SWEET CORN HYBRID DISEASE NURSERY – 2008

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Sweet corn hybrids have been evaluated for their reactions to prevalent diseases in nurseries at the University of Illinois for 25 consecutive years. In this 'Silver Anniversary' edition of the University of Illinois sweet corn disease nursery, we attempted to evaluate as many hybrids as possible among those available commercially in North America. This report summarizes the reactions of 565 sweet corn hybrids to common rust, NLB, Stewart's wilt, MDM, SLB and Goss's wilt based on their performance in the 2008 nursery. The responses of these hybrids to three HPPD-inhibiting, post-emergence herbicides - Callisto (mesotrione), Laudis (tembotrione), and Impact (topramezone) – also were evaluated.

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.

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, categories of disease reactions 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.

Certain post-emergence herbicides also can injure some sweet corn hybrids. Responses of sweet corn hybrids to several cytochrome P450-metabolized herbicides have been associated with a mutation in a specific cytochrome P450 gene in corn. Classification of responses to herbicides can help identify hybrids with the greatest risk of herbicide injury.

MATERIALS AND METHODS

Hybrids. The 2008 nursery included 331 *sh2* hybrids, 114 *se* hybrids and 120 *su* hybrids. Hybrids with multiple endosperm mutations were placed in the most appropriate of these three categories. Six hybrids (Coho, GH 5704, Max, Mont Blanc, Morning Star, and Saturn) were duplicated in the trial. Separate entries of those six hybrids are reported and serve as a measure of variability in the trial. Standard hybrids with relatively consistent reactions to common rust, Stewart's wilt, NLB, MDM, and SLB (Table 1) also were included to compare the results of the 2008 nursery to those from previous nurseries. Hybrids known to carry the *Rp1-D*, *Rp1-E*, *Rp1-I* or *Rp-G* rust resistance genes also were included and aid in the interpretation of responses to different populations of *Puccinia sorghi*.

Table 1. Reactions of sweet corn hybrids included as standards in the 2008 disease nursery

	Stewart's wilt			Common rust (races)				NLB (race 0)			MDM A&B			SLB		
Hybrid	Prior	08	Rating	Prior	avir*	D	G*	Prior	08	Rating	Prior	08	Rating	Prior	08	Rating
277A	4	2	2.2	6	7	6	6	5	6	42%	9	9	100%	3	4	3.8
Ambrosia	2	2	1.9	5	6	5	6	5	5	35%	9	9	100%	6	5	4.3
Bonus	1	1	1.1	Rp	Rp	5	3	5	5	37%	2	4	30%	7	5	4.3
El Toro	3	2	2.1	Rp	Rp	5	5	7	6	41%	2	3	15%	4	3	3.3
Eliminator	2	1	1.6	Rp	Rp	7	5	6	7	43%	1	1	0%	6	4	4.0
Garrison	2	2	2.1	Rp	Rp	Rp	Rp	2	2	20%	2	2	3%	3	6	4.8
GH 1829	5	5	3.3	Rp	Rp	Rp	2	6	7	44%	9	9	100%	6	7	5.3
Jubilee	9	8	4.7	5	5	6	5	8	9	55%	9	9	100%	4	5	4.5
Miracle	1	1	1.6	3	3	5	4	3	4	29%	9	9	100%	3	3	3.5
Sensor	5	4	3.1	4	6	5	5	4	5	33%	9	8	95%	3	4	3.8
Snow White	7	7	4.2	9	9	8	9	7	8	51%	3	5	50%	3	5	4.3
Tuxedo	3	3	2.7	3	4	5	1	2	3	25%	9	9	100%	1	1	2.0

Prior - reaction in previous years (1984-2004). *Note: D-virulent rust was present in all three rust trials.
08 - reaction in 2008: 1 - resistant, 3 - moderately resistant, 5 - moderate, 7 - moderately susceptible, 9 - susceptible.
Rating -2008 mean rating: 1 to 9 for Stewart's wilt and SLB; 0 to 100% severity of NLB, 0 to 100% incidence of MDM.

Table 2. Criteria for classifying hybrid reactions to diseases in the 2008 nursery

	Classification of reaction									
		Resistant	Moderately resistant			Moderate	Moderately susceptible			Susceptible
Disease (rating)	Rp	1	2	3	4	5	6	7	8	9
Rust (%)	0	< 10	< 15	< 20	< 25	≤ 30	≤ 35	≤40	≤ 45	>45
NLB race 0 (%)		< 18	≤22	< 28	<33	< 38	<4 3	< 48	<55	≥55
Stewart's wilt (1-9)		< 2	≤ 2.3	< 2.7	< 3.3	≤ 3.5	< 4	< 4.5	< 5	≥ 5
MDM-A&B (%)		0	≤ 10	≤ 20	≤ 30	≤ 50	< 70	< 90	< 100	100
SLB (1-9)		≤ 2.5	≤ 3	≤ 3.5	≤4	≤ 4.5	≤.5	≤ 5.5	< 6	≥ 6
Goss's wilt (1-9)		<3	<3.3	<3.6	<3.9	<4.2	<4.5	<4.8	≤5.2	>5.2
Callisto (%)		0	≤3	≤5	≤10	≤20		≤40		>40
Laudis (%)		0								≥ 50

See text for description of disease and herbicide assessments.

Experimental design and procedures. Each trial of a disease or herbicide was a separate experiment with replicates of hybrids arranged in randomized complete blocks. Each rep was split into two main blocks: *sh2* hybrids or *su* and *se* hybrids. Each experimental unit was a 12-ft. row with about 18 plants per row. Trials were planted in four different fields (Table 6) from May 21 to June 16 on the University of Illinois South Farms and included: Stewart's wilt (3 reps), NLB (3 reps), MDM (3 reps), SLB (2 reps), Goss's wilt (2 reps), D-rust (2 reps), G-rust (2 reps), and avirulent rust (1 rep). Responses to Callisto (mesotrione), Laudis (tembotrione), and Impact (topramezone) were evaluated from 9, 5 and 4 reps, respectively. Due to excessive rain at planting, some plots were flooded or had poor stands in each trial.

Inoculation and disease assessment. Plants at the 4- to 6-leaf stage were inoculated with *Erwinia stewartii* (Stewart's wilt) and *Clavibacter michiganense nebraskensis* (Goss's wilt) by wounding leaves in the whorl and introducing bacteria in a 0.1 M saline solution into wounds. For the three foliar fungal diseases, (NLB, SLB, and common rust) spores were sprayed directly into plant whorls from the 3- to 8-leaf stages. Inocula consisted of a mixture of conidia of races 0 and 1 of *Exserohilum turcicum*; conidia of *Bipolaris maydis* race O; or urediniospores of one of three isolates of *Puccinia sorghi*: avirulent on Rp genes (avirulent), Rp1-D-virulent (D-virulent), or Rp-G/Rp1-I/Rp1-E-virulent (G-virulent). Plants were inoculated with *Maize dwarf mosaic virus* strains A (MDMV) and B (SCMV) at one of three growth stages: 3- to 5-leaf, 5- to 7-leaf, or 7- to 9-leaf stages. A phosphate buffer solution with the viruses was sprayed directly onto leaves using a motorized backpack sprayer.

The total number of plants and the number of plants with symptoms of MDM were counted about 2 wk after inoculation. Incidence (%) of MDM-infected plants was calculated for each hybrid from totals of all replicates. Symptom severity was rated for each of the other diseases. Stewart's wilt and Goss's wilt were rated before anthesis using a scale from 1 (symptoms within 2 cm of inoculation wounds) to 9 (severe systemic infection or dead plants). Chlorotic, Rp-resistant reactions were scored in the avirulent rust trial about 2 wk after the final inoculation. Percent leaf area infected with common rust and NLB were rated at harvest maturity in all rust and NLB trials. Hybrids with chlorotic NLB-lesions typical of Ht-resistance also were noted. Symptoms of SLB were rated on a 1 to 9 scale (mild to severe).

Herbicide application and assessment. Post-emergence herbicides were applied at 2X registered rates with 1% crop oil concentrate (COC) when the majority of plants ranged from the 4- to 5-leaf stages and were about 8 to 12 inches tall. Herbicide treatments included Callisto at 6.0 oz/A, Impact at 1.5 oz/A, and Laudis at 6.0 oz/A. All fields were treated pre-emergence with metachlor + atrazine.

Corn injury was rated visually 1 and 3 weeks after application independently using two methods. One method scored each row for percentage of leaf area with bleaching symptoms. The other method classified rows from 1 to 9, where 1 = no injury apparent, 5 = moderate injury, 9=severe injury or dead plants.

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), and ranks of standard hybrids.

RESULTS AND DISCUSSION

Symptoms ranged from slight disease to severely infected plants (Table 7). 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 7 includes reactions and disease ratings of 565 hybrids **based solely on the 2008 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.

Stewart's wilt. Stewart's wilt ratings ranged from 1.1 to 5.6 with a mean of 3. Eighty hybrids that were rated 4.5 or higher (i.e., frequent systemic infection) were classified as moderately susceptible to susceptible (7 to 9). Symptoms of Stewart's wilt were mild (rated less than 2) on 51 hybrids classified as resistant. An additional 181 hybrids were classified from resistant to moderately resistant. Ten hybrids rated below 1.5 had highly resistant reactions. These included: 0875 5821, Bonus, GH 0937A, GG Code 175, GG Code 188, GSS 6550P, Harvest Gold, HMX 8375S, Mirai 350 BC, and QHB 6RH 1074. If Stewart's wilt infection is non-systemic (i.e., ratings <3), yield is affected minimally.

Goss's wilt. Goss's wilt ratings ranged from 2.5 to 6.5 with a mean of 4.2. Due to severe flooding in the field in which the Goss's wilt trial was located, only 374 hybrids were rated for reactions to this disease. Seven hybrids rated below 3 were classified as resistant to Goss's wilt, including: CSAYP6-255, Denali, GG Code 127, GG Code 188, GG Code 212, Maize Dulce BC 503, and Symmetry. An additional 61 hybrids were classified from R to MR.

The linear correlation between Goss's wilt and Stewart's wilt ratings was only 0.48, which was lower than previously observed correlations between ratings for these two diseases ranging from 0.64 to 0.77. Of 67 hybrids classified R to MR for Goss's wilt, only two were classified MS to S for Stewart's wilt; however, among 142 hybrids classified R to MR for Stewart's wilt, 19 were classified MS to S for Goss's wilt.

Northern leaf blight. Severity of NLB (% leaf area symptomatic) ranged from 10% to 70% and averaged 38% in the 2008 trial. Most of the lesions on hybrids with the *Ht1*-gene were chlorotic indicating that race 0 was prevalent in this trial. Therefore, NLB was about ⅓ to ¼ less severe on hybrids with Ht1-resistance than if inocula were an equal mixture of races 0 and 1.

Severity was less than 18% on 26 hybrids classified as resistant. An additional 64 hybrids were classified from R to MR with less than 28% leaf area infected. Of the 90 hybrids with the most resistant reactions to NLB, 82 were sh2 and 4 each were se and su endosperm types. Effects of NLB on yield are minimal when severity is below 20%. NLB severity was greater than 48% on 168 hybrids classified from MS to S; and 28, 80 and 60 of these hybrids were se, sh2 and su endosperm types, respectively.

All but six of the 90 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 6 of 168 hybrids classified from MS to S had Ht-gene resistant reactions. NLB severity averaged 28% and ranged from 10% to 48% on 179 hybrids with Ht-gene reactions. Severity averaged 42% and ranged from 25% to 70% for 384 hybrids without Ht-gene reactions.

Maize dwarf mosaic. Incidence of MDM-infected plants ranged from 0 to 100% and averaged 80%. Most hybrids (347) were completely susceptible to MDM with 100% symptomatic plants in three replicates. An additional 86 hybrids were classified from MS to S with more than 70% symptomatic plants. These hybrids probably are susceptible but were classified from MS to S because a few plants escaped infection.

Hybrids classified from resistant to moderate tended to have differential responses to MDM depending on the growth stage at which they were inoculated. MDM-infected plants were not observed among 22 hybrids classified as resistant. Among 51 hybrids classified from R to MR, incidence of MDM-infected plants ranged from 1% to 20%; however, most of these hybrids had less than 10% symptomatic plants when inoculated at the 7- to 9-leaf stage, while incidence of MDM-infected plants was as high as 30% when plants were inoculated at the 3- to 5-leaf, or 5- to 7-leaf

stages. An additional 59 hybrids with 20% to 70% MDM-infected plants were classified from MR to MS. Most of these hybrids had less than 50% MDM-infected plants when inoculated at the 7- to 9-leaf stages; but MDM incidence was above 50% in the replicates in which these hybrids were inoculated at the 3- to 5-leaf or 5- to 7-leaf stages.

Most of the 132 hybrids classified from R to M/MS (less than 70% incidence) probably carry the *Mdm1* gene although many may be heterozygous for this gene and/or may not carry additional "modifier" genes necessary for complete resistance to MDM. Among the 132 hybrids with R to M reactions to MDM, 99 were main or full season (relative maturity of 4 or 5), 116 had Rp-resistant reactions to the avirulent isolates of common rust, and 74, 53, and 3 were sh2, su, and se endosperm types, respectively.

Southern leaf blight. SLB ratings (1 to 9 scale) ranged from 1 to 6.8 and averaged 4.1. Ratings were 5.5 or above for 50 hybrids classified as MS to S. Only 10 of these 50 hybrids were main or full season maturity (maturity of 4 or 5). One hundred and forty-six hybrids rated from 2.5 to 3.5 were classified from R to MR. Twenty-two hybrids rated 2.5 or below were classified as resistant.

Common rust. Reactions to common rust were slightly difficult to interpret because D-virulent isolates of *P. sorghi* occurred naturally in all rust trials and G-virulent isolates occurred in the avirulent trial late in the season. Two weeks after inoculation with an avirulent isolate of *P. sorghi*, 48% of the hybrids (274 of 566) had a chlorotic-fleck, Rp-resistant reaction characterized by an absence of pustules. These hybrids appear to carry an Rp-gene for resistance. Conversely, at harvest maturity in the avirulent trial, rust severity ranged from 1% to 30% on many of these 273 Rp-resistant hybrids, indicating the presence of virulent isolates. Reactions of hybrids with known Rp-genes can help explain these results (Table 3).

Garrison, which carries the *Rp1-D* and *Rp1-I* genes was resistant in all three trials, indicating that isolates with a combination of virulence against both of these genes were not present. GH 1829 (*Rp-G*), GH 5704 (*Rp1-I*) and GH 6198 (*Rp1-E*) were resistant 2 wk after inoculation in the avirulent trial and at harvest maturity in the D-virulent trial. These hybrids had slight amounts of rust (1% to 11%) at harvest maturity in the avirulent trial and were susceptible as expected (12% to 31% rust severity) in the G-virulent trial. Thus, it appears that low levels of G-virulent rust occurred in the avirulent trial later in the season. WH 2801 which carries the *Rp1-D* gene was resistant 2 wk after inoculation in the avirulent trial and was susceptible (50% severity) in the D-virulent trial as expected. However, in the G-virulent trial and at harvest maturity in the avirulent trial, rust severity was 32% and 16% on this hybrid indicating that D-virulent inoculum was present in both of these trials.

Table 3. Reactions of hybrids with known rust genes in trials inoclated with different isolates of *Puccinia sorghi*

	Rust severity (%)			
	avirulent		D-virulent	G-virulent
Hybrid (Rp genes)	2 wk	harvest	harvest	harvest
Garrison (*Rp1-D/Rp1-I*)	0	0	0	0
GH 1829 (*Rp-G*)	0	**1**	0	12
GH 5704 (*Rp1-E*)	0	**11**	0	31
GH 6198 (*Rp1-I*)	0	**11**	0	25
WH 2801 (*Rp1-D*)	0	**16**	50	**33**

bold/shaded results were unexpected

Forty-three hybrids were Rp-resistant in all three trials: avirulent, G-virulent, and D-virulent. Similar to Garrison which is *Rp1-D/Rp1-I*, these hybrids probably carry the *Rp1-D* gene that conveys resistance to G-virulent isolates and an Rp gene that conveys resistance to D-virulent isolates (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 "compound rust resistance" in which different combinations of Rp genes are closely linked in coupling phase, e.g., *Rp1-DGJ, Rp1-JFC* or *Rp-GFJ*.

