that regulates cytochrome P450-metabolism of these herbicides. Hybrids with moderate injury from Callisto but no symptoms of injury from Laudis probably are heterozygous for a non-functional, mutant gene and a functional P450 gene on chromosome 5S.

Multiple disease resistance. Four hybrids in the 2007 nursery were rated R to MR for all diseases and herbicides. BSS 1693, GH 6223, Garrison, and GG Code 199 were Rp-resistant to all three races of rust, resistant to MDMV A&B, moderately resistant to resistant to Stewart's wilt, NLB and SLB; and tolerant of Callisto and Laudis.

Table 3. Reactions of sweet corn hybrids in the University of Illinois disease nursery - 2007

ET	KC	SdCo	Hybrid	Common rust avir Rxn	avir %	G-vir Rxn	G-vir %	D-vir Rxn	D-vir %	Northern leaf blight Rxn	Northern leaf blight %	Northern leaf blight Ht	Stewart's wilt Rxn	Stewart's wilt Rate	MDMV A&B Rxn	MDMV A&B %	SLB Rxn	SLB Rate	Callisto Rxn	Callisto %	Laudis Rxn	Laudis %
			Sugary hybrids																			
su	Y	Sem	0874 5919	**Rp**	0	**Rp**	0	**2**	16	**1**	5	Ht	**2**	1.8	**8**	89	**6**	4.0	**1**	0	**1**	0
su	Y	Sem	0875 7057	**Rp**	0	**Rp**	0	**Rp**	0	**4**	25	Ht	**5**	3.3	**2**	2	**6**	4.3	**1**	0	**1**	0
su	Y	Rog	Bold	**Rp**	0	**Rp**	0	**8**	39	**2**	12		**2**	2.2	**5**	42	**4**	3.0	**2**	4	**1**	0
su	Y	Rog	Bonus	**Rp**	0	**Rp**	0	**3**	21	**4**	26	Ht	**1**	1.3	**2**	7	**6**	4.3	**2**	1	**1**	0
su	Y	HM	Coho	**Rp**	0	**Rp**	0	**5**	28	**7**	37		**5**	3.3	**3**	13	**2**	2.3	**1**	0	**1**	0
su	Y	Cr	CSUYP2-35	**Rp**	0	**Rp**	0	**6**	30	**6**	36		**3**	2.7	**2**	5	**5**	3.8	**1**	0	**1**	0
su	Y	Cr	CSUYP5-166	**Rp**	0	**Rp**	0	**4**	25	**7**	37		**6**	3.8	**2**	8	**6**	4.3	**1**	0	**1**	0
su	Y	Cr	CSUYP5-167	**Rp**	0	**Rp**	0	**4**	22	**5**	30	Ht	**2**	1.7	**9**	100	**8**	5.3	**1**	0	**1**	0
su	Y	DM	DM 20-38	**Rp**	0	**Rp**	0	**6**	31	**7**	38		**9**	6.0	**9**	98	**8**	5.3	**9**	87	**9**	87
su	Y	Cr	Eliminator	**Rp**	0	**Rp**	0	**7**	33	**6**	32		**1**	1.3	**2**	2	**8**	5.0	**2**	4	**1**	0
su	Y	SnRv	Empire	**6**	32	**4**	26	**4**	25	**7**	37		**3**	2.3	**9**	100	**5**	3.8	**4**	13	**1**	0
su	Y	SnRv	Enterprise	**Rp**	0	**Rp**	0	**4**	25	**2**	16	Ht	**2**	2.2	**2**	6	**1**	1.8	**1**	0	**1**	0
su	Y	Cr	Evita	**Rp**	0	**Rp**	0	**6**	29	**6**	36		**3**	2.7	**1**	0	**3**	2.5	**2**	1	**1**	0
su	Y	Sem	EX 0830 2424	**Rp**	0	**Rp**	0	**4**	24	**3**	20	Ht	**2**	2.2	**9**	92	**9**	6.3	**1**	0	**1**	0
su	Y	Sem	EX 0832 4148	**Rp**	0	**Rp**	0	**4**	25	**6**	33		**4**	3.0	**9**	99	**9**	6.0	**4**	18	**1**	0
su	Y	Sem	EX 0870 5640	**Rp**	0	**Rp**	0	**Rp**	0	**3**	19	Ht	**1**	1.5	**4**	28	**7**	4.8	**3**	7	**1**	0
su	Y	Sem	EX 0873 5807	**Rp**	0	**Rp**	0	**Rp**	0	**3**	23	Ht	**1**	1.5	**1**	0	**9**	6.3	**2**	1	**1**	0
su	Y	Sem	EX 0875 5780	**Rp**	0	**Rp**	0	**Rp**	0	**2**	18	Ht	**1**	1.5	**1**	0	**8**	5.3	**2**	1	**1**	0
su	Y	Sem	EX 0875 5821	**Rp**	0	**Rp**	0	**Rp**	0	**3**	19	Ht	**1**	1.5	**2**	4	**8**	5.3	**2**	4	**1**	0
su	Y	Sem	EX 0875 6690	**Rp**	0	**Rp**	0	**Rp**	0	**5**	28	Ht	**2**	1.7	**1**	0	**5**	3.5	**2**	3	**1**	0
su	Y	Sem	EX 849 0239	**Rp**	0	**Rp**	0	**7**	34	**7**	39		**6**	3.7	**9**	100	**3**	2.5	**1**	0	**1**	0
su	Y		Exp 11	**Rp**	0	**Rp**	0	**5**	28	**9**	56		**7**	4.2	**9**	99	**8**	5.0	**3**	6	**1**	0
su	Y		Exp 23	**Rp**	0	**Rp**	0	**Rp**	0	**8**	41		**7**	4.3	**2**	2	**2**	2.0	**5**	26	**1**	0
su	Y	GG	GG Code 6	**2**	17	**3**	22	**2**	16	**3**	21	Ht	**2**	1.8	**9**	93	**3**	2.8	**1**	0	**1**	0
su	Y	GG	GG Code 27	**2**	12	**3**	20	**2**	11	**3**	22	Ht	**2**	1.7	**9**	95	**2**	2.0	**1**	0	**1**	0
su	Y	GG	GG Code 74	**1**	2	**2**	18	**3**	18	**3**	24	0	**2**	2.2	**9**	94	**6**	4.0	**1**	0	**1**	0
su	Y	GG	GG Code 162	**Rp**	0	**Rp**	0	**7**	33		.		**4**	3.2	**5**	42		.	**2**	1	**1**	0
su	Y	GG	GG Code 166	**Rp**	0	**4**	25	**Rp**	0	**4**	25		**3**	2.3	**4**	21	**2**	2.3	**2**	4	**1**	0
su	Y	GG	GG Code 168	**Rp**	0	**Rp**	0	**Rp**	0	**5**	28	Ht	**2**	2.0	**6**	69	**1**	1.8	**2**	1	**1**	0
su	Y	GG	GG Code 175	**Rp**	0	**Rp**	0	**2**	10	**3**	19	Ht	**1**	1.5	**6**	50	**1**	1.8	**1**	0	**1**	0
su	Y	GG	GG Code 180	**Rp**	0	**3**	20	**Rp**	0	**7**	39		**4**	3.0	**9**	96	**6**	4.0	**2**	1	**1**	0
su	Y	GG	GG Code 186	**Rp**	0	**Rp**	0	**4**	24	**5**	28		**2**	1.7	**1**	0	**2**	2.3	**3**	9	**1**	0

