Report on the 2004-05 Preliminary (PNUWWSN) and Advanced (NUWWSN) Northern Uniform Winter Wheat Scab Nursery

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This report is a compilation and analysis of data from the cooperative assessment of resistance to Fusarium Head Blight (scab) (causal agent *Fusarium graminearum* (teleomorph: *Gibberella zeae* Schwabe.)) in winter wheat germplasm adapted to the northern regions of North America. Funding for the evaluation comes from the U.S. Wheat and Barely Scab Initiative, state and provincial agricultural experiment stations, USDA-ARS, and private companies.

This report contains preliminary data that has not been confirmed and thus is not suitable for general release to the public. Interpretation of the presented results may be modified with additional research. Confirmed results should be published through established channels. This report is to be used as a tool for the cooperators in the NUWWSN, their staff, and persons having direct interest in the development of wheat germplasm and agricultural research programs.

This report and data is not intended for unrestricted publication or distribution and should not be used in or referred to in publicity or advertising. Use of this data may be granted for certain purposes upon written request to the agency or agencies involved.

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INTRODUCTION

The PNUWWSN and NUWWSN test the Fusarium Head Blight resistance of primarily soft red winter wheat adapted to the northern areas of North America. There are a few hard and white wheat entries. Each test is conducted in multiple locations with more data collected in the NUWWSN than the PNUWWSN (Table x).

ENTRIES

There were 30 lines from six breeding programs and 4 checks in the 2005 PNUWWSN (Table 1). There were 45 lines from 11 breeding programs and 4 checks in the 2005 NUWWSN (Table 2).

LOCATIONS

The PNUWWSN entries were evaluated in seven field locations and four GH tests (Table 3). The NUWWSN entries were successfully evaluated in 12 locations and three greenhouse tests (Table 3).

TRAITS

Data was collected on heading date (HD), height (HGT), disease severity (SEV), disease incidence (INC), disease index (IND), kernel rating (KR), percent scabby seed (PSS), ISK, and DON (Table 3). Severity was also assessed in the greenhouse assays (GH). Purdue assessed number of infected spikelets (IS) Data was not collected on all traits in all tests (Table x). Some groups collected additional data that are summarized and described separately.

ANALYSIS

All cooperators sent entry means (not raw data) with some summary statistics from their trials. These means and statistics are presented in the appropriate tables and no additional within-location analyses were performed. The entry means from individual locations were used to analyze results over tests. We used the LSMEANS option in PROC GLM to calculate the means over locations even though the data was quite balanced. ANOVAs (model: trait = genotype + environment) were conducted for each trait and the genotype x environment mean square (residual or error in this model) was used as the error term to calculate a LSD (0.05) for entry means over environment. There was no test for significance for the genotype x environment interaction (GEI) effect.

Based on $1\text{-}R^2$ (not shown), the GEI appeared quite large for some traits so multivariate statistics (Yan et al., 2000 Crop Science 40:597-605) were used to analyze the GEI and group those locations that produced similar results for each trait. Genotype means were then calculated (LSMEANS again) over the environments that produced similar rankings. A group of locations that produced similar genotype rankings and results is called a megaenvironment. Among the locations within a megaenvironment there is generally little GEI, and the means from locations within a megaenvironment are generally correlated. This suggests that the locations within a megaenvironment form a set that provide similar information.

Correlations were calculated between all traits using entry means averaged over all appropriate locations.

RESULTS

Entry and location effect was significant for all traits in the PNUWWSN and the NUWWSN. In general there was more genotype x location interaction than in past years and percent of total sum of squares attributable to GEI was greater than 29% for most FHB traits (Table 4). The

means for the FHB traits are summarized for all entries in Table 5 and 6. The most resistant and susceptible entries, averaged over all environments and considering all FHB traits are presented in Tables 7 and 8.

PNUWWSN GEI

The GEI sum of squares was a major source of the total sum of squares for SEV, INC, IND, GH, ISK and DON but was less important for KR (Table 2). The GEI pattern was assessed using GGE Biplot for IND and GH (SEV and INC were not analyzed as they are highly correlated to IND and would likely give similar results. ISK and DON were not analyzed as there was only data from two locations).