An additional 44 hybrids were Rp-resistant to avirulent and D-virulent isolates, but susceptible to G-virulent isolates. These hybrids probably carry the *Rp-G, Rp1-I,* or *Rp1-E* gene similar to GH 1829, GH 5704 or GH 6198. The remaining 187 hybrids were Rp-resistant 2 wk after inoculation in the avirulent trial, but rust severity on these hybrids ranged from 17% to 50% in the D-virulent trial and from 3% to 36% in the G-virulent trial. Rust also was observed on all but 8 of these hybrids at harvest maturity in the avirulent trial. Similar to WH 2801, these hybrids probably carry the *Rp1-D* gene.

Among the 292 hybrids that were not Rp-resistant, rust severity ranged from 9% to 65%, 16% to 52%, and 7% to 58% in the avirulent, D-virulent, and G-virulent trials, respectively. Only one hybrid, GG Code 74 was rated MR or better in all three trials with an average rust severity of 13% over five replicates. Mean rust severity over all five replicates was less than 20% on five additional hybrids (GG Code 150, Merlin, Nauset, Sugar 73, and Tuxedo) although each of these five hybrids was classified from MR to M in at least one trial. Seventy-one hybrids with an average rust severity of 36% or higher were classified as MS to S in the three trials. Rust has the potential to be very severe on these 71 hybrids.

Reactions to herbicides. Injury due to the three HPPD-inhibiting herbicides was assessed based on the amount of leaf area "bleached" (loss of chlorophyll) 1 and 3 wk after application. None of the sweet corn hybrids were injured by Impact (topramezone). Laudis (tembotrione) severely injured three hybrids: DMC 20-38, HMX 8381S, and Merit. These three hybrids and five others (177A, 3175, CSAYP6-225, HMX 6386S, and SVR 0870 5770) also were severely injury by Callisto (mesotrione). Six of these eight hybrids are known to be homozygous for a mutant cytochrome P450 (CYP) allele that conditions sensitivity to several post-emergence herbicides. Callisto mildly injured an additional 87 hybrids (classified from 3 to 6). No symptoms or trace symptoms were observed 1 wk after application on 471 hybrids.

Based on previous research, 145 hybrids were known to be homozygous or heterozygous for CYP alleles that condition herbicide sensitivity or tolerance. All six hybrids that were homozygous for the mutant CYP allele conditioning herbicide sensitivity were severely injured by Callisto. None of the 71 hybrids that were homozygous for the CYP allele conditioning tolerance were injured. Of 68 hybrids that were heterozygous for these CYP alleles, 26 were mildly injured (classified 3 to 6) and 42 were not injured.

Multiple disease resistance. One hybrid in the 2008 nursery was rated R to MR for all diseases and herbicides. BSS 1693 was Rp-resistant in all three rust trials, resistant to MDMV A&B, NLB and Stewart's wilt, moderately resistant to SLB, and herbicide tolerant. GH 6223 also was R or MR to all diseases and herbicides except for an M/MS reaction to Goss's wilt. Garrison was R to MR for all diseases and herbicides except for an M/MS reaction to SLB.

Maturity, endosperm type, and disease reactions. Resistance to each of the diseases evaluated in these trials was more common among main- and full-season hybrids than among first- and second-early-season hybrids (Table 4). Less than 25% of the early-season hybrids carried an Rp gene for rust resistance whereas nearly 65% of the main- and full-season hybrids had an Rp gene. Among non-Rp hybrids, mean rust severity was about 5% to 10% higher on early-season hybrids than on late-season hybrids. Similarly, only 6 of 123 early-season hybrids were MDM-resistant while nearly one-third (89 of 286) of the main- and full-season hybrids had some resistance to MDM. For Stewart's wilt, less than 15% of the early-season hybrids were classified R to MR, while 50% of the main- and full-season hybrids had R to MR reactions. Fewer hybrids were classified as R to MR for NLB than any of the other diseases. Only 3 of 123 early-season hybrids were MR or better for NLB and only 22% (64 of 286) of the main- and full-season hybrids were R to MR for NLB.

Resistance to rust and MDM was more prevalent among su and sh2 hybrids than among se hybrids (Table 5). Nearly 75% and 50% of su and sh2 hybrids, respectively, had an Rp gene whereas only 10% of se hybrids were Rp-resistant. A few se hybrids had better partial rust resistance than most sweet corn varieties, but only one se hybrid (Bodacious RM) was Rp-resistant to both D-virulent and G-virulent rust isolates. Nearly 40% and 20% of the su and sh2 hybrids, respectively, had some resistance to MDM while only 3 of 114 se hybrids were MDM resistant. Reactions to Stewart's wilt appeared to be distributed similarly among su, se and sh2 hybrids with about 40% R to MR hybrids within each endosperm type. About 20% of the sh2 hybrids were R to MR to NLB, but resistance to this disease was relatively uncommon (4 of 234 hybrids) among su and se hybrids. In fact, susceptibility to NLB was common among su and se hybrids as 25% of se hybrids and 50% of su hybrids were classified from MS to S for NLB.

Table 4. Number of resistant[a] hybrids grouped by maturity

Maturity[b] (scale)		n	Common rust avir	D-vir	G-vir	D+G	Stewart's wilt	NLB	MDM	SLB	Goss's wilt[c]
First early	(1)	41	10	1	9	0	4	1	0	4	1
Second early	(2)	82	23	4	20	1	13	2	6	16	5
Mid season	(3)	149	65	20	52	7	61	23	25	38	19
Main season	(4)	200	127	46	107	25	93	44	54	78	28
Full season	(5)	86	52	20	46	14	54	20	35	32	15

[a] resistance - R to MR for Stewart's, NLB, SLB or Goss's wilt; Rp or R to MR for rust; R to M for MDM

[b] maturity - based on information provided by seed company.

[c] only 374 hybrids were evaluated for reactions to Goss's wilt.

Table 5. Number of resistant[a] hybrids grouped by endosperm type

Endosperm type	n	Common rust avir	D-vir	G-vir	D+G	Stewart's wilt	NLB	MDM	SLB	Goss's wilt[b]
Sugary	120	91	35	75	19	47	4	48	21	8
Sugary enhancer	114	17	7	14	3	43	4	3	52	28
Shrunken-2	331	169	49	146	25	135	82	69	95	30

[a] resistance - R to MR for Stewart's, NLB, SLB or Goss's wilt; Rp or R to MR for rust; R to M for MDM

[b] only 374 hybrids were evaluated for reactions to Goss's wilt.

Table 6. Protocol for the 2008 University of Illinois sweet corn hybrid disease nursery

Field and Trial	Herbicide	Inoculated	Rated
M3N (May 23)			
avirulent rust	Callisto	June 10, 12, 17, 19, 20	July 10 (Rp), July 31
MDM	Callisto	June 25, July 1	July 11, 25
Cruse 1000 (May 29)			
Goss's (2 reps)	Laudis	June 23, 25	July 17-18
MDM	Callisto	June 20, 25	July 19
SLB	Callisto	June 26, 27, 30; July 8, 11	August 4
D-rust	Impact	June 23, 25, 27; July 1, 3, 8	August 4-5
NLB	Impact	June 24, 26, 30; July 3, 9, 10	August 5
M7W (June 3)			
Stewart's (2 reps)	Callisto	June 30; July 7, 11	July 23-24, Aug 12-13
G-rust (2 reps)	Callisto	July 2, 9, 14, 16	August 19-20
Cruse 1200 (June 16)			
NLB (2 reps)	Callisto/Laudis	July 9, 10, 15, 17, 22	August 20-21
SLB	Impact	July 11, 16, 23	August 18
D-rust	Impact	July 8, 11, 15, 17, 23	August 19
MDM	Laudis	July 8, 10	July 20, August 15
Stewart's	Laudis	July 9, 15	July 30, August 14

Table 7. Reactions of hybrids in the University of Illinois sweet corn disease nursery - 2008

					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Sugary and sugar enhancer hybrids																						
su	Y	5	Sem	0875 5821	Rp	0	Rp	0	Rp	0	4	32	Ht	1	1.3	1	0	6	4.8	3	3.3	1
su	Y	4	Sem	847 5418	Rp	4	5	27	2	12	7	45		2	2.3	8	93	4	4.0	6	4.2	1
su	Y	5	Sem	A0873 5807	Rp	2	4	22	1	6	5	34	Ht	1	1.9	1	0	7	5.5	3	3.3	1
su	Y	5	Sem	A0875 7057	Rp	0	Rp	0	Rp	0	6	41	Ht	6	3.6	2	3	5	4.3	7	4.7	1
se	B	4	Sem	Absolute	5	30	5	29	5	29	5	37		3	2.7	9	100	4	4.0	9	5.5	1
se	B	4	MM	Accord	7	40	6	32	6	34	4	30		3	2.5	9	100	1	2.5	6	4.3	2
se	B	3	Cr	Ambrosia	6	33	5	28	6	34	5	35		2	2.0	9	100	5	4.3	2	3.2	1
sesyn	B	3	Cr	Applause	6	33	5	28	4	21	6	41		4	3.2	9	100	6	4.8	4	3.8	1
se	W	4	Cr	Argent	5	28	5	25	5	30	4	29		2	2.1	7	88	4	3.8	3	3.5	4
se	W	4	MM	Augusta	6	33	5	28	6	32	5	34		3	2.6	9	100	4	3.8	3	3.3	1
se+	W	4	Rog	Avalon	Rp	10	4	23	2	11	6	42		6	3.6	9	100	3	3.3	5	4.0	1
se+	B	4	Rog	BC 0805 A	Rp	4	5	28	3	17	6	41		7	4.3	9	100	3	3.5	4	3.8	1
se	B	3	Rog	BC 0808	Rp	2	Rp	0	2	11	8	50		6	3.8	9	100	2	3.0	6	4.2	1
su	Y	1	SnRv	Bliss	Rp	11	8	42	4	23	7	43		2	2.2	9	100	7	5.5	6	4.2	1
se	Y	3	Cr	Bodacious	5	26	5	29	4	24	6	43		3	2.7	9	100	6	5.0	4	3.8	1
se	Y	3	Cr	Bodacious R/M	Rp	0	Rp	0	Rp	0	8	50		5	3.3	4	26	6	4.8	4	3.8	1
sesyn	B	3	Cr	Bojangles	6	35	6	33	5	29	6	41		3	2.7	9	100	9	6.0	5	4.0	1
su	Y	4	Rog	Bold	Rp	23	9	49	7	36	4	30		1	1.9	5	39	3	3.3	6	4.3	1
se	B	2	MM	Bon Apetit TSW	6	33	6	31	6	34	5	37		4	3.0	9	100	6	4.8	7	4.5	1
se	B	2	MM	Bon Jour TSW	5	28	6	31	6	32	9	55		8	4.6	9	100	7	5.3	9	5.5	1
su	Y	4	HM	Bonanza	9	55	7	39	6	35	6	39		4	3.1	8	91	4	3.8	8	4.8	3
su	Y	5	Rog	Bonus	Rp	9	5	30	3	19	5	37	Ht	1	1.1	4	30	6	5.0	4	3.7	1
se	Y	3	MM	Breeders Choice	8	43	7	40	7	37	5	34		3	2.6	9	100	3	3.3	5	4.0	1
se	B	4	MM	Brocade TSW	7	40	6	32	6	33	4	28		3	2.4	8	97	4	3.8	6	4.2	1
se	B	3	MM	Buccaneer	8	45	6	35	6	35	6	38		4	3.0	9	100	3	3.3	3	3.3	1
su	Y	2	Rog	Cahill	Rp	5	Rp	0	4	22	7	48		6	3.9	9	100	5	4.3	6	4.3	3
sesyn	B	4	Cr	Cameo	4	24	5	26	4	24	5	37		1	1.9	9	100	3	3.3	5	4.0	2
su	Y	4	SnRv	Captain	5	26	5	28	4	24	9	58		4	2.8	9	100	6	4.8	7	4.7	1
se	W	4	Cr	Captivate	6	33	4	22	5	27	5	35		4	2.9	9	100	3	3.5	4	3.7	1
sesyn	W	4	Cr	Celestial	6	35	5	27	6	31	4	29		1	1.9	9	100	5	4.3	3	3.5	5
se	Y	2	Sem	Champ	5	28	6	35	5	26	7	44		7	4.1	9	100	7	5.3	7	4.7	1
se	W	2	MM	Chantilly TSW	6	33	5	29	6	33	5	37		6	3.6	9	100	2	3.0	5	4.0	1
sesyn	B	3	Sdw	Charisma	5	25	4	23	4	25	4	33		2	2.1	9	100	9	6.0	3	3.5	1
su	Y	2	Sem	Chase	6	35	6	33	5	30	6	42		5	3.3	8	96	3	3.5	7	4.5	1

Table 7. Reactions of hybrids in the University of Illinois sweet corn disease nursery - 2008

					Common rust						Northern		Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight		wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	% HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Sugary and sugar enhancer hybrids																					
sesyn	W	4	Cr	Cinderella	**5**	28	**5**	25	**5**	29	**5**	36	**3**	2.4	**9**	100	**3**	3.3	**6**	4.3	**1**
se	W	4	MM	Cloud Nine TSW	**7**	38	**5**	29	**6**	33	**3**	27	**2**	2.2	**9**	100	**3**	3.5	**3**	3.3	**1**
se	B	3	MM	Cohasset	**9**	65	**8**	44	**9**	51	**8**	48	**7**	4.1	**9**	100	**2**	3.0	**9**	5.3	**1**
su	Y	4	HM	Coho	**Rp**	11	**6**	33	**3**	15	**9**	57	**6**	3.9	**6**	63	**4**	4.0	**9**	6.2	**2**
su	Y	4	HM	Coho	**Rp**	11	**5**	26	**4**	21	**9**	57	**6**	3.9	**5**	47	**4**	4.0	**9**	6.2	**2**
se	B	2	Rog	Colonial	**7**	40	**5**	28	**5**	26	**5**	33	**5**	3.3	**9**	100	**4**	4.0	**3**	3.5	**1**
se	Y	3	MM	Colorow TSW	**8**	43	**6**	33	**7**	36	**5**	35	**3**	2.6	**9**	100	**4**	4.0	**6**	4.3	**3**
su	Y	4	Cr	CSUYP2-35	**Rp**	6	**7**	36	**5**	26	**7**	44	**3**	2.6	**1**	0	**4**	4.0	**6**	4.2	**1**
se	W	2	Cr	Dasher	**5**	25	**5**	29	**4**	24	**6**	39	**4**	2.8	**7**	85	**5**	4.3	**4**	3.6	**1**
se	W	1	MM	Debutant	**7**	40	**7**	38	**6**	35	**8**	48	**7**	4.1	**9**	100	**7**	5.3	**7**	4.7	**1**
se	B	4	Cr	Delectable	**4**	20	**5**	26	**4**	23	**5**	36	**2**	2.2	**9**	100	**3**	3.5	**3**	3.5	**1**
se	W	5	MM	Denali	**5**	25	**4**	21	**5**	27	**5**	35	**2**	2.1	**8**	94	**2**	3.0	**1**	2.8	**5**
su	Y	2	DM	DMC 20-04	**Rp**	14	**6**	31	**5**	26	**7**	48	**7**	4.2	**9**	100	**6**	4.8	**5**	4.0	**1**
su	Y	5	DM	DMC 20-35	**Rp**	6	**6**	31	**5**	28	**5**	38	**3**	2.6	**9**	100	**4**	3.8	**4**	3.8	**3**
su	Y	4	DM	DMC 20-38	**Rp**	11	**6**	33	**4**	23	**9**	63	**6**	3.9	**8**	93	**5**	4.3	**8**	4.8	**9***
se	B	3	MM	Double Gem	**8**	45	**6**	35	**5**	26	**4**	31	**5**	3.4	**9**	100	**3**	3.5	**3**	3.5	**1**
se	B	3	MM	Double Play	**9**	50	**6**	33	**7**	37	**5**	35	**3**	2.6	**9**	100	**4**	3.8	**4**	3.8	**1**
su	Y	3	HM	Dynamo	**Rp**	6	**5**	28	**4**	21	**8**	49	**3**	2.7	**5**	33	**6**	5.0	**8**	5.2	**4**
su	Y	2	Cr	Earlivee	**5**	26	**7**	39	**7**	40	**7**	44	**6**	3.7	**9**	100	**6**	5.0	**6**	4.3	**1**
se	Y	1	Sdw	Early Choice	**5**	25	**5**	27	**4**	25	**5**	35	**4**	3.2	**9**	100	**3**	3.3	**7**	4.5	**1**
su	W	5	Rog	Early Cogent	**3**	16	**5**	29	**4**	22	**4**	33	**4**	2.8	**9**	100	**5**	4.5	**3**	3.5	**1**
su	Y	1	Rog	Early Sunglow	**6**	33	**6**	33	**6**	31	**6**	41	**5**	3.4	**9**	100	**4**	4.0	**7**	4.5	**1**
se	B	2	Sdw	Ecstase II	**7**	38	**6**	34	**6**	32	**5**	33	**3**	2.6	**9**	100	**6**	4.8	**5**	4.0	**1**
su	Y	4	Sem	El Toro	**Rp**	6	**5**	30	**5**	26	**6**	41	**2**	2.1	**3**	15	**3**	3.3	**9**	5.3	**2**
su	Y	4	Cr	Eliminator	**Rp**	11	**7**	38	**5**	29	**7**	43	**1**	1.6	**1**	0	**4**	4.0	**4**	3.7	**1**
su	Y	5	Rog	Elite	**Rp**	11	**6**	35	**5**	26	**9**	57	**4**	3.2	**5**	31	**6**	4.8	**7**	4.5	**1**
su	Y	4	SnRv	Empire	**5**	28	**5**	29	**4**	24	**8**	54	**4**	3.2	**9**	100	**6**	5.0	**4**	3.8	**1**
su	Y	5	SnRv	Enterprise	**Rp**	5	**5**	26	**3**	19	**5**	37	**4**	2.8	**1**	0	**2**	3.0	**6**	4.2	**1**
se	B	2	MM	Envoy	**6**	33	**6**	35	**9**	49	**7**	43	**5**	3.4	**9**	100	**4**	4.0	**9**	5.5	**1**
su	Y	4	Cr/PV	Evita	**Rp**	4	**6**	32	**2**	15	**7**	46	**4**	3.1	**2**	9	**5**	4.5	**6**	4.3	**1**
se	Y	2	Sem	EX0873 5414	**Rp**	7	**7**	36	**2**	15	**8**	49	**4**	3.0	**2**	2	**5**	4.5	**4**	3.8	**1**
su	Y	5	HM	Excalibur	**Rp**	13	**4**	23	**4**	24	**9**	60	**5**	3.5	**8**	96	**5**	4.5	**8**	4.8	**1**
se+	B	3	Rog	Exp 101	**6**	33	**5**	30	**4**	24	**4**	31	**1**	1.8	**9**	100	**6**	4.8	**3**	3.5	**1**
se+	W	3	Rog	Exp 107	**Rp**	4	**5**	30	**2**	11	**5**	35	**4**	3.2	**8**	90	**3**	3.3	**6**	4.3	**1**