Table 3. Reactions of sweet corn hybrids in the University of Illinois disease nursery - 2007

				Common rust						Northern leaf blight			Stewart's wilt		MDMV A&B		SLB		Callisto		Laudis	
				avir		G-vir		D-vir														
ET	KC	SdCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	Ht	Rxn	Rate	Rxn	%	Rxn	Rate	Rxn	%	Rxn	%
su	Y	GG	GG Code 193	**5**	28	**4**	27	**4**	24	**5**	28		**6**	3.7	**9**	98	**3**	2.5	**5**	26	**1**	0
su	Y	GG	GG Code 194	**Rp**	0	**4**	25	**Rp**	0	**3**	20	Ht	**3**	2.7	**4**	22	**1**	1.5	**3**	6	**1**	0
su	Y	GG	GG Code 197	**Rp**	0	**3**	21	**Rp**	0	**3**	22	Ht	**1**	1.3	**4**	23	**5**	3.5	**1**	0	**1**	0
su	Y	GG	GG Code 199	**Rp**	0	**Rp**	0	**Rp**	0	**3**	23	Ht	**1**	1.5	**1**	0	**2**	2.3	**1**	0	**1**	0
su	Y	GG	GG Code 201	**Rp**	0	**7**	36	**Rp**	0	**4**	24		**3**	2.5	**4**	29	**1**	1.5	**1**	0	**1**	0
su	Y	Rog	GH 1829	**Rp**	0	**5**	29	**Rp**	0	**5**	29		**3**	2.5	**9**	91	**4**	3.0	**1**	0	**1**	0
su	Y	Rog	GH 2171	**Rp**	0	**4**	27	**Rp**	0	**9**	45	Ht	**4**	3.0	**3**	14	**4**	3.0	**3**	6	**1**	0
su	Y	Rog	GH 6198	**Rp**	0	**6**	35	**Rp**	0	**9**	54	Ht	**5**	3.3	**2**	3	**3**	2.5	**4**	13	**1**	0
su	Y	Rog	GH 6223	**Rp**	0	**Rp**	0	**Rp**	0	**2**	18		**3**	2.7	**3**	11	**1**	1.3	**2**	4	**1**	0
su	Y	Rog	GH 6377	**Rp**	0	**Rp**	0	**Rp**	0	**6**	32	Ht	**2**	1.8	**2**	3	**3**	2.5	**4**	15	**1**	0
su	Y	Sem	Harvest Gold	**Rp**	0	**Rp**	0	**2**	13	**3**	22	Ht	**2**	2.2	**7**	74	**5**	3.8	**1**	0	**1**	0
su	Y	HM	HM 2390	**Rp**	0	**Rp**	0	**2**	15	**8**	41		**4**	3.0	**9**	99	**5**	3.8	**1**	0	**1**	0
su	Y	HM	HMX 701	**8**	37	**8**	39	**5**	26	**7**	38		**3**	2.5	**9**	98		.	**1**	0	**1**	0
su	Y	HM	HMX 6384	**Rp**	0	**Rp**	0	**Rp**	0	**6**	35		**4**	2.8	**1**	0	**1**	1.8	**1**	0	**1**	0
su	Y	HM	HMX 7387	**Rp**	0	**Rp**	0	**3**	20	**4**	24	Ht	**3**	2.7	**2**	5	**1**	1.8	**1**	0	**1**	0
su	Y	HM	HMX 7388	**Rp**	0	**Rp**	0	**Rp**	0	**4**	26		**5**	3.3	**3**	19	**1**	1.8	**4**	13	**1**	0
su	Y	Rog	Jubilee	**7**	34	**7**	36	**7**	33	**9**	45		**8**	4.8	**9**	98	**3**	2.8	**4**	17	**1**	0
su	Y	HM	Kokanee	**Rp**	0	**Rp**	0	**3**	21	**7**	39		**4**	2.8	**9**	97	**4**	3.3	**1**	0	**1**	0
su	Y	HM	Legacy	**Rp**	0	**Rp**	0	**4**	22	**7**	38		**5**	3.3	**9**	99	**7**	4.5	**1**	0	**1**	0
su	Y	HM	Lumina	**Rp**	0	**Rp**	0	**6**	30	**7**	38		**6**	3.8	**9**	96	**4**	3.0	**2**	1	**1**	0
su	Y	Sem	Merit	**8**	39	**8**	39	**7**	37	**4**	26	Ht	**4**	3.0	**9**	100	**5**	3.8	**9**	91	**9**	88
su	Y	Sem	Merkur	**Rp**	0	**Rp**	0	**6**	30	**2**	16	Ht	**2**	1.8	**3**	11	**8**	5.8	**2**	4	**1**	0
su	Y	SnRv	Prelude	**6**	33	**6**	35	**4**	22	**6**	34		**4**	3.0	**9**	97	**4**	3.0	**1**	0	**1**	0
su	Y	HM	Sockeye	**Rp**	0	**Rp**	0	**3**	19	**9**	44		**4**	3.2	**9**	100	**5**	3.8	**1**	0	**1**	0
su	Y	Cr	Tamarack	**Rp**	0	**Rp**	0	**Rp**	0	**6**	34		**1**	1.2	**2**	4	**7**	4.5	**3**	8	**1**	0
su	Y	HM	Turbo	**Rp**	0	**Rp**	0	**2**	16	**5**	29	Ht	**3**	2.3	**3**	15	**3**	2.5	**3**	6	**1**	0
su	Y	SnRv	UY 0607 OJ	**Rp**	0	**Rp**	0	**8**	38	**7**	37		**6**	3.8	**9**	100	**9**	6.8	**2**	1	**1**	0
su	Y	SnRv	UY 0712 OJ	**Rp**	0	**Rp**	0	**5**	26	**5**	31		**3**	2.3	**2**	7	**5**	3.5	**1**	0	**1**	0
su	Y	SnRv	UY 1953 OK	**6**	32	**5**	28	**4**	22	**4**	25	Ht	**2**	1.8	**2**	7	**1**	1.5	**2**	2	**1**	0
su	Y	SnRv	UY 2830 OL	**6**	31	**5**	30	**4**	25	**6**	32		**3**	2.7	**9**	92	**3**	2.8	**3**	5	**1**	0
su	Y	SnRv	UY 2835 OL	**6**	32	**6**	33	**4**	22	**6**	36		**4**	2.8	**9**	97	**6**	4.0	**3**	8	**1**	0
su	Y	SnRv	UY 3435 OM	**Rp**	0	**Rp**	0	**7**	33	**7**	37		**4**	3.0	**9**	96	**9**	6.0	**1**	0	**1**	0
su	W	Rog	WH 2801	**Rp**	0	**Rp**	0	**9**	54	**5**	28		**2**	2.2	**9**	93	**5**	3.8	**2**	2	**1**	0