For GH, the four locations were placed in one group (IL+KY+MO) and VA was an outlier as no correlation between VA and the other three locations exceeded 0.07. All correlation between IL, KY, and MO exceeded 0.44. There was a complex GEI pattern for IND with the six locations being placed into one group (IL+KY+OH+VA) while MI and MO were outliers. All correlations among IL, KY, OH, and VA were > 0.56 while no correlation involving MI or MO exceeded 0.31. The correlations between HD and IND were significant and positive in IL, KY, OH, and VA while they were close to zero for MI and MO. As in the 2005 NUWWSN and in some past years, it seems likely that much of the GEI pattern for IND could be attributed to the interaction of HD and IND.

NUWWSN GEI

The GEI sum of squares was a major source of the total sum of squares for IND, GH, DON, SEV, ISK, PSS, and INC but was less important for KR, HGT, and HD (Table x). The GEI pattern was assessed using GGE Biplot for IND, GH, DON, and ISK (SEV and INC were not analyzed as they are highly correlated to IND and would likely give similar results. PSS was not analyzed due to its high correlation to ISK). The biplot suggested groupings among the four locations reporting DON data, but the correlation among the locations were all > 0.49 so they likely represent the same result. For ISK, the four locations were grouped as IL+KY+MO (all r > 0.47) and MD was an outlier mainly because it was poorly related to the KY data. For GH all correlations among the three locations were < 0.47 so all three were considered separate.

As in past years, there was a complex pattern for IND. The 11 locations were placed in three groups (KS+MD+MO, IL+KY+NY+OH, ON+VA) while MI and NE were considered outliers. Within a group the correlations among locations were mostly > 0.50. The correlation between the means of the different groups and outliers were mostly < 0.35 and some were close to 0.0. The results suggested that the MI location gave results in between the KS+MD+MO and IL+KY+NY+OH groups. In the "KS+MD+MO group, all locations had a negative correlation (though some were not significant) between HD and IND. In the IL+KY+NY+OH group, all locations had a significant positive correlation (where available) between HD and IND. The correlation of HD and IND was low and variable in the other locations. It seems likely that the variable correlation between HD and IND accounts for a significant portion of the GEI pattern as has been reported in some previous years.

CORRELATION AMONG TRAITS

Virtually all correlations among FHB traits were significant and exceeded 0.44 in the NUWWSN (Table 9). The correlation among head traits (SEV, INC, IND, IS, and GH) and among kernel traits (KR, PSS, DON) were high as in past years, while the correlation among head and kernel traits were also high in the NUWWSN. HD was only correlated to SEV (r-0.43) and ISK (r=0.40) while HGT was not correlated to any FHB traits.

The correlation between head and kernel traits were more variable in the PNUWWSN as IS and GH were not associated with the kernel traits (Table 9). In the PNUWWSN, SEV, INC, ,IND, KR, ISK, and DON were highly correlated to one another and to HD. HGT was also positively correlated to most FHB traits, though not as strongly as HD.

Table 1. Entries in the 2004-05 PNUWWSN

NAME	PEDIGREE	SOURCE
ERNIE	**Early, moderate resistant check**	
TRUMAN	**Most resistant check**	
FREEDOM	**Late, moderate resistant check**	
PIONEER 2545	**Susceptible check**	
981358C1-4-2-1-3-2	Acc3129/Patterson	IN
99608C1-1-3-4	95172/961331A49/4/INW9811//283-1/INW9811/3/Freedom/Acc3128	IN
99751D8-2-3	INW0123/961331A46/5/INW0123//Acc3128/3/9547B1//Patterson/Ernie	IN
99817RD1-7-5-5-2	9560RB1/92201D5//X117/Acc3128	IN
99840C4-8-3-1	961331A46/92201D5//Acc3128/Patton	IN
D9163	PIONEER_2548/3/C5023=(CHELSEA,SWD/B2141//B5219)	MI
E2001	CAYUGA/RAMROD	MI
E2052	CALEDONIA/PNR XW535	MI
E3005	RAMROD/CALEDONIA	MI
E3009	RAMROD/PIONEER_25R26	MI
IL01-11445	IL87-2834-1 / IL95-678	IL
IL01-11934	IL90-6364 / IL94-1909	IL
IL01-13776	IL94-1653 / IL95-2127	IL
IL01-5550	IL95-3245 / Ernie	IL
IL01-6243	IL90-6364 // IL90-9464 / Ning 7840 /3/ IL94-1909	IL
KY97C-0554-02	VA94-54-549/Roane//Kristy	KY
KY98C-1161-03	Patterson/2540//2552	KY
KY98C-1169-06	Patterson/2568//2552	KY
KY98C-1440-01	VA92-51-12/2540//2552	KY
KY98C-1517-01	Roane/Kristy//2552	KY
OH01-5295	IL87-1917-1/HOPEWELL	OH
OH01-6167	OH530/OH585/OH498/34586-20-1	OH
OH01-6964	5088B-D-32-1/HOPEWELL	OH
OH01-7576	38985-11-2/HOPEWELL	OH
OH01-7653	HOPEWELL/OH601	OH
VA04W-389	Ernie/3/P92823A1-1-2-3-5//Roane/Pion2643,F7	VA
VA04W-569	Roane*2//VR95B717/Roane,BC2F5	VA
VA04W-570	Roane*2//VR95B717/Roane,BC2F5	VA
VA04W-571	Roane*2//VR95B717/Roane,BC2F5	VA
VA04W-592	GA891283LE18//Er-Mai 9/GA891283LE18,BC1F6	VA