Table 7. Reactions of hybrids in the University of Illinois sweet corn disease nursery - 2008

					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Sugary and sugar enhancer hybrids																						
se+	B	4	Rog	Exp 108	**Rp**	2	**4**	22	**2**	13	**6**	40		**4**	3.1	**9**	100	**2**	3.0	**5**	4.0	**1**
su	Y	4	Rog	Exp 110	**Rp**	0	**Rp**	0	**Rp**	0	**5**	38		**5**	3.4	**5**	47	**2**	3.0	**6**	4.3	**1**
su	Y	2	Rog	Exp 124	**Rp**	4	**5**	25	**1**	6	**9**	60		**8**	4.6	**8**	96	**5**	4.5	**7**	4.7	**1**
se	W	3	Sem	Fantasia	**6**	35	**4**	24	**3**	18	**7**	45		**7**	4.0	**8**	90	**5**	4.5	**4**	3.8	**3**
se	B	1	MM	Fastlane	**9**	55	**7**	37	**7**	36	**8**	51		**8**	4.9	**9**	100	**5**	4.5	**8**	5.2	**2**
se	B	1	Cr	Fleet	**7**	38	**6**	31	**5**	28	**8**	49		**7**	4.0	**9**	100	**6**	4.8	**6**	4.2	**1**
sesyn	B	2	Cr	Friksy	**7**	36	**6**	32	**6**	34	**9**	55		**5**	3.5	**9**	100	**4**	3.8	**8**	4.8	**1**
se	W	3	Cr	Frosty	**5**	28	**6**	33	**9**	46	**6**	41		**4**	3.0	**8**	97	**4**	3.8	**4**	3.7	**1**
su	Y	5	Sem	G2912	**Rp**	0	**Rp**	0	**Rp**	0	**5**	34	Ht	**2**	2.3	**1**	0	**6**	5.0	**7**	4.5	**1**
se	Y	3	Rog	GH 0851	**Rp**	7	**5**	26	**1**	4	**7**	46		**7**	4.1	**9**	100	**3**	3.5	**6**	4.2	**1**
su	Y	5	Rog	GH 0937 A	**Rp**	6	**5**	30	**3**	20	**4**	32	Ht	**1**	1.1	**4**	26	**6**	5.0	**7**	4.7	**1**
su	Y	4	Rog	GH 0991	**Rp**	0	**Rp**	0	**Rp**	0	**5**	37		**4**	2.8	**1**	0	**3**	3.3	**8**	4.8	**2**
su	Y	2	Rog	GH 1703	**6**	35	**5**	30	**6**	31	**9**	55		**7**	4.1	**9**	100	**6**	5.0	**7**	4.7	**1**
se	Y	4	Rog	GH 1829 (Rp-G)	**Rp**	1	**Rp**	0	**2**	12	**7**	44		**5**	3.3	**9**	100	**7**	5.3	**7**	4.5	**1**
su	Y	2	Rog	GH 1861	**9**	50	**7**	38	**7**	36	**9**	63		**7**	4.1	**9**	100	**5**	4.3	**9**	6.3	**1**
su	Y	3	Rog	GH 2042	**Rp**	11	**Rp**	0	**2**	14	**9**	70		**6**	3.7	**9**	100	**5**	4.3	**7**	4.7	**1**
su	Y	2	Rog	GH 2171	**Rp**	13	**Rp**	0	**2**	13	**4**	33		**7**	4.4	**6**	62	**5**	4.3	**6**	4.2	**1**
su	Y	4	Rog	GH 2298	**Rp**	0	**Rp**	0	**Rp**	0	**8**	48		**7**	4.4	**4**	26	**4**	3.8	**9**	6.2	**1**
su	Y	4	Rog	GH 2547	**Rp**	5	**6**	31	**3**	19	**8**	50		**6**	3.7	**5**	44	**5**	4.3	**6**	4.2	**1**
se	Y	3	Rog	GH 2684	**Rp**	7	**5**	25	**2**	14	**7**	47		**8**	4.8	**9**	100	**3**	3.5	**9**	5.8	**1**
su	Y	5	Rog	GH 2690	**Rp**	4	**6**	31	**4**	20	**9**	55		**6**	3.7	**9**	100	**5**	4.5	**5**	4.0	**1**
su	Y	2	Rog	GH 4927	**Rp**	7	**Rp**	0	**1**	8	**9**	59		**7**	4.3	**9**	100	**4**	3.8	**9**	5.5	**1**
su	Y	5	Rog	GH 5704	**Rp**	11	**Rp**	0	**6**	31	**4**	31	Ht	**3**	2.4	**5**	33			**6**	4.3	**1**
su	Y	5	Rog	GH 5704 (Rp1-E)	**Rp**	9	**Rp**	0	**5**	25	**4**	30	Ht	**3**	2.7	**5**	50	**3**	3.5	**4**	3.8	**1**
sesu	Y	4	Rog	GH 6014	**Rp**	6	**Rp**	0	**3**	19	**5**	35	Ht	**6**	3.8	**1**	0	**2**	3.0	**9**	5.5	**1**
su	Y	2	Rog	GH 6198 (Rp1-l)	**Rp**	11	**Rp**	0	**4**	25	**7**	43	Ht	**6**	3.7	**5**	42	**3**	3.5	**9**	5.5	**3**
su	Y	4	Rog	GH 6223	**Rp**	0	**Rp**	0	**Rp**	0	**3**	25		**2**	2.3	**5**	35	**2**	2.8	**6**	4.3	**1**
su	Y	4	Rog	GH 6377P	**Rp**	0	**Rp**	0	**Rp**	0	**5**	36	Ht	**4**	3.0	**2**	1	**6**	4.8	**3**	3.3	**1**
su	Y	5	Rog	GH 6462	**Rp**	0	**Rp**	0	**Rp**	0	**6**	40	Ht	**3**	2.6	**4**	27	**5**	4.3	**4**	3.7	**1**
su	Y	4	Rog	GH 8267	**Rp**	3	**Rp**	0	**2**	14	**4**	31	Ht	**6**	3.6	**1**	0	**4**	4.0	**9**	5.7	**1**
su	Y	5	Rog	GH 9597	**Rp**	0	**Rp**	0	**Rp**	0	**4**	32	Ht	**1**	1.5	**5**	36	**6**	4.8	**4**	3.8	**1**
su	Y	5	Rog	Golden Queen	**9**	65	**7**	39	**7**	37	**5**	37		**3**	2.5	**9**	100	**4**	3.8	**4**	3.7	**1**
su	Y	1	GG	Green Giant Code 58	**Rp**	13	**4**	23	**2**	13	**8**	50		**6**	3.9	**9**	100	**7**	5.5	**5**	4.0	**1**
su	W	4	GG	Green Giant Code 61	**5**	25	**4**	24	**5**	25	**5**	37		**7**	4.3	**9**	100	**6**	4.8	**7**	4.5	**3**

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					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Sugary and sugar enhancer hybrids																						
su	Y	4	GG	Green Giant Code 62	Rp	0	3	18	2	10	3	24	Ht	1	1.8	9	100	4	4.0	4	3.8	1
su	Y	3	GG	Green Giant Code 67	Rp	5	3	20	2	15	6	42		3	2.4	9	100	4	4.0	8	5.2	1
su	Y	1	GG	Green Giant Code 71	Rp	10	5	26	2	13	9	58		7	4.4	9	100	4	4.0	6	4.3	1
su	Y	4	GG	Green Giant Code 74	3	18	3	17	1	7	4	32		1	1.6	9	100	5	4.5	2	3.0	1
su	Y	3	GG	Green Giant Code 83	Rp	2	4	24	1	10	7	44		4	3.1	9	100	6	5.0	4	3.8	1
su	Y	3	GG	Green Giant Code 123	6	35	4	25	6	31	7	47		5	3.3	9	100	7	5.3	4	3.8	1
su	Y	4	GG	Green Giant Code 127	Rp	2	4	22	1	8	5	34		3	2.4	6	62	2	3.0	1	2.8	2
su	Y	4	GG	Green Giant Code 128	Rp	4	4	22	2	10	5	37		1	1.9	6	60	2	3.0	5	4.0	3
su	Y	1	GG	Green Giant Code 139	Rp	5	Rp	0	2	10	9	65		7	4.0	8	98	5	4.3	5	4.0	3
su	Y	4	GG	Green Giant Code 146	Rp	2	Rp	0	2	11	5	36		5	3.3	5	48	2	2.8	7	4.5	1
su	Y	2	GG	Green Giant Code 150	1	9	5	27	3	19	8	54		8	4.6	9	100	7	5.5	8	4.8	1
su	Y	2	GG	Green Giant Code 151	Rp	9	4	23	3	19	9	55		6	3.9	9	100	7	5.5	6	4.3	1
su	Y	1	GG	Green Giant Code 162	Rp	8	7	36	4	23	9	63		7	4.0	9	100	4	3.8	7	4.7	3
su	Y	3	GG	Green Giant Code 166	Rp	0	Rp	0	1	5	6	39		5	3.5	5	44	1	1.5	7	4.7	1
su	Y	2	GG	Green Giant Code 174	Rp	9	5	27	3	15	5	35		6	3.7	1	0	4	3.8	9	5.5	1
su	Y	4	GG	Green Giant Code 175	Rp	1	4	21	1	6	3	24	Ht	1	1.3	8	98	1	2.5	5	4.0	3
su	Y	4	GG	Green Giant Code 188	Rp	0	Rp	0	1	2	4	28	Ht	1	1.4	2	5	5	4.3	1	2.9	1
su	Y	4	GG	Green Giant Code 193	5	28	4	23	4	23	6	39		5	3.3	9	100	4	4.0	8	5.0	5
su	Y	1	GG	Green Giant Code 203	6	33	6	34	5	25	9	58		7	4.3	8	91	5	4.5	7	4.5	1
su	Y	2	GG	Green Giant Code 204	Rp	2	4	24	4	22	8	50		5	3.4	9	100	9	6.3	8	4.8	1
su	Y	2	GG	Green Giant Code 206	Rp	6	4	24	2	12	8	52		6	3.9	9	100	7	5.5	6	4.3	1
su	Y	4	GG	Green Giant Code 209	Rp	0	Rp	0	Rp	0	5	37		2	2.3	8	95	5	4.5	6	4.3	1
su	Y	4	GG	Green Giant Code 210	Rp	4	4	21	1	7	5	36		3	2.7	6	57	2	2.8	6	4.2	1
su	Y	4	GG	Green Giant Code 211	Rp	2	3	19	1	9	5	33		3	2.7	4	24	3	3.5	6	4.3	3
su	Y	4	GG	Green Giant Code 212	Rp	1	Rp	0	1	4	4	29	Ht	1	1.6	4	21	6	4.8	1	2.5	2
su	Y	5	Sem	H4958	Rp	0	Rp	0	Rp	0	7	47		4	2.9	7	73	6	4.8	9	5.5	5
su	Y	4	Sem	Harvest Gold	Rp	0	5	25	1	8	4	31	Ht	1	1.4	9	100	6	5.0	5	4.0	1
se	Y	1	MM	Head Start	6	33	6	32	6	32	6	38		4	3.2	9	100	3	3.5	6	4.3	1
su	Y	3	HM	HM 2390	Rp	4	4	23	1	8	9	58		4	3.2	9	100	5	4.5	5	4.0	1
se	B	1	HM	HMX 6358 BES	9	55	8	43	9	58	9	58		7	4.1	9	100	7	5.5	8	5.2	1
su	Y	4	HM	HMX 6384	Rp	0	Rp	0	Rp	0	7	45		7	4.3	5	34	2	3.0	7	4.7	1
su	Y	4	HM	HMX 7387	Rp	7	4	24	4	22	4	33		3	2.4	2	1	3	3.5	9	5.8	1
su	Y	5	HM	HMX 7388	Rp	0	Rp	0	Rp	0	5	35		3	2.7	5	39	4	3.8	5	4.0	3
se	W	2	HM	HMX 8340 WES	6	35	7	36	7	38	6	40		7	4.2	9	100	8	5.8	6	4.2	1

Table 7. Reactions of hybrids in the University of Illinois sweet corn disease nursery - 2008