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				Common rust						Northern leaf blight			Stewart's wilt		MDMV A&B		SLB		Callisto		Laudis	
				avir		G-vir		D-vir														
ET	KC	SdCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	Ht	Rxn	Rate	Rxn	%	Rxn	Rate	Rxn	%	Rxn	%
			Sugary enhancer hybrids																			
se	W	Sem	0872 5707	**Rp**	0	**Rp**	0	**4**	22	**5**	30		**2**	2.0	**9**	91	**2**	2.0	**1**	0	**1**	0
se	W	Sem	0873 5382	**6**	33	**6**	35	**7**	33	**8**	41		**7**	4.3	**9**	94		.	**1**	0	**1**	0
sesu	Y	Sem	0873 5623	**Rp**	0	**Rp**	0	**4**	24	**6**	33		**4**	2.8	**2**	2	**2**	2.3	**8**	60	**8**	52
se	B	MM	Accord	**8**	38	**8**	42	**7**	33	**2**	18		**4**	3.0	**9**	98	**3**	2.8	**4**	13	**1**	0
se	B	Cr	Ambrosia	**6**	32	**7**	36	**6**	32	**6**	35		**2**	1.7	**9**	95		.	**1**	0	**1**	0
syn	Y	Cr	Applause	**5**	29	**5**	29	**7**	36	**6**	35		**5**	3.5	**9**	94	**5**	3.5	**1**	0	**1**	0
se	W	MM	Augusta	**6**	33	**7**	37	**7**	37	**4**	27		**3**	2.7	**9**	96	**7**	4.5	**2**	1	**1**	0
suse	B	Rog	BC 0808	**Rp**	0	**4**	27	**Rp**	0	**8**	40		**5**	3.5	**8**	85	**4**	3.0	**1**	0	**1**	0
se	Y	Cr	Bodacious	**6**	31	**6**	34	**5**	28	**6**	32		**4**	2.8	**9**	98	**4**	3.0	**2**	4	**1**	0
se	Y	Cr	Bodacious RM	**Rp**	0	**Rp**	0	**Rp**	0	**7**	38		**5**	3.3	**4**	23	**6**	4.3	**1**	0	**1**	0
se	B	MM	Bon Appetit TSW	**7**	34	**5**	28	**8**	38	**5**	31		**6**	3.8	**9**	98	**3**	2.5	**1**	0	**1**	0
se	Y	MM	Breeders Choice	**7**	36	**9**	50	**5**	27	**3**	24		**5**	3.3	**7**	74	**4**	3.3	**1**	0	**1**	0
se	B	MM	Brocade	**7**	35	**6**	32	**6**	29	**4**	27		**5**	3.5	**9**	99	**2**	2.3	**2**	3	**1**	0
syn	W	Cr	Captivate	**6**	31	**5**	30	**3**	17	**4**	26		**4**	2.8	**9**	100	**6**	4.0	**2**	4	**1**	0
syn	W	Cr	Cinderella	**7**	34	**6**	35	**4**	24	**4**	27		**4**	3.2	**9**	96	**2**	2.3	**2**	4	**1**	0
syn se	B	MM	Cohasset	**9**	45	**9**	48	**9**	51	**6**	34		**7**	4.2	**9**	90	**5**	3.5	**1**	0	**1**	0
se	Y	MM	Colorow TSW	**7**	34	**8**	43	**7**	34	**5**	29		**5**	3.3	**9**	100	**2**	2.0	**2**	4	**1**	0
se	B	Cr	CSEBF5-174	**4**	25	**5**	30	**6**	32	**3**	21		**3**	2.5	**9**	100		.	**1**	0	**1**	0
syn	Y	Cr	CSYYF5-183	**4**	26	**6**	33	**6**	30	**5**	31		**6**	4.0	**9**	100		.	**1**	0	**1**	0
syn	W	Cr	Dasher	**5**	29	**5**	31	**5**	28	**4**	24		**4**	3.0	**9**	98	**4**	3.3	**2**	3	**1**	0
se	W	MM	Denali	**5**	30	**6**	35	**7**	33	**4**	27		**2**	1.7	**9**	98	**7**	4.5	**4**	14	**1**	0
se	B	MM	Double Gem	**5**	29	**4**	26	**6**	29	**3**	23		**6**	3.7	**9**	100	**2**	2.3	**2**	1	**1**	0
sesu	Y	Sem	El Toro	**Rp**	0	**Rp**	0	**8**	39	**5**	30	Ht	**2**	2.0	**3**	18	**3**	2.5	**4**	18	**1**	0
se	B	MM	Envoy	**7**	35	**9**	48	**7**	34		.		**6**	3.8	**9**	92		.	**1**	0	**1**	0
syn	W	Cr	Equinox	**7**	35	**7**	36	**5**	28	**5**	28		**4**	3.0	**9**	99		.	**1**	0	**1**	0
suse	Y	Sem	EX 0845 7299	**Rp**	0	**Rp**	0	**Rp**	0	**6**	35		**4**	3.0	**8**	82	**6**	4.0	**3**	8	**1**	0
se	Y	Sem	EX 0873 5414	**Rp**	0	**Rp**	0	**4**	25	**6**	32		**3**	2.7	**1**	0	**8**	5.5	**1**	0	**1**	0
sesu	Y	Sem	EX 847 5418	**Rp**	0	**Rp**	0	**5**	28	**6**	34		**3**	2.3	**9**	99	**1**	1.8	**2**	1	**1**	0
sesy	Y	Sem	EX 933 0109	**4**	26	**3**	22	**6**	32	**6**	32		**6**	3.7	**8**	80	**2**	2.0	**1**	0	**1**	0
suse	W		Exp 10	**Rp**	0	**Rp**	0	**7**	33	**4**	25		**3**	2.5	**9**	100	**3**	2.8	**2**	4	**1**	0
suse	B		Exp 21	**Rp**	0	**6**	32	**Rp**	0	**5**	28		**4**	3.2	**9**	93	**3**	2.5	**1**	0	**1**	0
suse	B		Exp 22	**6**	33	**6**	33	**4**	25	**2**	17		**2**	1.7	**9**	92	**5**	3.8	**1**	0	**1**	0
se-het	Y		Exp 24	**Rp**	0	**5**	30	**Rp**	0	**7**	39		**6**	3.7	**2**	3	**2**	2.0	**4**	18	**1**	0