					Common rust						Northern		Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight		wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	% HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Sugary and sugar enhancer hybrids																					
se	W	2	HM	HMX 8341 WES	**7**	40	**6**	32	**5**	26	**4**	31	**5**	3.3	**9**	100	**3**	3.3	**4**	3.8	**1**
su	Y	5	HM	HMX 8370	**Rp**	9	**4**	21	**4**	21	**4**	28 Ht	**3**	2.6	**5**	48	**4**	4.0	**8**	5.2	**1**
su	Y	5	HM	HMX 8371	**Rp**	1	**Rp**	0	**1**	8	**5**	34 Ht	**4**	3.2	**9**	100	**5**	4.5	**7**	4.5	**1**
su	Y	5	HM	HMX 8376	**Rp**	6	**Rp**	0	**2**	11	**7**	44 Ht	**1**	1.8	**5**	31	**6**	4.8	**4**	3.8	**1**
su	Y	5	HM	HMX 8378	**Rp**	0	**Rp**	0	**Rp**	0	**5**	38	**4**	3.1	**4**	25	**6**	4.8	**6**	4.2	**1**
su	B	3	Cr	Honey & Cream	**7**	38	**6**	35	**5**	29	**7**	44	**7**	4.0	**8**	95	**5**	4.3	**5**	4.0	**1**
se+	Y	4	Rog	Honey Select	**5**	30	**7**	36	**5**	26	**7**	47	**4**	3.0	**8**	96	**3**	3.3	**5**	4.0	**1**
se+	Y	2	Rog	Honey Treat	**5**	30	**5**	29	**5**	27	**7**	46	**4**	3.1	**9**	100	**2**	3.0	**5**	4.0	**1**
se	W	4	MM	Imaculata	**8**	45	**5**	27	**6**	35	**4**	29	**2**	2.0	**9**	100	**2**	2.8	**2**	3.2	**1**
se	Y	4	Cr	Incredible	**3**	18	**5**	30	**4**	25	**6**	41	**3**	2.5	**8**	98	**5**	4.5	**6**	4.3	**1**
sesyn	Y	3	Cr	Intrigue	**Rp**	2	**7**	40	**2**	11	**8**	53	**4**	2.9	**8**	95	**5**	4.3	**4**	3.7	**1**
se	B	4	Rog	Jackpot	**Rp**	12	**5**	29	**4**	21	**6**	39	**5**	3.5	**9**	100	**3**	3.3	**5**	4.0	**1**
su	Y	1	SnRv	Jet	**Rp**	3	**7**	36	**2**	11	**7**	48	**4**	2.8	**9**	100	**9**	6.5	**6**	4.3	**1**
su	Y	4	Rog	Jubilee	**5**	30	**6**	33	**5**	28	**9**	55	**8**	4.7	**9**	100	**5**	4.5	**9**	6.5	**2**
se	Y	5	Rog	Kandy Korn EH	**5**	28	**6**	33	**5**	28	**6**	42	**2**	2.3	**9**	100	**3**	3.5	**5**	4.0	**1**
su	Y	3	HM	Kokanee	**Rp**	5	**4**	24	**1**	10	**9**	55	**4**	2.8	**9**	100	**6**	4.8	**6**	4.2	**1**
sesyn	B	4	Cr	Kristine	**5**	26	**5**	29	**5**	28	**5**	36	**3**	2.7	**9**	100	**2**	3.0	**5**	4.0	**1**
se	B	5	MM	Lancelot	**5**	28	**4**	21	**4**	22	**4**	31	**2**	2.1	**9**	100	**4**	3.8	**3**	3.5	**1**
su	Y	5	HM	Legacy	**Rp**	5	**5**	29	**4**	21	**9**	63	**5**	3.5	**9**	100	**5**	4.5	**6**	4.2	**1**
su	Y	4	HM	Lumina	**Rp**	11	**6**	32	**4**	24	**7**	45 Ht	**7**	4.3	**9**	100	**7**	5.5	**9**	6.0	**1**
se	B	3	MM	Luscious TSW	**7**	38	**6**	33	**6**	31	**5**	35	**5**	3.4	**9**	100	**5**	4.5	**5**	4.0	**1**
se	B	5	MM	Manitou	**9**	50	**7**	36	**6**	33	**5**	38	**5**	3.4	**8**	98	**3**	3.5	**6**	4.3	**1**
se	W	5	MM	Mattapoisett	**6**	33	**5**	28	**6**	32	**5**	35	**4**	3.0	**9**	100	**3**	3.5	**3**	3.5	**1**
su	Y	4	Sem	Merit	**9**	55	**9**	46	**7**	37	**6**	42	**3**	2.5	**9**	100	**6**	4.8	**8**	4.8	**9***
su	Y	4	Sem	Merkur	**Rp**	4	**4**	24	**4**	22	**4**	29 Ht	**1**	1.7	**4**	23	**8**	5.8	**5**	4.0	**3**
se	Y	5	MM	Merlin	**5**	25	**4**	23	**2**	14	**5**	33	**2**	2.1	**9**	100	**1**	2.3	**3**	3.5	**1**
se	Y	4	Cr	Miracle	**3**	16	**5**	28	**4**	24	**4**	29	**1**	1.6	**9**	100	**3**	3.5	**2**	3.2	**2**
sesyn	W	4	MM	Misquamicut	**7**	40	**6**	31	**6**	35	**5**	36	**4**	3.1	**9**	100	**4**	4.0	**4**	3.7	**1**
se	B	3	MM	Monomoy	**7**	40	**5**	29	**6**	35	**5**	36	**4**	3.1	**9**	100	**2**	3.0	**4**	3.8	**1**
sesyn	B	5	MM	Montauk	**9**	55	**6**	34	**7**	38	**6**	39	**3**	2.6	**8**	92	**6**	5.0	**4**	3.8	**2**
se	B	3	Cr	Mystique	**5**	28	**6**	34	**5**	29	**4**	28	**1**	1.6	**9**	100	**6**	4.8	**3**	3.3	**3**
sesyn	B	2	MM	Nantasket	**9**	50	**6**	33	**6**	31	**6**	38	**5**	3.3	**9**	100	**4**	4.0	**3**	3.3	**1**
se	B	1	MM	Native Gem	**6**	33	**6**	33	**6**	34	**4**	32	**4**	3.2	**9**	100	**6**	4.8	**5**	4.0	**1**
sesyn	B	5	MM	Nauset	**4**	23	**3**	16	**3**	17	**6**	39	**2**	2.3	**9**	100	**6**	5.0	**3**	3.5	**1**

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					Common rust						Northern		Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight		wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	% HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Sugary and sugar enhancer hybrids																					
se	B	3	MM	Ovation	**5**	28	**5**	27	**5**	26	**6**	38	**4**	2.9	**9**	100	**2**	2.8	**3**	3.3	**1**
se	B	3	MM	Parfait	**7**	40	**5**	30	**5**	28	**5**	35	**3**	2.7	**9**	100	**5**	4.5	**6**	4.3	**1**
su	B	2	Rog	Peaches & Cream Early EH	**7**	40	**8**	41	**7**	39	**9**	58	**7**	4.3	**9**	100	**8**	5.8	**8**	4.8	**1**
se	B	5	Rog	Peaches & Cream Mid EH	**8**	45	**6**	31	**7**	37	**6**	42	**7**	4.1	**9**	100	**5**	4.3	**8**	5.2	**2**
sesyn	B	2	Cr	Polka	**8**	45	**7**	40	**8**	43	**6**	43	**5**	3.5	**9**	100	**4**	4.0	**4**	3.8	**1**
se	B	4	MM	Precious Gem	**5**	28	**4**	24	**3**	18	**5**	33	**2**	2.1	**9**	100	**2**	2.8	**2**	3.2	**1**
se	Y	1	MM	Precocious	**7**	38	**6**	32	**9**	46	**5**	37	**5**	3.3	**9**	100	**6**	5.0	**8**	5.0	**1**
su	Y	2	SnRv	Prelude	**6**	33	**5**	27	**5**	27	**9**	55	**4**	2.9	**9**	100	**6**	4.8	**6**	4.2	**1**
se	Y	5	MM	Promise	**5**	25	**5**	30	**4**	24	**4**	33	**3**	2.5	**9**	100	**2**	3.0	**3**	3.5	**3**
se+	B	4	Rog	Providence	**Rp**	7	**5**	29	**4**	22	**6**	42	**6**	3.8	**9**	100	**4**	3.8	**5**	4.0	**1**
su	Y	4	SnRv	Punch	**5**	29	**6**	31	**5**	27	**8**	48	**3**	2.7	**9**	100	**6**	5.0	**8**	4.8	**1**
su	B	1	Cr	Quickie	**8**	45	**7**	36	**8**	43	**9**	62	**7**	4.2	**9**	100	**9**	6.8	**9**	5.5	**1**
se	B	2	HM	Reflection	**8**	45	**5**	30	**6**	34	**4**	32	**4**	2.8	**8**	91	**6**	5.0	**5**	4.0	**1**
su	Y	1	Sem	Reveille	**9**	50	**9**	50	**7**	39	**9**	60	**5**	3.4	**9**	100	**5**	4.5	**6**	4.3	**1**
sb	B	1	HM	Revelation	**9**	65	**9**	46	**8**	42	**8**	48	**8**	4.6	**9**	100	**9**	6.0	**6**	4.3	**1**
su	Y	5	Rog	Rocker	**Rp**	0	**Rp**	0	**Rp**	0	**7**	46	**5**	3.3	**5**	37	**5**	4.3	**6**	4.2	**1**
se	B	4	MM	Saugatuck	**8**	45	**6**	31	**6**	31	**5**	37	**4**	3.2	**9**	100	**3**	3.3	**5**	4.0	**1**
se	B	3	Sem	SEB 6SH 1053	**5**	25	**4**	24	**5**	28	**7**	44	**4**	2.8	**9**	100	**6**	4.8	**7**	4.7	**1**
se	B	1	Sem	Seneca Arrowhead	**8**	45	**7**	39	**6**	32	**7**	47	**4**	3.2	**8**	96	**3**	3.5	**7**	4.7	**1**
se	B	4	Sem	Seneca Dancer	**6**	35	**5**	30	**6**	31	**6**	40	**3**	2.6	**7**	89	**4**	4.0	**7**	4.5	**3**
su	Y	1	Sem	Seneca Horizon	**5**	28	**6**	31	**5**	28	**4**	31	**5**	3.3	**8**	90	**5**	4.5	**7**	4.5	**1**
se	B	4	Sem	Sensor	**6**	35	**5**	28	**5**	27	**5**	33	**4**	3.1	**8**	95	**4**	3.8	**6**	4.3	**1**
se+	B	4	Rog	Serendipity	**6**	33	**6**	32	**5**	28	**6**	42	**7**	4.0	**8**	94	**4**	4.0	**4**	3.8	**1**
se	Y	4	Sem	SEY6RH1134	**4**	21	**7**	38	**5**	30	**4**	32	**1**	1.7	**9**	100	**5**	4.3	**6**	4.2	**1**
se	W	4	MM	Shasta	**5**	30	**4**	24	**5**	30	**5**	37	**4**	3.0	**8**	97	**3**	3.5	**2**	3.0	**1**
se	W	4	Rog	Silver King	**6**	33	**4**	22	**4**	24	**6**	40	**5**	3.5	**9**	100	**3**	3.3	**4**	3.8	**1**
se	W	2	Rog	Silver Princess	**9**	55	**6**	31	**8**	43	**7**	46	**5**	3.5	**9**	100	**5**	4.3	**5**	4.0	**1**
su	W	5	Rog	Silver Queen	**8**	45	**6**	35	**6**	34	**6**	39	**3**	2.5	**9**	100	**3**	3.5	**6**	4.2	**1**
su	Y	3	HM	Sockeye	**Rp**	2	**4**	22	**1**	6	**9**	60	**4**	2.9	**9**	100	**6**	5.0	**7**	4.7	**1**
se	W	3	Sdw	Sparkler	**5**	25	**4**	21	**4**	23	**3**	24 Ht	**3**	2.4	**9**	100	**3**	3.5	**6**	4.3	**1**
su	Y	1	Rog	Spirit	**7**	38	**6**	32	**6**	32	**9**	60	**8**	4.9	**9**	100	**5**	4.3	**8**	5.2	**1**
se	W	1	MM	Spring Snow	**5**	25	**6**	33	**3**	17	**6**	39	**3**	2.6	**9**	100	**5**	4.3	**5**	4.0	**1**
se	Y	2	MM	Spring Treat	**5**	28	**3**	17	**6**	31	**5**	34	**5**	3.5	**9**	100	**3**	3.5	**6**	4.2	**1**
se	Y	2	Cr	Sugar Buns	**5**	29	**5**	28	**5**	29	**6**	39	**4**	3.2	**9**	100	**3**	3.5	**5**	4.0	**1**

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					Common rust						Northern		Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight		wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	% HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Sugary and sugar enhancer hybrids																					
se	W	2	MM	Sugar Pearl TSW	**6**	33	**5**	30	**5**	29	**5**	34	**5**	3.5	**8**	97	**3**	3.3	**8**	5.0	**1**
se	Y	5	MM	Sumptuous	**5**	25	**4**	24	**3**	17	**5**	35	**1**	1.8	**9**	100	**2**	3.0	**3**	3.3	**2**
su	Y	5	Sem	SUY 6RH 1033	**Rp**	2	**4**	21	**1**	3	**2**	21 Ht	**1**	1.9	**8**	93	**9**	6.0	**5**	4.0	**1**
su	Y	4	Sem	SUY 6RH 1176	**Rp**	5	**5**	25	**2**	15	**8**	51	**4**	2.9	**9**	100	**7**	5.3	**7**	4.7	**1**
su	Y	5	Sem	SUY 6RH 1179	**Rp**	6	**6**	33	**2**	12	**6**	41	**6**	3.8	**1**	0	**5**	4.3	**5**	4.0	**1**
su	Y	5	Sem	SUY 6RH 1180	**Rp**	5	**6**	31	**1**	9	**5**	38 Ht	**5**	3.3	**2**	10	**6**	4.8	**7**	4.7	**1**
su	Y	5	Sem	SUY 6RH 1182	**Rp**	9	**6**	33	**3**	16	**6**	42 Ht	**4**	3.0	**2**	1	**6**	5.0	**7**	4.5	**1**
su	Y	3	Sem	SUY 6RH 1185	**Rp**	0	**Rp**	0	**1**	9	**7**	43	**6**	3.9	**9**	100	**2**	3.0	**4**	3.7	**1**
su	Y	3	Sem	SUY 6RH 1186	**Rp**	0	**Rp**	0	**Rp**	0	**5**	37	**3**	2.7	**8**	90	**6**	4.8	**4**	3.8	**1**
sb	B	2	HM	Sweet Chorus	**9**	55	**7**	39	**5**	30	**9**	55	**6**	3.9	**9**	100	**9**	6.5	**6**	4.2	**1**
su	Y	5	Rog	Sweet G90	**4**	23	**5**	29	**5**	30	**6**	39	**2**	2.3	**9**	100	**4**	3.8	**4**	3.8	**1**
se	W	3	HM	Sweet Ice	**9**	60	**6**	33	**7**	36	**6**	42	**6**	3.7	**9**	100	**5**	4.3	**7**	4.5	**1**
sesy	B	3	Sem	Synergy	**5**	30	**5**	25	**3**	19	**4**	32 Ht	**2**	2.1	**9**	100	**3**	3.5	**3**	3.3	**1**
su	Y	4	Cr	Tamarack	**Rp**	0	**Rp**	0	**Rp**	0	**7**	45	**1**	1.8	**2**	1	**6**	5.0	**4**	3.8	**1**
se	B	1	Sem	Temptation	**8**	45	**7**	39	**6**	31	**7**	46	**6**	3.6	**9**	100	**9**	6.5	**7**	4.7	**1**
se	Y	5	Rog	Tendertreat EH	**4**	23	**6**	34	**4**	22	**8**	49	**3**	2.4	**7**	82	**3**	3.5	**5**	4.0	**3**
sesyn	B	2	Cr	Trinity	**7**	38	**7**	38	**9**	50	**6**	41	**5**	3.4	**9**	100	**6**	5.0	**8**	5.2	**1**
su	Y	3	HM	Turbo	**Rp**	26	**3**	18	**3**	17	**4**	28 Ht	**2**	2.3	**5**	40	**5**	4.3	**7**	4.5	**3**
se	Y	4	MM	Tuxedo	**4**	23	**5**	26	**1**	9	**3**	25	**3**	2.7	**9**	100	**1**	2.0	**3**	3.5	**1**
su	Y	5	SnRv	UY 0712 OJ	**Rp**	4	**5**	29	**3**	18	**7**	46	**4**	3.0	**2**	5	**4**	3.8	**6**	4.3	**1**
su	Y	5	SnRv	UY 1953 OK	**6**	33	**5**	29	**5**	27	**5**	34 Ht	**2**	2.3	**1**	0	**4**	3.8	**4**	3.8	**1**
su	Y	1	SnRv	UY 3435 OM	**Rp**	10	**7**	38	**5**	30	**9**	55	**4**	2.9	**9**	100	**9**	6.3	**8**	5.0	**1**
se	B	3	Cr	Valiant	**6**	35	**5**	30	**6**	31	**3**	27	**3**	2.6	**8**	97	**3**	3.5	**3**	3.5	**3**
se	W	2	Cr	Venus	**5**	28	**6**	33	**8**	43	**6**	39	**3**	2.6	**9**	100	**2**	2.8	**4**	3.7	**2**
sesy	B	1	Sem	Vitality	**9**	50	**7**	39	**9**	49	**8**	50	**5**	3.5	**9**	100	**5**	4.5	**4**	3.8	**1**
se	Y	2	MM	Welcome TSW	**5**	30	**6**	35	**6**	31	**4**	30	**4**	2.9	**8**	97	**5**	4.3	**4**	3.8	**1**
se	W	4	Rog	WH 0809	**Rp**	11	**Rp**	0	**3**	18	**7**	47	**6**	3.8	**9**	100	**3**	3.3	**6**	4.2	**1**
suse	W	4	Rog	WH 1163	**Rp**	2	**7**	38	**4**	21	**6**	39	**3**	2.4	**7**	87	**1**	2.3	**5**	4.0	**1**
su	W	5	Rog	WH 2801 (Rp1-D)	**Rp**	16	**9**	50	**6**	33	**7**	44	**3**	2.5	**9**	100	**5**	4.3	**7**	4.5	**1**
se	W	2	MM	White Out	**6**	35	**6**	31	**7**	37	**5**	35	**5**	3.5	**9**	100	**5**	4.5	**8**	4.8	**1**

Table 7. Reactions of hybrids in the University of Illinois sweet corn disease nursery - 2008

					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
Shrunken-2 hybrids																						
sh2	Y	3	IFS	1178	**7**	40	**7**	39	**7**	36	**6**	39		**6**	3.7	**8**	94	**3**	3.5	**7**	4.5	**3**
sh2	Y	3	IFS	1179	**5**	30	**6**	32	**5**	28	**6**	41		**7**	4.0	**8**	97	**2**	3.0	**7**	4.7	**3**
sh2	Y	3	IFS	1273	**8**	45	**8**	41	**7**	39	**8**	49		**5**	3.3	**9**	100	**4**	3.8	**7**	4.5	**1**
sh2	Y	4	IFS	1280	**Rp**	6	**6**	33	**3**	17	**1**	18	Ht	**1**	1.7	**7**	89	**3**	3.5	**6**	4.3	**1**
sh2	Y	4	IFS	1283	**Rp**	6	**6**	32	**3**	17	**1**	15	Ht	**1**	1.7	**9**	100	**3**	3.3	**4**	3.7	**1**
sh2	Y	2	IFS	1575	**7**	40	**7**	37	**5**	29	**6**	38	Ht	**5**	3.4	**8**	96	**5**	4.3	**3**	3.5	**3**
sh2	B	2	IFS	2170	**9**	55	**7**	37	**6**	31	**9**	55		**7**	4.1	**9**	100	**6**	5.0	**8**	5.0	**1**
sh2	B	2	IFS	2171	**9**	50	**8**	43	**7**	35	**9**	58		**6**	3.7	**9**	100	**3**	3.5	**5**	4.0	**2**
sh2	B	3	IFS	2178	**Rp**	3	**6**	34	**4**	21	**2**	21	Ht	**2**	2.1	**9**	100	**4**	3.8	**6**	4.2	**1**
sh2	B	4	IFS	2280	**Rp**	4	**6**	31	**3**	18	**3**	23	Ht	**1**	1.8	**9**	100	**3**	3.3	**5**	4.0	**1**
sh2	B	4	IFS	2281	**Rp**	5	**7**	36	**3**	19	**3**	23	Ht	**1**	1.7	**9**	100	**5**	4.3	**7**	4.5	**1**
sh2	B	2	IFS	2573	**7**	38	**7**	38	**7**	37	**9**	58		**3**	2.7	**9**	100	**3**	3.3	**5**	4.0	**2**
sh2	B	2	IFS	2673	**7**	38	**8**	41	**8**	41	**9**	56		**4**	3.0	**8**	94	**2**	3.0	**7**	4.7	**3**
sh2	W	2	IFS	3173	**7**	38	**7**	36	**7**	36	**7**	43		**5**	3.3	**8**	93	**4**	3.8	**6**	4.2	**3**
sh2	W	3	IFS	3175	**9**	55	**7**	39	**7**	39	**6**	41		**4**	3.0	**9**	100	**5**	4.5	**3**	3.5	**7**
sh2	W	3	IFS	3379	**7**	38	**6**	32	**5**	26	**4**	30	Ht	**4**	3.2	**9**	100	**5**	4.5	**4**	3.7	**1**
sh2	B	3	Sem	0844 6146	**Rp**	10	**6**	33	**4**	22	**6**	40	Ht	**6**	3.9	**4**	29	**4**	4.0	**7**	4.7	**1**
sh2	W	3	Sem	0845 6670	**Rp**		**5**	30	**4**	22	**6**	39		**7**	4.2	**8**	94	**3**	3.5	**4**	3.7	**1**
sh2	Y	4	Sem	0874 5040	**Rp**	0	**Rp**	0	**Rp**	0	**5**	38		**3**	2.7	**9**	100	**5**	4.5	**8**	4.8	**1**
sh2	W	4	Sem	0875 7596	**5**	25	**5**	27	**4**	24	**5**	37	Ht	**7**	4.3	**8**	97	**4**	4.0	**7**	4.7	**1**
sh2	Y	5	Sem	0876 6478	**Rp**	0	**Rp**	0	**Rp**	0	**4**	33		**2**	2.3	**2**	5	**4**	4.0	**6**	4.2	**1**
sh2	Y	2	IFS	173A	**7**	38	**6**	31	**5**	29	**6**	42		**4**	3.1	**9**	100	**5**	4.5	**4**	3.8	**3**
sh2	Y	3	IFS	177A	**6**	35	**5**	28	**5**	30	**6**	40		**1**	1.8	**9**	100	**6**	5.0	**3**	3.5	**9**
sh2	Y	3	IFS	179A	**5**	28	**5**	29	**5**	27	**5**	37		**2**	2.0	**8**	97	**6**	4.8	**4**	3.7	**3**
sh2	B	1	IFS	270A	**9**	55	**8**	43	**7**	37	**9**	65		**7**	4.3	**9**	100	**4**	4.0	**7**	4.5	**1**
sh2	B	1	IFS	272A	**9**	50	**7**	38	**6**	33	**9**	70		**7**	4.0	**9**	100	**4**	3.8	**7**	4.5	**1**
sh2	B	2	IFS	273A	**6**	35	**6**	34	**5**	27	**8**	53		**5**	3.4	**9**	100	**9**	6.0	**4**	3.8	**3**
sh2	B	2	IFS	274A	**8**	45	**9**	46	**7**	39	**9**	58		**5**	3.3	**9**	100	**7**	5.3	**6**	4.2	**1**
sh2	B	2	IFS	275A	**8**	45	**7**	39	**6**	33	**7**	47	Ht	**4**	3.0	**9**	100	**5**	4.5	**4**	3.7	**1**
sh2	B	3	IFS	276A RR	**Rp**	20	**8**	41	**5**	26	**7**	45		**6**	3.7	**9**	100	**5**	4.3	**7**	4.7	**1**
sh2	B	3	IFS	277A	**7**	38	**6**	35	**6**	32	**6**	42		**2**	2.2	**9**	100	**4**	3.8	**3**	3.5	**3**
sh2	B	3	IFS	278A	**8**	45	**7**	36	**6**	33	**4**	32	Ht	**1**	1.6	**9**	100	**4**	3.8	**5**	4.0	**1**
sh2	B	4	IFS	281A	**Rp**	6	**6**	34	**3**	17	**2**	19	Ht	**2**	2.2	**9**	100	**5**	4.3	**3**	3.5	**1**
sh2	B	4	IFS	282A	**Rp**	9	**6**	34	**4**	21	**2**	20	Ht	**2**	2.3	**8**	98	**3**	3.3	**4**	3.7	**3**

Table 7. Reactions of hybrids in the University of Illinois sweet corn disease nursery - 2008

					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	W	1	IFS	372A	**7**	40	**8**	41	**7**	36	**7**	46		**4**	3.1	**9**	100	**4**	4.0	**7**	4.5	**2**
sh2	W	2	IFS	374A	**9**	50	**6**	34	**5**	30	**7**	45		**6**	3.6	**9**	100	**5**	4.3	**3**	3.5	**2**
sh2	W	3	IFS	378A	**8**	43	**6**	34	**6**	33	**3**	28	Ht	**3**	2.7	**9**	100	**3**	3.5	**3**	3.3	**1**
sh2	W	4	IFS	382A	**Rp**	2	**7**	36	**4**	24	**1**	17	Ht	**3**	2.4	**9**	100	**4**	4.0	**8**	5.0	**3**
sh2	Y	2	Cent	76411 Y	**5**	28	**6**	31	**5**	27	**4**	32	Ht	**2**	2.0	**9**	100	**6**	4.8			**2**
sh2	B	3	Cent	77747 B	**8**	45	**6**	32	**5**	28	**5**	34		**2**	2.3	**9**	100	**7**	5.5			**1**
sh2	Y	4	AC	Abco Var 232 Y	**Rp**	14	**7**	36	**4**	20	**4**	30	Ht	**2**	2.2	**4**	26	**3**	3.5			**1**
sh2	B	3	AC	Abco Var 844 BC	**8**	43	**6**	34	**5**	29	**4**	33	Ht	**3**	2.4	**9**	100	**1**	2.5			**3**
sh2	W	3	AC	Abco Var 844 W	**7**	40	**7**	36	**6**	32	**5**	34	Ht	**4**	2.9	**9**	100	**3**	3.5			**1**
sh2	Y	3	AC	Abco Var 945 Y	**Rp**	16	**8**	41	**4**	25	**5**	38	Ht	**7**	4.1	**9**	100	**7**	5.3	**6**	4.3	**1**
sh2	Y	4	AC	ACcede	**Rp**	15	**7**	36	**4**	20	**2**	22	Ht	**6**	3.9	**9**	100	**3**	3.3			**2**
sh2	Y	4	AC	ACcede MR Y	**Rp**	2	**Rp**	0	**3**	19	**1**	13	Ht	**4**	2.9	**9**	100	**2**	2.8			**2**
sh2	Y	3	AC	ACcelerator	**Rp**	15	**7**	38	**4**	24	**4**	33	Ht	**5**	3.4	**8**	96	**5**	4.3	**7**	4.7	**2**
sh2	Y	4	AC	ACcensuate	**Rp**	7	**7**	38	**4**	21	**2**	20	Ht	**6**	3.6	**9**	100	**3**	3.3			**1**
sh2+	Y	3	AC	ACcession	**9**	50	**8**	41	**6**	35	**7**	44	Ht	**4**	2.9	**9**	100	**5**	4.5	**3**	3.3	**3**
sh2	W	3	AC	ACcrue	**6**	35	**6**	34	**6**	32	**9**	63		**4**	3.2	**4**	25	**5**	4.5			**2**
sh2	B	2	AC	ACR 4022 BC	**7**	38	**7**	36	**5**	26	**5**	37		**5**	3.4	**9**	100	**5**	4.3			**2**
sh2	Y	1	AC	ACR 4049 Y	**8**	45	**7**	37	**6**	31	**8**	53		**4**	3.1	**9**	100	**5**	4.3			**4**
sh2	Y	1	AC	ACR 4050 Y	**7**	40	**7**	37	**5**	30	**8**	53		**4**	3.0	**9**	100	**5**	4.5			**5**
sh2	B	3	AC	ACR 7156 BC	**Rp**	2	**Rp**	0	**2**	13	**1**	16	Ht	**2**	2.2	**9**	100	**4**	4.0			**2**
sh2	Y	3	AC	ACX 1074 Y	**6**	33			**5**	28						**9**	100					**3**
sh2	Y	3	AC	ACX 1161 Y	**5**	26	**7**	37	**5**	26	**7**	46		**7**	4.0	**9**	100	**5**	4.3	**4**	3.7	**2**
sh2	W	4	AC	ACX 1204 MRW	**Rp**	0	**Rp**	0	**1**	9	**1**	17	Ht	**3**	2.4	**9**	100	**1**	1.5			**1**
sh2	W	4	AC	ACX 1410 W	**7**	38	**7**	36	**6**	35	**9**	58		**6**	3.6	**5**	32	**6**	5.0			**3**
sh2	W	4	AC	ACX 1412 W	**6**	35			**5**	26				**3**	2.5	**1**	0	**5**	4.5			**3**
sh2	Y	3	AC	ACX 5007 Y	**7**	38	**7**	37	**5**	26	**3**	27	Ht	**3**	2.7	**9**	100	**4**	4.0	**5**	4.0	**1**
sh2	Y	3	AC	ACX 5008 Y	**Rp**	15	**7**	39	**4**	23	**4**	32	Ht	**6**	3.7	**9**	100	**4**	4.0	**5**	4.0	**3**
sh2+	B	3	AC	ACX 5010 MR BC	**Rp**	0	**Rp**	0	**2**	14	**1**	11	Ht	**2**	2.2	**9**	100	**2**	3.0			**2**
sh2	Y	3	AC	ACX 5138 Y	**5**	28	**6**	34	**4**	22	**4**	31	Ht	**5**	3.3	**9**	100	**4**	4.0	**5**	4.0	**2**
sh2	Y	3	AC	ACX 7038 MR Y	**Rp**		**Rp**	0	**4**	20	**1**	15	Ht	**4**	3.1	**7**	83	**2**	2.8	**3**	3.5	**1**
sh2	B	3	Sdw	Awesome	**5**	26	**5**	29	**4**	25	**6**	41		**2**	2.3	**9**	100	**6**	4.8			**2**
sh2	Y	4	HM	Bandit	**Rp**	15	**7**	36	**4**	24	**7**	48	Ht	**6**	3.7	**5**	38	**3**	3.5			**1**
sh2	Y	4	Sem	Basin R	**Rp**	9	**6**	32	**5**	29	**6**	41		**6**	3.8	**5**	50	**5**	4.5			**4**
sh2	Y	3	AC	Beyond	**Rp**	14	**6**	35	**4**	21	**4**	28	Ht	**2**	2.3	**9**	100	**2**	3.0			**2**
sh2	B	3	Sdw	Bicolor Saturn	**3**	19	**6**	31	**4**	24	**5**	37	Ht	**2**	2.3	**9**	100	**5**	4.5			**3**