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				Common rust						Northern leaf blight			Stewart's wilt		MDMV A&B		SLB		Callisto		Laudis	
				avir		G-vir		D-vir														
ET	KC	SdCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	Ht	Rxn	Rate	Rxn	%	Rxn	Rate	Rxn	%	Rxn	%
se	Y	MM	Exp. Y 30748	**4**	26	**5**	29	**5**	26	**5**	29		**2**	2.0	**9**	100	**1**	1.8	**4**	11	**1**	0
se	B	MM	Fastlane	**6**	33	**6**	35	**8**	40	**7**	37		**8**	4.7	**9**	97		.	**1**	0	**1**	0
sg	B	HM	HMX 6358 BES	**7**	36	**8**	41	**9**	49		.		**9**	5.2	**9**	99		.	**1**	0	**1**	0
sg	W	HM	HMX 6359 WES	**6**	31	**7**	36	**7**	36	**5**	30		**7**	4.3	**9**	90		.	**1**	0	**1**	0
sg	Y	HM	HMX 7361 YES	**5**	30	**5**	31	**7**	34	**7**	37		**6**	3.7	**2**	6	**1**	1.5	**1**	0	**1**	0
sg	B	HM	HMX 7364 BES	**Rp**	0	**Rp**	0	**4**	24	**5**	30		**3**	2.7	**9**	99	**6**	4.0	**1**	0	**1**	0
sg	W	HM	HMX 7367 WES	**7**	35	**6**	35	**6**	29	**4**	27		**2**	2.0	**9**	100	**1**	1.8	**2**	1	**1**	0
se	Y	Rog	Honey Select	**7**	36	**6**	33	**5**	28	**7**	38		**4**	2.8	**9**	92	**5**	3.5	**2**	1	**1**	0
se	B	MM	LusciousTSW	**6**	32	**6**	33	**5**	27	**4**	27		**6**	3.7	**9**	94	**3**	2.5	**1**	0	**1**	0
syn se	B	MM	Manitou	**9**	43	**8**	43	**6**	30	**5**	30		**6**	4.0	**9**	100	**5**	3.5	**1**	0	**1**	0
syn se	W	MM	Mattapoisett	**7**	36	**8**	39	**7**	37	**5**	29		**6**	3.7	**9**	96	**4**	3.3	**1**	0	**1**	0
se	Y	Cr	Miracle	**4**	24	**3**	21	**3**	18	**4**	27		**3**	2.5	**9**	98	**3**	2.5	**3**	7	**1**	0
syn se	W	MM	Misquamicut	**8**	37	**7**	38	**7**	36	**5**	30		**5**	3.3	**9**	100	**6**	4.3	**2**	1	**1**	0
syn se	B	MM	Montauk	**8**	39	**8**	39	**7**	35	**5**	30		**6**	3.7	**8**	87	**6**	4.0	**2**	1	**1**	0
se	B	MM	Native Gem	**7**	35	**9**	46	**7**	34		.		**4**	3.2	**9**	92		.	**1**	0	**1**	0
se	B	MM	Ovation	**6**	31	**5**	28	**5**	26	**5**	30		**6**	3.8	**9**	98	**2**	2.0	**2**	4	**1**	0
syn	B	Cr	Polka	**6**	31	**8**	42	**7**	36	**4**	27		**6**	3.7	**9**	98		.	**1**	0	**1**	0
se	B	MM	Precious Gem	**4**	26	**4**	27	**6**	31	**4**	27		**4**	2.8	**9**	94	**2**	2.0	**4**	11	**1**	0
sg	B	HM	Reflection	**7**	35	**5**	29	**5**	27	**3**	21		**6**	3.7	**9**	100	**4**	3.0	**1**	0	**1**	0
sg	B	HM	Revelation	**8**	39	**8**	39	**8**	43	**5**	29		**7**	4.3	**9**	98		.	**1**	0	**1**	0
se	B	Sem	Sensor	**4**	26	**4**	25	**3**	19	**4**	24		**4**	3.0	**9**	94	**4**	3.0	**1**	0	**1**	0
se	W	MM	Shasta	**5**	29	**4**	27	**5**	27	**5**	31		**5**	3.5	**9**	95	**4**	3.3	**1**	0	**1**	0
se	W	MM	Spring Snow	**5**	28	**5**	28	**7**	37	**5**	30		**6**	3.7	**9**	94	**8**	5.5	**1**	0	**1**	0
se	Y	Cr	Sugar Buns	**4**	27	**3**	20	**6**	32	**4**	25		**5**	3.5	**9**	92		.	**1**	0	**1**	0
se	W	MM	Sugar Pearl	**6**	33	**7**	36	**6**	30	**5**	29		**7**	4.5	**9**	92	**6**	4.0	**1**	0	**1**	0
sesy	B	Sem	Synergy	**3**	23	**4**	24	**5**	26	**4**	26	Ht	**2**	2.2	**8**	86	**3**	2.8	**1**	0	**1**	0
se	B	Sem	Temptation	**6**	32	**7**	37	**8**	43	**6**	33		**6**	4.0	**9**	99	**8**	5.0	**1**	0	**1**	0
se	B	Cr	Trinity	**6**	33	**9**	46	**9**	49	**4**	27		**6**	3.7	**9**	100		.	**1**	0	**1**	0
se	Y	MM	Tuxedo	**3**	21	**4**	24	**3**	18	**3**	22		**3**	2.7	**9**	100	**1**	1.8	**2**	1	**1**	0
syn	B	Cr	Valor	**6**	33	**5**	29	**6**	29	**5**	29		**6**	3.8	**9**	95	**5**	3.8	**1**	0	**1**	0
sesy	B	Sem	Vitality	**8**	38	**8**	41	**6**	29	**5**	29		**6**	3.7	**9**	90		.	**1**	0	**1**	0
suse	W	Rog	WH 1163	**4**	27	**6**	33	**4**	23	**5**	31		**6**	4.0	**2**	8	**2**	2.0	**5**	20	**1**	0
se	W	MM	White Out	**7**	36	**7**	38	**7**	33	**6**	33		**5**	3.5	**8**	84		.	**1**	0	**1**	0