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					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	B	3	Rog	Big Time	**Rp**	4	**6**	34	**4**	23	**2**	19	Ht	**1**	1.8	**9**	100	**7**	5.5			**2**
sh2	W	3	Rog	Boreal	**Rp**	14	**8**	41	**4**	24	**1**	17	Ht	**1**	1.9	**9**	100	**7**	5.3			**3**
sh2	Y	3	Cr	Bountiful	**9**	50	**7**	36	**6**	31	**5**	37		**6**	3.8	**9**	100	**5**	4.5	**3**	3.5	**1**
sh2	W	4	Rog	Brighton	**7**	38	**8**	45	**6**	34	**8**	52		**7**	4.0	**6**	57	**5**	4.5			**1**
sh2	B	3	Rog	BSS 0977 VP A	**Rp**	0	**Rp**	0	**Rp**	0	**1**	14	Ht	**1**	1.9	**9**	100	**6**	5.0			**1**
sh2	B	3	Rog	BSS 0982	**Rp**	3	**7**	37	**3**	20	**7**	46		**7**	4.1	**3**	11	**4**	4.0			**1**
sh2	B	3	Rog	BSS 1693	**Rp**	0	**Rp**	0	**Rp**	0	**1**	17	Ht	**2**	2.2	**1**	0	**2**	3.0			**1**
sh2	B	4	Rog	BSS 3495	**Rp**	7	**6**	34	**4**	20	**7**	44		**8**	4.7	**3**	19	**4**	4.0			**1**
sh2	B	4	Rog	BSS 5362	**Rp**	6	**6**	33	**3**	20	**9**	55		**9**	5.3	**8**	96	**5**	4.5			**1**
sh2	Y	2	DM	C101	**Rp**	6	**6**	31	**2**	11	**4**	29	Ht	**1**	1.8	**5**	47	**6**	4.8	**4**	3.7	**3**
sh2	Y	4	DM	C401	**Rp**	7	**5**	26	**2**	14	**4**	31		**3**	2.7	**6**	62	**5**	4.3	**4**	3.7	**2**
sh2	Y	3	DM	C403	**Rp**	14	**6**	31	**4**	21	**6**	38		**4**	2.9	**4**	22	**5**	4.5	**6**	4.3	**1**
sh2	B	3	Rog	Camas	**5**	28	**6**	32	**5**	26	**1**	12	Ht	**2**	2.2	**9**	100	**6**	5.0			**2**
sh2	B	3	HM	Candy Corner	**Rp**	7	**6**	32	**4**	24	**9**	56		**4**	3.1	**5**	48	**5**	4.5			**1**
sh2	W	3	Cr	Cascade	**8**	45	**7**	38	**6**	31	**5**	33		**5**	3.5	**9**	100	**3**	3.5	**2**	3.2	**1**
sh2	B	4	HM	Cavalry	**Rp**	3	**5**	27	**4**	22	**3**	27	Ht	**2**	2.2	**2**	8	**3**	3.5			**1**
sh2	Y	3	Sem	Challenger	**5**	30	**6**	31	**5**	30	**3**	25	Ht	**3**	2.5	**9**	100	**3**	3.5			**1**
sh2	Y	5	SnRv	Columbus			**6**	31	**5**	26	**2**	21	Ht	**2**	2.1	**9**	100	**2**	3.0	**6**	4.3	**1**
sh2+	B	2	Cr	CSABF4-157	**9**	50	**9**	51	**9**	46	**8**	49		**4**	3.2	**8**	97	**5**	4.5	**4**	3.7	**1**
sh2+	B	4	Cr	CSABF6-235	**5**	28	**6**	33	**6**	31	**5**	34		**3**	2.5	**9**	100	**3**	3.3	**3**	3.3	**3**
sh2+	B	3	Cr	CSABF7-286	**7**	40	**8**	43	**6**	33	**4**	31		**5**	3.3	**8**	98	**3**	3.3	**2**	3.2	**1**
sh2+	W	5	Cr	CSAWP5-202	**6**	35	**6**	33	**5**	28	**5**	35		**5**	3.4	**9**	100	**2**	3.0	**3**	3.5	**1**
sh2+	Y	3	Cr	CSAYF6-227	**8**	43	**7**	36	**6**	33	**5**	36		**7**	4.2	**8**	96	**4**	4.0	**6**	4.2	**2**
sh2+	Y	5	Cr	CSAYP6-224	**3**	19	**6**	34	**5**	30	**4**	30	Ht	**2**	2.3	**8**	92	**3**	3.5	**3**	3.3	**1**
sh2+	Y	4	Cr	CSAYP6-225	**6**	35	**6**	31	**6**	32	**4**	32	Ht	**1**	1.9	**9**	100	**5**	4.5	**1**	2.8	**7**
sh2	Y	2	Cr	CSHYP4-153	**8**	45	**6**	34	**5**	28	**5**	37		**6**	3.7	**8**	97	**5**	4.3	**3**	3.5	**1**
sh2	Y	4	Cr	CSHYP6-223	**Rp**	7	**6**	31	**4**	21	**5**	35		**4**	3.0	**2**	3	**5**	4.5	**3**	3.3	**1**
sh2	Y	5	Cr	CSHYP6-229	**4**	23	**6**	35	**6**	32	**4**	32	Ht	**4**	3.1	**8**	98	**1**	2.5	**4**	3.7	**1**
sh2	B	4	Rog	Cupola	**4**	23	**6**	32	**5**	26	**8**	51		**9**	5.1	**8**	96	**5**	4.5			**3**
sh2	W	3	AC	Desert Snow	**5**	30	**7**	38	**6**	32	**6**	43		**5**	3.4	**9**	100	**7**	5.5			**1**
sh2	W	5	Sem	Devotion	**5**	30	**6**	31	**5**	28	**6**	38	Ht	**4**	2.9	**9**	100	**4**	4.0			**3**
sh2	Y	2	DM	DMC 21-05	**Rp**	14	**6**	35	**2**	14	**5**	37	Ht	**6**	3.9	**8**	94	**4**	4.0	**5**	4.0	**2**
sh2	Y	4	DM	DMC 21-84	**Rp**	4	**5**	28	**3**	15	**5**	35	Ht	**2**	2.2	**7**	79	**5**	4.3	**5**	4.0	**2**
sh2	Y	5	DM	DMC 22-85	**Rp**	6	**6**	34	**2**	15	**5**	37		**3**	2.5	**1**	0	**6**	5.0	**7**	4.7	**2**
sh2	B	2	Rog	Double Up	**5**	26	**6**	31	**5**	26	**1**	17	Ht	**6**	3.6	**9**	100	**4**	4.0			**1**

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					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	Y	5		EMS20/IMS07	**4**	23	**5**	27	**4**	21	**4**	32		**4**	3.1	**5**	43	**4**	4.0			**1**
sh2	W	3	SnRv	Everest	**4**	20	**6**	32	**5**	27	**5**	38		**7**	4.4	**9**	100	**3**	3.5	**6**	4.2	**1**
sh2	B	4	Sem	EX 0843 4712	**Rp**	4	**5**	28	**3**	15	**5**	35	Ht	**4**	3.1	**9**	100	**3**	3.5	**4**	3.8	**1**
sh2	B	3	Sem	EX 0870 5788	**Rp**	11	**6**	33	**4**	20	**5**	37		**4**	2.9	**2**	2	**4**	4.0			**2**
sh2	Y	5	Sem	EX 0870 8188	**Rp**		**5**	26	**3**	17	**3**	28	Ht	**3**	2.7	**9**	100	**3**	3.3	**4**	3.7	**1**
sh2	Y	5	Sem	EX 0873 5590	**Rp**	0	**6**	31	**3**	20	**6**	41		**3**	2.6	**2**	1	**6**	5.0	**7**	4.7	**1**
sh2	B	5	Sem	EX 0876 5391	**Rp**	0	**Rp**	0	**Rp**	0	**5**	34		**5**	3.3	**9**	100	**6**	4.8	**4**	3.7	**3**
sh2	B	4	Sem	EX 0876 7143	**Rp**	0	**Rp**	0	**Rp**	0	**3**	25	Ht	**2**	2.2	**9**	100	**2**	3.0	**3**	3.5	**1**
sh2	W	3	Rog	Exp 104	**Rp**	2	**Rp**	0	**2**	12	**1**	14	Ht	**2**	2.3	**5**	34	**6**	5.0			**2**
sh2	Y	3	Rog	Exp 109	**Rp**	1	**Rp**	0	**1**	8	**5**	37		**5**	3.4	**9**	100	**6**	5.0			**3**
sh2	B	4	Rog	Exp 111	**Rp**	0	**Rp**	0	**Rp**	0	**7**	44		**9**	5.1	**6**	57	**4**	4.0			**4**
sh2	Y	4	Rog	Exp 112	**Rp**	11	**6**	33	**4**	21	**4**	31	Ht	**2**	2.2	**1**	0	**2**	2.8			**1**
sh2	W	3	Rog	Exp 113	**Rp**	7	**5**	30	**3**	18	**4**	28	Ht	**5**	3.3	**3**	12	**6**	4.8			**2**
sh2	W	4	Rog	Exp 114	**Rp**	3	**Rp**	0	**2**	14	**3**	27		**5**	3.3	**3**	16	**6**	5.0			**1**
sh2	B	3	Rog	Exp 116	**5**	26	**6**	35	**5**	28	**6**	43		**1**	1.6	**8**	92	**1**	2.0			**1**
sh2	B	3	Rog	Exp 120	**Rp**	5	**6**	31	**2**	14	**5**	33		**2**	2.2	**7**	86	**1**	2.5			**1**
sh2	B	4	Rog	Exp 121	**3**	20	**6**	31	**4**	24	**3**	26	Ht	**4**	2.8	**9**	100	**5**	4.3			**2**
sh2	Y	3	Rog	Exp 122	**Rp**	0	**Rp**	0	**Rp**	0	**4**	33		**3**	2.6	**1**	0	**4**	3.8			**1**
sh2	Y	3	Rog	Exp 123	**Rp**	0	**Rp**	0	**Rp**	0	**5**	34		**6**	3.9	**2**	4	**3**	3.5			**1**
sh2	Y	4	Rog	Exp 125	**Rp**	3	**6**	31	**4**	24	**4**	29	Ht	**3**	2.7	**9**	100	**4**	4.0			**2**
sh2	Y	1	IFS	Extra Early Super Sweet	**9**	50	**9**	49	**9**	49	**9**	60		**8**	4.9	**9**	100	**7**	5.5	**9**	5.7	**1**
sh2	B	2	IFS	Fantastic	**7**	40	**7**	36	**6**	33	**7**	46		**2**	2.3	**9**	100	**4**	3.8	**4**	3.8	**3**
sh2	Y	4	Cr	Fortitude	**Rp**	9	**6**	32	**3**	17	**2**	22	Ht	**6**	3.7	**9**	100	**4**	4.0	**6**	4.3	**1**
sh2	Y	4	SnRv	Galaxy	**Rp**	2	**7**	37	**4**	23	**4**	31	Ht	**6**	3.6	**9**	100	**4**	4.0	**8**	4.8	**1**
sh2	Y	3	Rog	Garrison	**Rp**	0	**Rp**	0	**Rp**	0	**2**	20	Ht	**2**	2.1	**2**	3	**6**	4.8			**1**
sh2	Y	4	GG	Green Giant Code 39	**Rp**	2	**5**	25	**3**	18	**5**	35		**4**	2.9	**9**	100	**4**	4.0			**1**
sh2	Y	3	GG	Green Giant Code 107	**Rp**	10	**6**	33	**4**	24	**5**	34		**3**	2.7	**9**	100	**5**	4.5			**2**
sh2	Y	2	GG	Green Giant Code 177	**Rp**	21	**7**	37	**2**	12	**4**	31	Ht	**5**	3.3	**9**	100	**6**	5.0			**1**
sh2	Y	4	GG	Green Giant Code 179	**Rp**	0	**Rp**	0	**Rp**	0	**6**	39		**5**	3.4	**9**	100	**7**	5.5			**1**
sh2	Y	4	GG	Green Giant Code 189	**Rp**	1	**Rp**	0	**1**	8	**5**	38		**4**	2.9	**9**	100	**7**	5.5			**1**
sh2	Y	4	GG	Green Giant Code 202	**Rp**	0	**Rp**	0	**Rp**	0	**4**	31		**3**	2.6	**6**	62	**4**	4.0			**1**
sh2	B	4	GG	Green Giant Code 214	**Rp**	2	**5**	26	**3**	16	**5**	35		**3**	2.7	**9**	100	**6**	5.0			**1**
sh2	Y	4	GG	Green Giant Code 215	**Rp**	0	**Rp**	0	**1**	8	**5**	34		**5**	3.3	**7**	75	**1**	1.0			**1**
sh2	Y	4	GG	Green Giant Code 216	**Rp**	1	**Rp**	0	**3**	17	**5**	36		**4**	2.8	**8**	96	**6**	5.0			**1**
sh2	W	4	GG	Green Giant Code 217	**Rp**	1	**5**	26	**3**	16	**6**	42		**6**	3.6	**9**	100	**2**	3.0			**1**

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					Common rust						Northern		Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight		wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	% HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	B	5	GG	Green Giant Code 701	**Rp**	2	**5**	30	**3**	19	**5**	38	**4**	3.1	**9**	100	**3**	3.5			**1**
sh2	Y	3	Rog	GSS 0966 A	**Rp**	0	**Rp**	0	**3**	15	**2**	21 Ht	**3**	2.7	**9**	100	**9**	6.0			**3**
sh2	Y	4	Rog	GSS 0969	**6**	33	**6**	35	**6**	32	**3**	27 Ht	**3**	2.4	**9**	100	**6**	5.0			**1**
sh2	Y	3	Rog	GSS 1477	**Rp**	4	**5**	29	**3**	19	**4**	30 Ht	**3**	2.6	**3**	13	**3**	3.5			**1**
sh2	Y	2	Rog	GSS 2008	**Rp**	2	**6**	30	**1**	9	**4**	32 Ht	**6**	3.6	**9**	100	**6**	5.0			**1**
sh2	Y	3	Rog	GSS 2914	**Rp**	9	**5**	29	**4**	21	**8**	50	**8**	4.8	**9**	100	**4**	4.0			**4**
sh2	Y	3	Rog	GSS 4165	**7**	38	**7**	36	**6**	31	**9**	56	**~~5~~**	3.4	**9**	100	**6**	4.8			**1**
sh2	Y	4	Rog	GSS 4644	**5**	26	**6**	34	**4**	24	**4**	28 Ht	**4**	3.1	**9**	100	**4**	4.0			**4**
sh2	Y	5	Rog	GSS 5592	**Rp**	0	**6**	31	**3**	17	**4**	29	**1**	1.6	**2**	8	**1**	2.0			**1**
sh2	Y	3	Rog	GSS 5649	**Rp**	11	**7**	36	**5**	29	**4**	30 Ht	**~~5~~**	3.4	**3**	15	**5**	4.3			**2**
sh2	Y	4	Rog	GSS 6550P	**Rp**	0	**Rp**	0	**1**	8	**1**	12 Ht	**1**	1.3	**9**	100	**5**	4.5			**3**
sh2	Y	3	Rog	GSS 6564	**4**	21	**5**	29	**5**	26	**3**	25 Ht	**~~5~~**	3.4	**9**	100	**4**	4.0			**2**
sh2	Y	2	Rog	GSS 7314	**9**	55	**7**	36	**6**	34	**8**	50	**6**	3.9	**9**	100	**8**	5.8			**1**
sh2	Y	4	Rog	GSS 7627	**Rp**	1	**7**	38	**3**	19	**6**	40	**3**	2.6	**9**	100	**3**	3.3			**1**
sh2	Y	3	Rog	GSS 7831	**Rp**	18	**7**	39	**5**	26	**5**	36	**6**	3.8	**9**	100	**5**	4.5			**3**
sh2	Y	5	Rog	GSS 8357	**Rp**	11	**7**	36	**4**	23	**2**	18 Ht	**2**	2.1	**9**	100	**3**	3.5			**2**
sh2	Y	5	Rog	GSS 8388	**Rp**	0	**6**	33	**4**	22	**2**	19 Ht	**1**	1.8	**9**	100	**5**	4.5			**3**
sh2	Y	4	Rog	GSS 8529	**5**	29	**6**	34	**6**	31	**7**	46	**2**	2.3	**3**	20	**6**	4.8			**2**
sh2	Y	3	Rog	GSS 9299	**Rp**	30	**7**	36	**4**	24	**4**	31 Ht	**4**	3.1	**9**	100	**4**	3.8			**2**
sh2	Y	5	Rog	GSS 9641	**Rp**	2	**Rp**	0	**2**	14	**3**	25 Ht	**2**	2.1	**3**	20	**6**	5.0			**1**
sh2	B	1	SnRv	HB 0192 OJ	**Rp**	2	**7**	39	**5**	26	**9**	62	**6**	3.9	**9**	100	**3**	3.3	**6**	4.3	**1**
sh2	B	4	SnRv	HB 2162 OL			**6**	35	**5**	28	**8**	55	**8**	4.7	**9**	100	**7**	5.5	**8**	5.2	**1**
sh2	B	3	SnRv	HB 2450 OM			**6**	35	**4**	25	**8**	48	**8**	4.6	**9**	100	**4**	3.8	**8**	5.0	**1**
sh2	B	4	SnRv	HB 2622 OM	**Rp**	0	**7**	36	**5**	27	**8**	53	**8**	4.9	**9**	100	**4**	3.8	**6**	4.3	**1**
sh2	B	4	SnRv	HB 2630 OM			**7**	37	**4**	25	**7**	45	**7**	4.4	**9**	100	**4**	3.8	**7**	4.7	**1**
sh2	B	4	SnRv	HB 2642 OM	**Rp**	4	**6**	35	**5**	25	**7**	47	**9**	5.1	**8**	97	**3**	3.3	**8**	5.0	**1**
sh2	B	5	SnRv	HB 4828 LN			**5**	27	**3**	20	**5**	38	**7**	4.1	**9**	100	**3**	3.3	**8**	5.2	**1**
sh2	Y	3	HM	HM 2384	**Rp**	7	**6**	31	**3**	20	**6**	41	**4**	3.0	**1**	0	**4**	4.0			**1**
sh2	W	4	HM	HMX 1368 WS	**Rp**	11	**6**	31	**5**	26	**7**	47	**3**	2.7	**2**	5	**3**	3.3			**1**
sh2	Y	.	HM	HMX 4396 S	**Rp**	7	**6**	33	**4**	20	**5**	37 Ht	**6**	3.8	**9**	100	**5**	4.3			**2**
sh2	W	3	HM	HMX 6360 WS	**6**	35	**6**	31	**5**	29	**7**	45	**3**	2.5	**3**	15	**3**	3.3			**1**
sh2	Y	3	HM	HMX 6386 S	**Rp**	3	**Rp**	0	**2**	14	**5**	37	**3**	2.6	**3**	13	**5**	4.5			**7**
sh2	Y	3	HM	HMX 7368 S	**7**	38	**6**	31	**4**	21	**5**	33	**4**	2.8	**8**	96	**5**	4.3			**1**
sh2	Y	4	HM	HMX 7389 S	**Rp**	0	**Rp**	0	**Rp**	0	**6**	39	**4**	2.9	**9**	100	**5**	4.5			**2**
sh2	Y	4	HM	HMX 7390 S	**Rp**	7	**6**	32	**3**	19	**5**	35	**3**	2.7	**4**	30	**4**	3.8			**2**

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					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	Y	3	HM	HMX 8342 S	**7**	40	**5**	29	**5**	28	**5**	36	Ht	**6**	3.7	**9**	100	**5**	4.5			**1**
sh2	B	3	HM	HMX 8343 BS	**5**	30	**5**	27	**4**	23	**6**	40	Ht	**5**	3.4	**9**	100	**5**	4.5			**1**
sh2	B	2	HM	HMX 8344 BS	**5**	28	**6**	33	**5**	28	**8**	52		**5**	3.3	**9**	100	**9**	6.0			**2**
sh2	B	4	HM	HMX 8345 BS	**Rp**	6	**5**	26	**3**	20	**4**	33	Ht	**4**	3.0	**4**	23	**6**	4.8			**1**
sh2	Y	3	HM	HMX 8346 S	**6**	33	**5**	29	**4**	24	**4**	30		**2**	2.3	**9**	100	**5**	4.3			**1**
sh2	Y	4	HM	HMX 8372 S	**9**	50	**7**	39	**6**	34	**5**	36		**4**	2.8	**9**	100	**4**	4.0			**3**
sh2	Y	4	HM	HMX 8373 S	**8**	45	**7**	38	**6**	33	**6**	39		**5**	3.5	**9**	100	**4**	4.0			**2**
sh2	Y	4	HM	HMX 8375 S	**6**	35	**5**	30	**4**	23	**5**	36		**1**	1.4	**3**	13	**3**	3.3			**3**
sh2	Y	4	HM	HMX 8379 S	**8**	45	**5**	28	**4**	24	**5**	35		**4**	3.2	**8**	93	**5**	4.5			**2**
sh2	Y	4	HM	HMX 8380 S	**6**	33	**6**	34	**4**	25	**4**	31		**5**	3.5	**9**	100	**4**	4.0			**2**
sh2	Y	4	HM	HMX 8381 S	**Rp**	2	**Rp**	0	**1**	7	**9**	58		**6**	3.8	**5**	39	**5**	4.5			**9***
sh2	B	5	Cr	Holiday	**Rp**	6	**7**	38	**5**	29	**1**	14	Ht	**2**	2.1	**9**	100	**1**	2.5	**3**	3.5	**1**
sh2	B	4	Sem	Hollywood	**Rp**	9	**6**	33	**4**	22	**6**	40		**6**	3.6	**9**	100	**6**	4.8			**2**
sh2	B	3	IFS	Honey n Pearl	**6**	35	**6**	33	**5**	30	**5**	38		**4**	3.1	**8**	94	**3**	3.5	**5**	4.0	**2**
sh2	W	5	Cr	How Sweet It Is	**6**	35	**6**	34	**5**	29	**5**	36		**4**	2.9	**9**	100	**4**	4.0	**4**	3.7	**5**
sh2	W	4	SnRv	HW 1336 OK	**3**	18	**6**	33	**5**	29	**3**	25	Ht	**3**	2.6	**9**	100	**2**	3.0	**6**	4.3	**1**
sh2	W	4	SnRv	HW 2545 OM			**6**	31	**4**	22	**6**	38		**5**	3.5	**9**	100	**4**	3.8	**4**	3.8	**4**
sh2	Y	1	SnRv	HY 1089 OM	**Rp**	2	**7**	36	**4**	22	**5**	35	Ht	**8**	4.5	**9**	100	**6**	5.0	**8**	5.0	**1**
sh2	Y	4	SnRv	HY 1439 OM			**6**	35	**4**	22	**4**	31	Ht	**7**	4.3	**9**	100	**5**	4.3	**9**	5.3	**1**
sh2	Y	4	SnRv	HY 1481 OM			**7**	37	**5**	26	**4**	33	Ht	**8**	4.8	**9**	100	**4**	4.0	**7**	4.5	**1**
sh2	Y	4	SnRv	HY 1516 OM			**7**	36	**5**	26	**4**	31	Ht	**7**	4.4	**9**	100	**5**	4.5	**8**	5.2	**1**
sh2	Y	4	SnRv	HY 1551 ON			**6**	31	**3**	20	**5**	37		**9**	5.6	**9**	100	**5**	4.5	**5**	4.0	**1**
sh2	Y	4	SnRv	HY 1656 ON			**7**	37	**4**	21	**8**	50		**9**	5.6	**8**	93	**6**	4.8	**9**	6.3	**2**
sh2	Y	4	SnRv	HY 1680 ON			**6**	34	**5**	25	**7**	47		**7**	4.0	**9**	100	**4**	3.8	**9**	6.2	**3**
sh2	Y	5	SnRv	HY 850 ON			**6**	31	**3**	19	**3**	22	Ht	**6**	3.8	**9**	100	**4**	3.8	**9**	5.8	**1**
sh2	W	3	HM	Ice Queen	**Rp**	11	**8**	41	**6**	32	**7**	48		**3**	2.7	**2**	3	**7**	5.3			**1**
sh2	W	3	HM	Iceberg	**8**	45	**7**	39	**7**	36	**6**	39		**3**	2.6	**2**	6	**4**	3.8			**1**
sh2	Y	5	IFS	Illini Extra-Sweet	**7**	38	**7**	36	**6**	31	**7**	45		**3**	2.7	**9**	100	**5**	4.3	**4**	3.7	**1**
sh2	W	3	AC	Imperial Snow	**7**	38	**7**	39	**7**	36	**6**	40		**4**	3.2	**9**	100	**4**	4.0			**1**
sh2	B	5		IMS05CW2/IMS07	**7**	38	**5**	30	**5**	26	**5**	35		**4**	3.0	**7**	77	**1**	2.5			**1**
sh2	Y	5		IMS26A1/IMS07	**5**	25	**5**	30	**5**	27	**5**	35		**4**	2.8	**8**	96	**3**	3.3			**1**
sh2	W	3	Sak	K2-501B	**Rp**	11	**6**	32	**4**	22	**5**	37		**2**	2.3	**3**	14	**6**	4.8			**1**
sh2	W	3	Sak	K2-501R	**7**	38	**6**	35	**5**	30	**6**	42		**4**	3.1	**9**	100	**7**	5.5			**1**
sh2	Y	3	Rog	Krispy King	**7**	40	**7**	36	**7**	37	**6**	40		**6**	3.8	**9**	100	**5**	4.3			**3**
sh2	Y	5	SnRv	Lancaster	**Rp**		**6**	35	**4**	24	**4**	30	Ht	**5**	3.4	**9**	100	**4**	4.0	**9**	5.3	**1**

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					Common rust						Northern		Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight		wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	% HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	B	4	Sem	Madonna R	**7**	38	**6**	33	**6**	33	**7**	47	~~**5**~~	3.4	**8**	97	**3**	3.5			**2**
sh2	Y	5	Rog	Magnun II (GSS 2718)	**5**	25	**6**	32	**5**	26	**3**	26 Ht	**2**	2.2	**9**	100	**6**	4.8			**2**
sh2	B	4	Bas	Maize Dulce BC 1735	**Rp**	4	**6**	31	**2**	11	**5**	36	**1**	1.9	**2**	8	**1**	2.3	**4**	3.7	**1**
sh2	B	5	Bas	Maize Dulce BC 503	**Rp**	15	**7**	36	**4**	24	**2**	19 Ht	**1**	1.9	**1**	0	**1**	2.5	**1**	2.8	**1**
sh2	Y	5	Bas	Maize Dulce HB A-44	**6**	35	**7**	36	**5**	29	**3**	26 Ht	**3**	2.4	**9**	100	**2**	3.0	**5**	4.0	**1**
sh2	Y	6	Bas	Maize Dulce HB 375	**5**	26	**6**	33	**4**	25	**1**	14 Ht	**1**	1.9	**9**	100	**2**	3.0	**5**	4.0	**1**
sh2	Y	4	Cr	Marvel	**Rp**	4	**6**	34	**3**	19	**5**	34	**6**	3.9	**9**	100	**6**	4.8	**6**	4.2	**1**
sh2	Y	4	Cr	Marvel Edge	**Rp**	0	**Rp**	0	**Rp**	0	**5**	35	~~**4**~~	3.2	**9**	100	**6**	4.8	**3**	3.5	**1**
sh2	Y	4	HM	Max	**Rp**	11	**6**	34	**4**	24	**6**	39	**3**	2.5	**1**	0	**4**	4.0			**2**
sh2	Y	4	HM	Max	**Rp**	15	**7**	38	**5**	29	**5**	38	**3**	2.4	**2**	6	**4**	4.0			**1**
sh2	Y	.	HM	Megaton	**Rp**	6	**6**	32	**4**	22	**8**	53	**7**	4.2	**2**	6	**4**	4.0			**1**
sh2	Y	3	Cent	Mirai 002	**5**	25	**5**	29	**4**	23	**6**	43	~~**4**~~	2.9	**9**	100	**6**	5.0			**3**
sh2	Y	2	Cent	Mirai 003	**5**	26	**6**	31	**5**	28	**7**	46	~~**4**~~	3.2	**5**	35	**9**	6.0			**1**
sh2	Y	1	Cent	Mirai 117 Y	**7**	38	**5**	28	**4**	23	**4**	32 Ht	~~**4**~~	2.8	**8**	92	**6**	5.0			**1**
sh2	Y	1	Cent	Mirai 130 Y	**7**	38	**5**	25	**4**	24	**4**	32 Ht	~~**4**~~	2.9	**9**	100	**7**	5.5			**2**
sh2	Y	1	Cent	Mirai 131 Y	**5**	26	**5**	26	**4**	23	**5**	34 Ht	**3**	2.4	**9**	100	**6**	4.8			**1**
sh2	Y	1	Cent	Mirai 148 Y	**5**	28	**5**	30	**4**	23	**6**	39 Ht	**3**	2.5	**9**	100	**9**	6.0			**2**
sh2	B	3	Cent	Mirai 301 BC	**8**	45	**6**	34	**4**	23	**7**	44	**1**	1.9	**9**	100	**3**	3.5			**3**
sh2	B	2	Cent	Mirai 302 BC	**7**	36	**5**	28	**4**	24	**8**	49	**2**	2.3	**9**	100	**3**	3.5			**3**
sh2	B	2	Cent	Mirai 308 BC	**5**	26	**5**	29	**3**	20	**6**	43	~~**4**~~	3.1	**9**	100	**9**	6.5			**2**
sh2	B	2	Cent	Mirai 336 BC	**7**	40	**7**	37	**5**	26	**5**	37	**1**	1.5	**9**	100	**3**	3.5			**1**
sh2	B	4	Cent	Mirai 350 BC	**7**	40	**5**	30	**5**	26	**4**	31 Ht	**1**	1.4	**8**	95	**6**	5.0			**1**
sh2	W	2	Cent	Mirai 421 W	**9**	50	**6**	34	**5**	27	**5**	38	**3**	2.4	**9**	100	**7**	5.5			**1**
sh2	W	4	HM	Mont Blanc	**Rp**	6	**5**	30	**2**	12	**1**	14 Ht	**1**	1.7	**3**	13	**4**	4.0			**1**
sh2	W	4	HM	Mont Blanc	**Rp**	10	**5**	30	**3**	16	**1**	12 Ht	**2**	2.1	**3**	14	**4**	3.8			**1**
sh2	Y	5	HM	Morning Star	**Rp**	2	**7**	36	**4**	23	**3**	26 Ht	~~**5**~~	3.4	**9**	100	**2**	3.0			**1**
sh2	Y	5	HM	Morning Star			**6**	33	**5**	28	**5**	34 Ht	**6**	3.9	**7**	76					**1**
sh2	Y	1	IFS	Northern Xtra-Sweet	**9**	50	**7**	37	**6**	33	**8**	51	**7**	4.4	**9**	100	**4**	3.8	**3**	3.3	**1**
sh2	B	3	Sem	Obsession	**Rp**	11	**5**	30	**2**	12	**2**	22 Ht	**1**	1.9	**9**	100	**4**	3.8			**1**
sh2	B	3	Cr	Optimum	**8**	45	**7**	37	**5**	29	**5**	37	**6**	3.7	**8**	98	**5**	4.5	**4**	3.8	**1**
sh2	Y	5	Rog	Overland	**Rp**	0	**Rp**	0	**1**	8	**1**	17 Ht	**2**	2.2	**7**	89	**5**	4.3			**1**
sh2	Y	2	Sem	Passion	**Rp**	2	**4**	22	**3**	16	**3**	24 Ht	**2**	2.2	**9**	100	**4**	3.8			**1**
sh2	B	4	HM	Polaris	**Rp**	5	**6**	33	**4**	24	**6**	41	**3**	2.7	**5**	39	**4**	3.8			**1**
sh2	Y	3	Rog	Prime Plus	**Rp**	16	**8**	41	**5**	25	**2**	19 Ht	**3**	2.4	**9**	100	**9**	6.0			**1**
sh2	Y	3	Rog	Primetime	**7**	38	**7**	38	**6**	32	**2**	20 Ht	**2**	2.1	**9**	100	**7**	5.5			**2**