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				Common rust						Northern leaf blight			Stewart's wilt		MDMV A&B		SLB		Callisto		Laudis	
				avir		G-vir		D-vir														
ET	KC	SdCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	Ht	Rxn	Rate	Rxn	%	Rxn	Rate	Rxn	%	Rxn	%
			Shrunken-2 hybrids																			
shsy	B	Sem	0873 6997	**Rp**	0	**Rp**	0	**7**	33	**4**	27		**8**	4.8	**2**	7	**3**	2.5	**4**	10	**1**	0
sh2	Y	Sem	0874 5040	**Rp**	0	**Rp**	0	**Rp**	0	**5**	31		**2**	2.2	**8**	86	**3**	2.8	**4**	11	**1**	0
shsy	Y	Sem	0875 6470	**5**	29	**6**	35	**5**	28	**4**	26		**6**	3.7	**9**	97	**2**	2.3	**1**	0	**1**	0
shsy	Y	Sem	0875 6476	**Rp**	0	**Rp**	0	**Rp**	0	**5**	28		**5**	3.5	**7**	79	**2**	2.3	**5**	26	**1**	0
sh2	B	Sem	0876 5391	**Rp**	0	**Rp**	0	**Rp**	0	**4**	27		**5**	3.5	**9**	93	**9**	6.3	**6**	32	**1**	0
shsy	Y	Sem	0876 6623	**Rp**	0	**Rp**	0	**Rp**	0	**6**	36		**4**	3.0	**2**	6	**6**	4.0	**3**	8	**1**	0
shsy	Y	Sem	0876 7139	**Rp**	0	**Rp**	0	**Rp**	0	**4**	26	Ht	**2**	2.0	**9**	93	**6**	4.0	**2**	3	**1**	0
shsy	Y	Sem	0876 7140	**Rp**	0	**Rp**	0	**4**	24	**3**	20	Ht	**4**	3.0	**9**	100	**5**	3.5	**1**	0	**1**	0
shsy	Y	Sem	0876 7141	**Rp**	0	**Rp**	0	**Rp**	0	**2**	12	Ht	**2**	2.2	**9**	100	**1**	1.8	**2**	1	**1**	0
shsy	B	Sem	0876 7142	**Rp**	0	**Rp**	0	**Rp**	0	**3**	22	Ht	**4**	2.8	**9**	91	**4**	3.0	**2**	1	**1**	0
shsy	B	Sem	0876 7143	**Rp**	0	**Rp**	0	**Rp**	0	**3**	24	Ht	**4**	2.8	**9**	95	**2**	2.3	**1**	0	**1**	0
shsy	B	Sem	0876 7144	**Rp**	0	**Rp**	0	**Rp**	0	**2**	17	Ht	**2**	2.0	**9**	98	**6**	4.0	**1**	0	**1**	0
sh2	Y	IFS	177 A	**5**	30	**5**	31	**6**	32	**5**	30	Ht	**3**	2.5	**9**	96	**5**	3.8	**9**	74	**8**	50
sh2	Y	IFS	179 A	**7**	34	**6**	33	**6**	29	**3**	22		**3**	2.7	**9**	96	**5**	3.5	**4**	11	**1**	0
sh2	Y	IFS	182 A	**Rp**	0	**Rp**	0	**5**	26	**2**	17	Ht	**2**	2.2	**9**	94	**1**	1.5	**2**	2	**1**	0
sh2	B	IFS	273 A	**4**	24	**4**	25	**6**	32	**9**	54		**7**	4.2	**8**	85	**7**	4.8	**2**	4	**1**	0
sh2	B	IFS	277 A	**6**	33	**7**	38	**6**	29	**5**	31		**5**	3.5	**7**	78	**7**	4.5	**4**	12	**1**	0
sh2	W	AC	7641 W MR	**Rp**	0	**7**	38	**Rp**	0	**1**	1	Ht	**3**	2.7	**9**	95	**2**	2.0	**2**	1	**1**	0
sh2	W	AC	8101 W MR	**Rp**	0	**Rp**	0	**4**	22	**2**	17	Ht	**4**	3.0	**9**	100	**1**	1.8	**1**	0	**1**	0
sh2	BC	AC	ACR 7156 BC	**Rp**	0	**6**	35	**Rp**	0	**2**	10		**4**	3.2	**9**	95	**1**	1.3	**2**	3	**1**	0
sh2	Y	AC	ACX 5007 Y	**4**	26	**6**	35	**8**	39	**4**	26	Ht	**3**	2.7	**9**	100	**2**	2.0	**3**	9	**1**	0
sh2	Y	AC	ACX 5008 Y	**Rp**	0	**Rp**	0	**8**	43	**5**	30	Ht	**4**	2.8	**9**	97	**5**	3.5	**2**	2	**1**	0
sh2	Y	AC	ACX 5009 MR Y	**Rp**	0	**8**	39	**Rp**	0	**1**	3	Ht	**3**	2.3	**8**	87	**1**	1.5	**3**	5	**1**	0
sh2	BC	AC	ACX 5010 MR BC	**Rp**	0	**6**	33	**Rp**	0	**1**	5	Ht	**5**	3.5	**9**	96	**1**	1.8	**2**	4	**1**	0
sh2	Y	AC	ACX 5138 Y	**4**	27	**6**	32	**4**	24	**3**	24	Ht	**4**	2.8	**8**	85	**2**	2.0	**3**	9	**1**	0
sh2	Y	Sem	Basin R	**Rp**	0	**Rp**	0	**6**	31	**6**	34		**5**	3.3	**4**	25	**6**	4.0	**6**	35	**1**	0
sh2	Y	Bas	BC 503	**Rp**	0	**Rp**	0	**7**	36	**5**	29	Ht	**2**	2.0	**1**	0	**1**	1.5	**4**	14	**1**	0
sh2	Y	AC	Beyond	**Rp**	0	**Rp**	0	**7**	33	**4**	27	Ht	**5**	3.3	**7**	71	**2**	2.0	**3**	9	**1**	0
sh2	Y	Cr	Bountiful	**7**	36	**7**	36	**8**	41	**6**	32		**7**	4.2	**9**	94	**6**	4.3	**1**	0	**1**	0
sh2 aug	B	Rog	BSS 0982	**Rp**	0	**Rp**	0	**4**	25	**6**	34	Ht	**6**	4.0	**3**	14	**8**	5.0	**2**	3	**1**	0
sh2	B	Rog	BSS 1693	**Rp**	0	**Rp**	0	**Rp**	0	**1**	8	Ht	**2**	1.7	**2**	2	**1**	1.5	**3**	9	**1**	0
sh2	W	Cr	CAAWF5-201	**3**	21	**4**	27	**4**	23	**5**	29		**5**	3.5	**9**	95	**9**	6.8	**1**	0	**1**	0
sh2	W	Cr	Cascade	**7**	34	**7**	36	**7**	33	**5**	31		**7**	4.3	**9**	95	**6**	4.0	**2**	1	**1**	0

Table 3. Reactions of sweet corn hybrids in the University of Illinois disease nursery - 2007

				Common rust						Northern leaf blight			Stewart's wilt		MDMV A&B		SLB		Callisto		Laudis	
				avir		G-vir		D-vir														
ET	KC	SdCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	Ht	Rxn	Rate	Rxn	%	Rxn	Rate	Rxn	%	Rxn	%
sh2	B	HM	Cavalry	**Rp**	0	**Rp**	0	**4**	24	**1**	6	Ht	**3**	2.3	**2**	5	**1**	1.8	**1**	0	**1**	0
sh2	Y	SnRv	Columbus	**4**	27	**6**	35	**5**	26	**2**	12	Ht	**3**	2.7	**9**	97	**1**	1.8	**6**	34	**1**	0
sh2	B	Cr	CSABF5-157	**5**	28	**8**	39	**7**	36	**6**	33		**7**	4.2	**9**	98	**4**	3.0	**1**	0	**1**	0
sh2	W	Cr	CSAWF5-199	**Rp**	0	**Rp**	0	**6**	29	**3**	21		**5**	3.3	**5**	30	**2**	2.3	**2**	3	**1**	0
sh2	W	Cr	CSAWP5-202	**6**	31	**6**	33	**4**	25	**4**	25		**4**	2.8	**8**	86	**3**	2.8	**3**	8	**1**	0
sh2	Y	Cr	CSHYP3-99	**Rp**	0	**Rp**	0	**6**	31	**5**	29	Ht	**6**	3.8	**9**	98	**8**	5.5	**3**	6	**1**	0
shsy	W	Sem	Devotion	**4**	26	**5**	29	**5**	26	**6**	34	Ht	**4**	3.2	**9**	100	**3**	2.5	**5**	26	**1**	0
sh2	Y	DM	DMC 21-84	**Rp**	0	**Rp**	0	**4**	25	**6**	32	Ht	**3**	2.3	**4**	28	**9**	6.0	**2**	3	**1**	0
sh2	W	Sem	Even Sweeter	**8**	39	**7**	37	**8**	39	**4**	24		**6**	3.8	**9**	100	**1**	1.5	**5**	27	**1**	0
sh2	W	SnRv	Everest	**7**	35	**7**	36	**7**	33	**6**	34		**8**	4.8	**9**	100	**3**	2.8	**3**	7	**1**	0
shsy	Y	Sem	EX 0841 3049	**5**	29	**4**	24	**8**	39	**5**	29		**5**	3.3	**9**	100	**8**	5.0	**1**	0	**1**	0
shsy	B	Sem	EX 0843 4712	**Rp**	0	**Rp**	0	**6**	29	**6**	34	Ht	**7**	4.3	**9**	94	**4**	3.0	**5**	21	**1**	0
shsy	Y	Sem	EX 0870 8188	**4**	25	**5**	28	**4**	22	**3**	24	Ht	**4**	3.0	**9**	91	**1**	1.3	**1**	0	**1**	0
shsy	Y	Sem	EX 0871 7187	**Rp**	0	**Rp**	0	**5**	27	**5**	31	Ht	**5**	3.5	**2**	2	**5**	3.8	**1**	0	**1**	0
shsy	B	Sem	EX 0873 7009	**Rp**	0	**Rp**	0	**5**	28	**5**	31	Ht	**5**	3.5	**3**	10	**5**	3.5	**5**	24	**1**	0
shsy	B	Sem	EX 0874 5857	**Rp**	0	**4**	23	**Rp**	0	**3**	24	Ht	**3**	2.3	**9**	93	**8**	5.3	**4**	15	**1**	0
shsy	B	Sem	EX 0874 6057	**Rp**	0	**4**	25	**Rp**	0	**3**	23	Ht	**3**	2.7	**6**	67	**8**	5.0	**5**	22	**1**	0
sh2	Y	Sem	EX 0874 6106	**Rp**	0	**Rp**	0	**Rp**	0	**8**	42		**7**	4.2	**4**	23	**1**	1.8	**4**	14	**1**	0
sh2	Y		Exp 16	**Rp**	0	**Rp**	0	**Rp**	0	**3**	24	Ht	**4**	2.8	**2**	2	**3**	2.8	**1**	0	**1**	0
sh2	Y		Exp 17	**Rp**	0	**Rp**	0	**Rp**	0	**4**	25		**4**	3.0	**1**	0	**2**	2.3	**3**	6	**1**	0
sh2	Y		Exp 25	**Rp**	0	**Rp**	0	**Rp**	0	**6**	35		**7**	4.5	**4**	25	**8**	5.8	**6**	40	**1**	0
sh2 aug	W		Exp 26	**Rp**	0	**Rp**	0	**6**	31	**6**	34		**4**	3.2	**1**	0	**4**	3.3	**3**	5	**1**	0
sh2	Y	Rog	Garrison	**Rp**	0	**Rp**	0	**Rp**	0	**2**	10	Ht	**2**	1.8	**1**	0	**2**	2.0	**2**	4	**1**	0
sh2	Y	GG	GG Code 177	**Rp**	0	**Rp**	0	**8**	41	**5**	31		**5**	3.5	**9**	98	**9**	6.0	**3**	5	**1**	0
sh2	Y	GG	GG Code 179	**Rp**	0	**Rp**	0	**5**	28	**4**	27		**4**	3.2	**9**	100	**8**	5.5	**2**	3	**1**	0
sh2	Y	GG	GG Code 195	**Rp**	0	**8**	43	**Rp**	0	**6**	33		**6**	3.8	**8**	82	**7**	4.5	**2**	1	**1**	0
sh2	B	GG	GG Code 198	**7**	34	**7**	37	**6**	32	**6**	32		**5**	3.5	**6**	51	**8**	5.5	**2**	1	**1**	0
sh2	Y	GG	GG Code 202	**Rp**	0	**Rp**	0	**Rp**	0	**3**	24		**4**	3.0	**5**	35	**3**	2.8	**2**	3	**1**	0
sh2	Y	Rog	GSS 0969	**7**	34	**6**	35	**3**	17	**2**	17	Ht	**5**	3.5	**9**	95	**7**	4.8	**3**	9	**1**	0
sh2	Y	Rog	GSS 2008	**Rp**	0	**Rp**	0	**4**	24	**7**	39	Ht	**5**	3.3	**8**	88	**9**	6.0	**1**	0	**1**	0
sh2	Y	Rog	GSS 5649	**Rp**	0	**Rp**	0	**6**	31	**5**	29	Ht	**6**	4.0	**3**	18	**4**	3.3	**2**	4	**1**	0
sh2	Y	Rog	GSS 6550	**Rp**	0	**4**	27	**Rp**	0	**2**	12	Ht	**2**	1.7	**3**	14	**3**	2.8	**5**	26	**1**	0
sh2	Y	Rog	GSS 7627	**Rp**	0	**Rp**	0	**4**	22	**4**	27		**3**	2.3	**9**	92	**3**	2.5	**2**	1	**1**	0