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					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	B	2	Sem	Princeton	**6**	33	**6**	32	**3**	16	**7**	44		**4**	2.8	**9**	100	**5**	4.5			**1**
sh2	Y	3	Rog	Protégé (GSS 7164)	**Rp**	0	**Rp**	0	**2**	11	**3**	26	Ht	**4**	3.1	**9**	100	**5**	4.3			**1**
sh2sy	Y	2	Sem	PX 93 8117 8	**6**	33	**5**	28	**4**	22	**4**	28	Ht	**4**	3.2	**9**	100	**3**	3.5			**3**
sh2	B	4	Sem	QHB 6RH 1071	**Rp**	0	**Rp**	0	**Rp**	0	**3**	24	Ht	**2**	2.1	**9**	100	**4**	3.8	**3**	3.5	**1**
sh2	B	4	Sem	QHB 6RH 1074	**Rp**	0	**Rp**	0	**Rp**	0	**2**	20	Ht	**1**	1.4	**8**	98	**3**	3.5	**3**	3.3	**1**
sh2	B	4	Sem	QHB 6RH 1088	**Rp**	0	**Rp**	0	**Rp**	0	**7**	46		**6**	3.7	**4**	23	**6**	5.0	**9**	5.3	**1**
sh2	B	3	Sem	QHB 6RH 1195	**Rp**	3	**Rp**	0	**1**	9	**5**	37		**3**	2.7	**8**	95	**4**	3.8	**6**	4.2	**2**
sh2	B	4	Sem	QHB 6SH 1061	**Rp**	0	**3**	17	**2**	15	**5**	37		**7**	4.0	**9**	100	**5**	4.3	**2**	3.0	**1**
sh2	B	4	Sem	QHB 6SH 1087	**Rp**	0	**Rp**	0	**Rp**	0	**5**	36		**3**	2.4	**6**	64	**3**	3.5	**4**	3.7	**1**
sh2	W	3	Sem	QHW 6RH 1049	**5**	25	**6**	31	**5**	27	**7**	44		**6**	3.6	**9**	100	**5**	4.3	**9**	5.7	**1**
sh2	W	4	Sem	QHW 6RH 1051	**Rp**	0	**Rp**	0	**Rp**	0	**5**	36	Ht	**7**	4.4	**2**	2	**3**	3.5	**9**	5.3	**1**
sh2	W	4	Sem	QHW 6RH 1058	**Rp**	1	**Rp**	0	**Rp**	0	**5**	34	Ht	**7**	4.1	**1**	0	**6**	5.0	**5**	4.0	**5**
sh2	W	3	Sem	QHW 6SH 1015	**7**	38	**7**	38	**8**	43	**6**	39		**6**	3.7	**9**	100	**6**	5.0	**6**	4.2	**1**
sh2	W	3	Sem	QHW 6SH 1019	**5**	25	**5**	28	**5**	26	**4**	29	Ht	**7**	4.1	**9**	100	**5**	4.5	**7**	4.7	**4**
sh2	W	4	Sem	QHW 6SH 1029	**3**	15	**4**	25	**4**	22	**5**	33	Ht	**6**	3.9	**9**	100	**6**	5.0	**3**	3.5	**4**
sh2	Y	4	Sem	QHY 6RH 1043	**Rp**	0	**Rp**	0	**Rp**	0	**5**	35		**~~5~~**	3.4	**8**	98	**4**	4.0	**5**	4.0	**1**
sh2	Y	3	Sem	QHY 6RH 1055	**Rp**	12	**8**	43	**5**	28	**7**	44		**6**	3.9	**2**	6	**4**	4.0	**9**	6.0	**1**
sh2	Y	4	Sem	QHY 6RH 1077	**Rp**	0	**Rp**	0	**Rp**	0	**2**	20	Ht	**3**	2.6	**9**	100	**5**	4.5	**6**	4.2	**1**
sh2	Y	4	Sem	QHY 6RH 1109	**Rp**	0	**Rp**	0	**2**	12	**4**	29	Ht	**4**	3.1	**8**	95	**2**	3.0	**6**	4.2	**1**
sh2	Y	4	Sem	QHY 6RH 1131	**Rp**	7	**Rp**	0	**1**	5	**3**	28	Ht	**4**	3.2	**9**	100	**3**	3.5	**8**	5.2	**1**
sh2	Y	5	Sem	QHY 6SH 1065			**6**	32	**4**	22	**4**	32	Ht	**3**	2.5	**2**	9	**5**	4.3	**5**	4.0	**1**
sh2	Y	4	Cr/PV	Rana	**Rp**	5	**6**	33	**3**	20	**3**	27	Ht	**~~5~~**	3.4	**8**	98	**2**	2.8	**3**	3.3	**1**
sh2	Y	4	HM	Ranger	**8**	45	**8**	44	**6**	34	**3**	27	Ht	**4**	3.0	**3**	14	**4**	3.8			**3**
sh2	Y	5	PV	Rebecca	**Rp**	7	**7**	36	**5**	28	**4**	31	Ht	**2**	2.3	**5**	40	**4**	3.8	**2**	3.2	**1**
sh2	Y	1	SnRv	Rising Sun	**Rp**	2	**6**	33	**3**	16	**6**	41		**4**	3.1	**9**	100	**6**	4.8	**6**	4.2	**1**
sh2	B	5	Rsp	RS-8000	**Rp**	3	**5**	29	**3**	20	**3**	25	Ht	**2**	2.0	**9**	100	**2**	3.0			**1**
sh2	Y	4	HM	Rustler	**Rp**	7	**6**	31	**4**	22	**4**	33	Ht	**4**	2.8	**3**	12	**2**	3.0			**1**
sh2	Y	3	IFS	Saturn	**5**	30	**6**	31	**3**	20	**6**	39	Ht	**3**	2.7	**9**	100	**4**	4.0	**5**	4.0	**2**
sh2	Y	3	Sdw	Saturn	**3**	15	**6**	33	**4**	25	**5**	37	Ht	**2**	2.2	**9**	100	**4**	4.0			**3**
sh2	Y	5	HM	Sentinel	**Rp**	4	**6**	31	**3**	18	**2**	20	Ht	**3**	2.7	**3**	14	**4**	4.0			**2**
sh2	Y	4	Sem	Shaker R	**6**	33	**6**	35	**6**	33	**8**	49		**6**	3.8	**9**	100	**3**	3.5			**1**
sh2	Y	1	Sem	Sheba R	**8**	43	**9**	48	**7**	35	**9**	58		**4**	3.2	**9**	100	**4**	4.0			**1**
sh2	Y	5	Sem	Shimmer	**Rp**	3	**5**	27	**4**	22	**3**	23	Ht	**3**	2.6	**9**	100	**3**	3.5			**1**
sh2	Y	5	Sem	SHY 6RH 1034			**6**	31	**2**	15	**6**	39		**1**	1.9	**1**	0	**5**	4.3	**5**	4.0	**2**
sh2	Y	4	Sem	SHY 6RH 1036	**Rp**	2	**Rp**	0	**Rp**	0	**4**	29	Ht	**7**	4.0	**9**	100	**3**	3.5	**8**	4.8	**1**

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					Common rust						Northern			Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight			wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	%	HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	Y	4	Sem	SHY 6RH 1178	**Rp**		**Rp**	0	**1**	2	**5**	34		**3**	2.4	**9**	100	**3**	3.3	**4**	3.8	**5**
sh2	Y	5	Sem	SHY 6RH 1188			**7**	36	**5**	26	**3**	28	Ht	**2**	2.3	**2**	6	**4**	3.8	**9**	5.8	**1**
sh2	Y	5	Sem	SHY 6RH 1190	**Rp**	0	**Rp**	0	**Rp**	0	**3**	28	Ht	**4**	2.9	**9**	100	**3**	3.3	**9**	5.3	**1**
sh2	Y	2	Sem	SHY 6SH 1002	**Rp**	0	**6**	32	**4**	21	**5**	36		**7**	4.0	**9**	100	**5**	4.5	**7**	4.5	**1**
sh2	W	4	HM	Snow White	**9**	65	**8**	45	**9**	51	**8**	51		**7**	4.2	**5**	50	**5**	4.3			**1**
sh2	Y	4	SnRv	Spaceship			**5**	27	**4**	23	**3**	27	Ht	**3**	2.5	**7**	89	**5**	4.5	**6**	4.3	**1**
sh2	B	4	Sdw	Starship II	**Rp**	3	**6**	35	**3**	20	**3**	26	Ht	**3**	2.5	**9**	100	**2**	2.8			**2**
sh2	Y	6	Rog	Sugar 73	**2**	11	**3**	18	**4**	21	**4**	28		**3**	2.5	**4**	21	**1**	1.5			**1**
sh2	Y	3	AC	Summer Sweet 610 Y	**5**	25	**7**	39	**4**	23	**6**	43		**9**	5.0	**9**	100	**5**	4.3	**2**	3.0	**1**
sh2	Y	2	AC	Summer Sweet 6800 R	**Rp**	14	**7**	40	**3**	16	**5**	33		**5**	3.4	**9**	100	**4**	3.8			**1**
sh2	W	2	AC	Summer Sweet 6801 W	**8**	45	**8**	45	**6**	31	**5**	33		**4**	3.0	**9**	100	**5**	4.3			**1**
sh2	B	2	AC	Summer Sweet 6802 R	**Rp**	15	**7**	36	**4**	20	**5**	34		**5**	3.3	**9**	100	**3**	3.3			**1**
sh2	Y	2	AC	Summer Sweet 7100 R	**Rp**	18	**7**	39	**4**	22	**6**	43	Ht	**6**	3.6	**9**	100	**7**	5.5			**2**
sh2	B	2	AC	Summer Sweet 7102 R	**Rp**	18	**6**	34	**4**	22	**6**	39	Ht	**5**	3.3	**9**	100	**8**	5.8			**1**
sh2	W	2	AC	Summer Sweet 7111 W	**9**	55	**7**	36	**6**	33	**6**	42	Ht	**6**	3.8	**9**	100	**8**	5.8			**1**
sh2	Y	3	AC	Summer Sweet 7210 R	**Rp**	19	**7**	36	**4**	25	**4**	29		**3**	2.7	**9**	100	**3**	3.5			**1**
sh2	Y	4	AC	Summer Sweet 7640 Y	**Rp**	12	**7**	38	**4**	22	**2**	19	Ht	**2**	2.2	**9**	100	**3**	3.5			**2**
sh2	W	4	AC	Summer Sweet 7641 MR W	**Rp**	12	**7**	36	**5**	26	**1**	18	Ht	**3**	2.7	**9**	100	**3**	3.5			**1**
sh2	W	4	AC	Summer Sweet 7641 W	**Rp**	2	**Rp**	0	**3**	17	**1**	10	Ht	**3**	2.4	**9**	100	**1**	2.5			**1**
sh2	Y	4	AC	Summer Sweet 7650 Y	**Rp**	3	**7**	36	**5**	25	**1**	17	Ht	**2**	2.3	**9**	100	**3**	3.5	**5**	4.0	**2**
sh2	W	4	AC	Summer Sweet 8101 MR W	**Rp**	2	**Rp**	0	**2**	12	**1**	16	Ht	**4**	2.9	**9**	100	**1**	1.5			**1**
sh2	W	4	AC	Summer Sweet 8101 R	**Rp**	3	**7**	36	**4**	20	**3**	26	Ht	**3**	2.7	**9**	100	**1**	2.3			**3**
sh2	B	4	AC	Summer Sweet 8102 R	**Rp**	1	**6**	34	**3**	20	**3**	28	Ht	**4**	2.8	**9**	100	**1**	2.3			**2**
sh2+	B	3	AC	Summer Sweet MS 502 BC	**6**	33	**7**	39	**6**	31	**7**	47		**7**	4.3	**9**	100	**4**	4.0			**1**
sh2+	Y	2	AC	Summer Sweet MS 725 Y	**7**	38	**7**	37	**5**	30	**7**	46		**4**	2.8	**9**	100	**7**	5.3			**1**
sh2+	B	2	AC	Summer Sweet MS 726 BC	**7**	38	**6**	34	**5**	26	**7**	45		**2**	2.3	**9**	100	**5**	4.5			**1**
sh2+	Y	3	AC	Summer Sweet MS 820 Y	**6**	33	**6**	32	**3**	19	**7**	45		**2**	2.1	**9**	100	**5**	4.3			**5**
sh2+	Y	3	AC	Summer Sweet MS 900 Y	**6**	33	**6**	33	**4**	21	**7**	45		**4**	3.1	**9**	100	**4**	4.0			**3**
sh2	Y	4	Rog	Supersweet Jubilee	**6**	35	**6**	33	**5**	29	**8**	54		**9**	5.4	**8**	95	**6**	5.0			**4**
sh2	Y	4	Rog	Supersweet Jubilee Plus	**Rp**	11	**6**	35	**4**	23	**9**	55		**9**	5.0	**9**	100	**4**	4.0			**3**
sh2	Y	4	HM	Suregold	**Rp**	9	**5**	30	**4**	21	**6**	42		**4**	3.0	**3**	11	**4**	4.0			**3**
sh2	W	4	Sem	SVR 0870 5770	**Rp**	10	**6**	33	**3**	19	**5**	34		**6**	3.6	**3**	13	**5**	4.5			**7**
sh2	Y	2	Sem	SVR 0870 5808	**Rp**	14	**8**	44	**4**	25	**9**	58		**4**	2.8	**2**	8	**5**	4.5			**1**
sh2	Y	4	Rsp	Sweet Perfection	**7**	38	**7**	40	**7**	38	**8**	53		**3**	2.7	**9**	100	**5**	4.3			**1**
sh2	Y	3	Rsp	Sweet Shipper	**6**	33	**6**	31	**5**	28	**7**	45		**6**	3.6	**9**	100	**5**	4.3			**1**

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					Common rust						Northern		Stewart's		MDM		Southern		Goss's		
					avir (+D)		D-vir		G-vir(+D)		leaf blight		wilt		A & B		leaf blight		wilt		Callisto
ET	KC	RM	SDCo	Hybrid	Rxn	%	Rxn	%	Rxn	%	Rxn	% HT	Rxn	rate	Rxn	%	Rxn	Rate	Rxn	Rate	Rxn
sh2	Y	2	Rsp	Sweet Sunrise	**5**	28	**5**	29	**5**	26	**7**	46	**4**	2.9	**8**	94	**4**	4.0			**3**
sh2	B	4	Rsp	Sweet Surprise	**5**	28	**5**	27	**4**	22	**6**	40	**3**	2.6	**9**	100	**5**	4.3			**2**
sh2	Y	4	Sem	Sweet Talk	**5**	28	**6**	35	**6**	31	**3**	27 Ht	**3**	2.4	**9**	100	**4**	4.0			**3**
sh2	Y	.	HM	Sweetear	**7**	38	**6**	31	**5**	27	**5**	38 Ht	**4**	3.0	**9**	100	**4**	4.0			**1**
sh2	W	4	Cr	Symmetry	**Rp**	4	**5**	30	**2**	15	**3**	27	**4**	3.1	**3**	16	**2**	2.8	**1**	2.7	**4**
sh2	W	3	Rog	Tahoe	**Rp**	7	**7**	38	**5**	30	**3**	24 Ht	**2**	2.3	**9**	100	**4**	3.8			**1**
sh2+	B	3	AC	Tantalizing Too			**7**	36	**6**	34	**7**	47	**4**	2.9	**9**	100	**8**	5.8			**2**
sh2	Y	5	Cr	Tribute	**Rp**	7	**7**	36	**5**	26	**1**	11 Ht	**3**	2.7	**8**	97	**3**	3.3	**6**	4.2	**1**
sh2	B	2	IFS	Triumph	**8**	45	**6**	35	**6**	33	**8**	53	**3**	2.4	**9**	100	**4**	4.0	**4**	3.8	**2**
sh2	Y	2	IFS	Vision	**8**	45	**8**	41	**7**	38	**8**	50	**3**	2.5	**8**	94	**4**	4.0	**4**	3.8	**2**
sh2	W	3	Sdw	White Saturn	**3**	15	**5**	30	**4**	24	**4**	29 Ht	**4**	2.9	**9**	100	**7**	5.5			**2**
sh2	Y	4	Rog	Winstar	**Rp**	7	**7**	36	**4**	24	**1**	13 Ht	**3**	2.5	**9**	100	**7**	5.5			**1**
sh2	W	3	Rog	WSS 0987	**Rp**	9	**7**	38	**5**	29	**3**	23 Ht	**4**	2.8	**9**	100	**3**	3.5			**1**
sh2	W	3	Rog	WSS 0995	**Rp**	16	**6**	34	**4**	23	**7**	48	**6**	3.8	**9**	100	**4**	4.0			**1**
sh2	W	3	Rog	WSS 1262	**5**	30	**6**	34	**4**	22	**7**	44	**5**	3.5	**9**	100	**5**	4.5			**1**
sh2	W	4	Rog	WSS 3681	**Rp**	11	**6**	35	**3**	19	**9**	55	**9**	5.0	**9**	100	**4**	4.0			**1**
sh2	W	4	Rog	WSS 9961	**Rp**	3	**6**	33	**4**	25	**8**	52	**6**	3.6	**2**	5	**4**	4.0			**1**
				Mean	35.3 *		32.7 *		29.3 *		37.8		3.03		80.3		4.10		4.22		
				SD	10.2 *		5.6 *		6.9 *		11.0		0.82		34.3		0.88		0.69		
				BLSD (0.05)	6.6 *		6.9 *		9.7 *		10.5		0.92				1.43		1.52		
				Best (min.)	9 *		16 *		7 *		10		1.1		0		1.0		2.5		
				Best 25%	28 *		29 *		25 *		32		2.4		88		3.5		3.7		
				Median	35 *		33 *		29 *		37		3.0		100		4.0		4.2		
				Worst 25%	40 *		36 *		33 *		45		3.6		100		4.8		4.7		
				Worst (max.)	65 *		52 *		58 *		70		5.6		100		6.8		6.5		

* excluding Rp hybrids

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

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

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, PV - Pop Vriend, Rog - Rogers (Syngenta), Rsp - Rispens, Sak - Sakata, Sdw - Seedway, Sem - Seminis, SnR - Snowy River