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				Common rust						Northern leaf blight			Stewart's wilt		MDMV A&B		SLB		Callisto		Laudis	
				avir		G-vir		D-vir														
ET	KC	SdCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	Ht	Rxn	Rate	Rxn	%	Rxn	Rate	Rxn	%	Rxn	%
sh2	B	SnRv	HB 0192 OJ	**Rp**	0	**Rp**	0	**7**	33	**9**	44		**7**	4.2	**9**	98	**3**	2.5	**2**	4	**1**	0
sh2	B	SnRv	HB 2162 OL	**Rp**	0	**Rp**	0	**6**	32	**7**	38		**7**	4.3	**9**	93	**8**	5.0	**5**	24	**1**	0
sh2	B	SnRv	HB 2450 OM	**Rp**	0	**Rp**	0	**7**	35	**6**	36		**6**	4.0	**9**	95	**6**	4.3	**2**	4	**1**	0
sh2	B	SnRv	HB 2622 OM	**Rp**	0	**Rp**	0	**6**	32	**5**	29		**7**	4.5	**9**	95	**5**	3.8	**3**	6	**1**	0
sh2	B	SnRv	HB 2630 OM	**Rp**	0	**Rp**	0	**7**	33	**6**	32		**7**	4.3	**9**	100	**4**	3.0	**2**	1	**1**	0
sh2	B	SnRv	HB 2642 OM	**Rp**	0	**Rp**	0	**7**	34	**6**	33		**7**	4.3	**9**	93	**3**	2.5	**2**	3	**1**	0
sh2	Y	HM	HMX 4388 S	**4**	27	**5**	28	**4**	22	**6**	36		**6**	4.0	**9**	100	**5**	3.8	**3**	9	**1**	0
sh2	Y	HM	HMX 4396 S	**Rp**	0	**Rp**	0	**6**	31	**7**	37		**7**	4.3	**6**	58	**7**	4.5	**3**	6	**1**	0
sh2	Y	HM	HMX 6386 S	**Rp**	0	**6**	35	**Rp**	0	**4**	25	Ht	**4**	2.8	**3**	10	**1**	1.5	**9**	73	**8**	63
sh2	Y	HM	HMX 7389 S	**Rp**	0	**Rp**	0	**Rp**	0	**3**	20	Ht	**5**	3.3	**9**	97	**2**	2.0	**6**	32	**1**	0
sh2	Y	HM	HMX 7390 S	**Rp**	0	**Rp**	0	**4**	24	**6**	33	Ht	**4**	3.2	**4**	26	**2**	2.3	**5**	29	**1**	0
sh2	B	Cr	Holiday	**Rp**	0	**Rp**	0	**7**	36	**3**	23	Ht	**2**	2.2	**9**	97	**3**	2.5	**2**	2	**1**	0
sh2	B	Sem	Hollywood	**Rp**	0	**Rp**	0	**7**	36	**5**	31		**5**	3.5	**9**	97	**8**	5.0	**6**	44	**1**	0
sh2	W	SnRv	HW 1336 OK	**6**	33	**5**	31	**6**	30	**4**	24		**5**	3.3	**9**	100	**4**	3.0	**4**	12	**1**	0
sh2	W	SnRv	HW 2545 OM	**Rp**	0	**Rp**	0	**5**	28	**5**	30		**5**	3.3	**2**	7	**5**	3.5	**5**	26	**1**	0
sh2	Y	SnRv	HY 1089 OM	**3**	23	**2**	19		.	**7**	39		**9**	5.0	**9**	90	**9**	6.5	**1**	0	**1**	0
sh2	Y	SnRv	HY 1439 OM	**Rp**	0	**Rp**	0	**5**	28	**5**	28	Ht	**7**	4.2	**9**	100	**5**	3.8	**3**	5	**1**	0
sh2	Y	SnRv	HY 1471 OM	**Rp**	0	**Rp**	0	**8**	42	**8**	43		**8**	4.7	**9**	94	**7**	4.5	**1**	0	**1**	0
sh2	Y	SnRv	HY 1481 OM	**Rp**	0	**Rp**	0	**6**	30	**4**	27	Ht	**6**	3.7	**9**	100	**3**	2.8	**2**	4	**1**	0
sh2	Y	SnRv	HY 1790 OK	**Rp**	0	**Rp**	0	**7**	34	**5**	29	Ht	**6**	3.8	**9**	97	**2**	2.0	**1**	0	**1**	0
sh2	Y	SnRv	HY 579 OK	**3**	21	**5**	31	**4**	24	**4**	27	Ht	**5**	3.3	**9**	100	**1**	1.8	**2**	3	**1**	0
sh2	W	HM	Iceberg (5354 WS)	**7**	36	**7**	37	**7**	33	**5**	29		**4**	3.0	**4**	26	**1**	1.8	**2**	1	**1**	0
sh2	Y	Cr	Marvel R	**Rp**	0	**Rp**	0	**Rp**	0	**6**	33		**5**	3.5	**9**	100	**6**	4.3	**1**	0	**1**	0
sh2	Y	HM	Max	**Rp**	0	**Rp**	0	**5**	28	**5**	31		**4**	2.8	**3**	12	**3**	2.8	**4**	19	**1**	0
sh2	Y	Cent	Mirai 148 Y	**2**	17	**4**	26	**4**	24	**5**	29	Ht	**5**	3.3	**8**	89	**9**	6.5	**2**	4	**1**	0
sh2	B	Cent	Mirai 301 BC	**5**	29	**4**	27	**6**	31	**6**	33		**3**	2.5	**8**	85	**4**	3.3	**3**	7	**1**	0
sh2	B	Cent	Mirai 302 BC	**3**	23	**5**	31	**6**	30	**6**	34		**3**	2.5	**9**	91	**5**	3.8	**4**	16	**1**	0
sh2	B	Cent	Mirai 308 BC	**4**	24	**4**	23	**4**	22	**6**	34	Ht	**3**	2.7	**8**	85	**9**	6.5	**2**	4	**1**	0
sh2	B	Cent	Mirai 334 BC	**3**	21	**2**	15	**3**	21	**5**	28		**1**	1.2	**9**	97	**3**	2.8	**3**	9	**1**	0
sh2	B	Cent	Mirai 336 BC	**4**	24	**4**	25	**5**	26	**5**	28	Ht	**2**	2.2	**9**	96	**2**	2.3	**4**	11	**1**	0
sh2	B	Cent	Mirai 350 BC	**4**	27	**6**	32	**4**	25	**4**	27	Ht	**4**	3.0	**9**	96	**7**	4.5	**2**	3	**1**	0
sh2	W	Cent	Mirai 421 W	**6**	33	**6**	33	**6**	32	**6**	35		**3**	2.7	**9**	97	**6**	4.0	**2**	3	**1**	0
shsy	B	Sem	Obsession	**Rp**	0	**Rp**	0	**4**	23	**3**	20	Ht	**3**	2.3	**9**	93	**2**	2.0	**2**	1	**1**	0

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				Common rust						Northern leaf blight			Stewart's wilt		MDMV A&B		SLB		Callisto		Laudis	
				avir		G-vir		D-vir														
ET	KC	SdCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	Ht	Rxn	Rate	Rxn	%	Rxn	Rate	Rxn	%	Rxn	%
sh2	B	Cr	Optimum	**7**	35	**6**	35	**7**	36	**6**	34		**7**	4.2	**9**	91	**6**	4.0	**1**	0	**1**	0
shsy	Y	Sem	Passion	**Rp**	0	**Rp**	0	**4**	25	**3**	20	Ht	**3**	2.5	**9**	96	**4**	3.0	**2**	3	**1**	0
sh2	Y	HM	Ranger	**8**	37	**7**	38	**7**	34	**1**	6	Ht	**5**	3.3	**1**	0	**2**	2.0	**4**	17	**1**	0
sh2	Y	HM	Sentinel	**Rp**	0	**Rp**	0	**5**	27	**2**	18	Ht	**3**	2.5	**2**	9	**2**	2.3	**2**	4	**1**	0
sh2	Y	Sem	Shimmer	**Rp**	0	**Rp**	0	**4**	24	**2**	15	Ht	**3**	2.5	**9**	93	**1**	1.5	**3**	9	**1**	0
sh2	Y	Cr	Shogun	**Rp**	0	**Rp**	0	**6**	32	**2**	11	Ht	**2**	1.8	**4**	21	**1**	1.8	**9**	81	**9**	80
sh2	W	HM	Snow White	**9**	58	**9**	64	**9**	58	**6**	33		**4**	3.2	**3**	15	**1**	1.8	**2**	3	**1**	0
sh2su	W	AC	Summer Sweet 781 Ultra	**7**	36	**8**	43	**8**	39	**2**	17	Ht	**3**	2.5	**9**	94	**4**	3.3	**4**	16	**1**	0
sh2	Y	Rog	Supersweet Jubilee	**6**	33	**6**	34	**7**	36	**8**	41		**8**	4.8	**9**	94	**8**	5.0	**5**	23	**1**	0
sh2	Y	Rog	Supersweet Jubilee Plus	**Rp**	0	**Rp**	0	**6**	31	**7**	39		**9**	5.0	**9**	100	**8**	5.0	**6**	39	**1**	0
sh2	Y	HM	Sure Gold	**Rp**	0	**Rp**	0	**7**	36	**5**	31		**6**	3.8	**3**	15	**2**	2.0	**5**	29	**1**	0
sh2	B	Cr	Surpass	**8**	37	**8**	40	**7**	36	**5**	29		**6**	4.0	**9**	93	**6**	4.0	**1**	0	**1**	0
sh2	W	Cr	Symmetry	**Rp**	0	**Rp**	0	**3**	21	**3**	20	Ht	**4**	2.8	**1**	0	**5**	3.8	**4**	16	**1**	0
sh2	W	Rog	WSS 1262	**5**	29	**6**	34	**7**	33	**6**	33	Ht	**6**	4.0	**8**	87	**9**	6.8	**6**	36	**1**	0
sh2	Y	IFS	XTH 1174	**5**	29	**6**	35	**7**	37	**6**	33		**6**	4.0	**7**	75	**5**	3.8	**2**	4	**1**	0
sh2	B	IFS	XTH 2179	**6**	31	**7**	36	**5**	28	**6**	34		**4**	3.0	**9**	90	**5**	3.5	**3**	9	**1**	0
sh2	W	IFS	XTH 3173	**6**	32	**8**	39	**7**	36	**7**	39		**5**	3.3	**9**	97	**9**	6.5	**4**	19	**1**	0
sh2	W	IFS	XTH 3175	**7**	36	**9**	45	**8**	41	**8**	40		**6**	3.8	**9**	100	**7**	4.8	**8**	51	**8**	57
sh2	Y	AC	Y010Y	**Rp**	0	**Rp**	0	**7**	37	**6**	34	Ht	**7**	4.5	**9**	92	**8**	5.0	**2**	2	**1**	0
			Mean	30.4*		32.5*		29.3*		28.4			3.1		69.4		3.3		8		2	
			SD	6.7*		7.3*		7.7*		8.6			0.9		38		1.4		14		12	
			BLSD (0.05)	6.2*		6.4*		7.5*		8.5			1.0		16		2.1		11		na	
			Best (min.)	2*		15*		10*		1			1.2		0		1.3		0		0	
			Best 25%	27*		27*		24*		24			2.5		25		2.3		0		0	
			Median	32*		33*		29*		29			3.0		93		3.0		3		0	
			Worst 25%	35*		37*		34*		34			3.7		98		4.2		9		0	
			Worst (max.)	58		64		58		56			6.0		100		6.8		91		88	

* excluding Rp-hybrids

Rxn - classification of hybrid disease reactions: 1 - resistant, 3 - moderately resistant, 5 - moderate, 7 - moderately susceptible, 9 - susceptible

Rate - disease rating: 1 to 9 scale (Stewart's wilt, SLB); 0 to 100% leaf area infected (NLB, avirulent, G-virulent rust, D-virulent rust); 0 to 100% incidence of infected plants (MDM)

Seed source: AC - Abbott & Cobb, Bas - Basso, Cen - Centest, Cr - Crookham, DM - Del Monte, GG - Green Giant, HM - Harris Moran, IFS - Illinois Foundation Seeds, MM - Mesa Maize, Rog - Rogers (Syngenta), Sem - Seminis, SnR - Snowy River