Table 2. Entries in the 2004-05 NUWWSN

NAME	PEDIGREE	SOURCE
ERNIE	**Early, moderate resistant check**	
TRUMAN	**Most resistant check**	
FREEDOM	**Late, moderate resistant check**	
PIONEER 2545	**Susceptible check**	
981238A1-11-3W	Ernie//91193D1/X117	IN
981517A1-1-5-2	Goldfield/Acc3128	IN
981542A1-10-4-5-6	Acc3128//Ernie/X117	IN
9824C1-26-2	Ernie/PF9052//INW9811/92162B8	IN
99794RA4-14-10	92201D5/4/9547C1//260-1/92367C2/3/INW9824/92829A1	IN
E0001	CLKS_CREAM/MSU LINE D1277	MI
E2017	(D3913,C4530/AUG)/3/(D0331,B9063/HILLSDALE//C113)	MI
E2042	(D3743,I4360/C5317//FRANKENMUTH)/3/(PIONEER_2555,PNR_W3017/PNR_W521	MI
E2043	(DC076,87F_INTCB_ENT#182/AUG//AUG)/3/(PIONEER_2555,PNR_W3017/PNRW521)	MI
E3012	RAMROD/PIONEER_25W33	MI
IL00-1665	IL91-13114 / Y88-3a // Foster / Pontiac	IL
IL00-8061	P8138I1-16-5-50/Foster//IL93-2489	IL
IL00-8530	IL89-1687 // IL90-6364 / IL93-2489	IL
IL01-15511	IL95-561 / IL95-4154	IL
IL01-5943	IL93-3137 / Roane	IL
KS01HW163-4	Trego/Betty sib	KS
KS950910-8-2	KSU94U284/Karl 92//Custer	KS
KY93C-0378-5-2	VA88-52-69/2510//KY84C-48-1	KY
KY96C-0399-5	2510/2580//2540	KY
KY96C-0769-7-1	2552/Roane	KY
KY97C-0304-16	Kristy/2628//2540	KY
KY97C-0574-01	VA94-54-549/L910097//2552	KY
MV-5-46	91-54-22(71-54-147/CK68-15//IN65309C7-18-2-3-2/FFR555W//93-52-55	MD
NE01643	NE94482 (=ARA/ABILENE//NE86488)/ND89744 x Karl92	NE
NE02465	NE95685 (=MO11785/NE87619//NE88492)	NE
NE02495	Wahoo/AP7601	NE
NE02549	KS940935-125-5-2 x Alliance	NE
NE02588	NE94458 (=GK-SAGVARI/COLT//NE86582) x Jagger	NE
NY91017-8080	U1266-4-11/HARUS	NY
NY91028-7085	HARUS/4/CS/A.CURVIF//GLENN/3/ALD/PVN(m-30)	NY
OH01-75	L910097 / IL87-2834-1	OH
OH01-7664	HOPEWELL/OH601	OH
OH902	ZM10782/FREEDOM//30584-37-2/VA91-54-219	OH
OH903	NING7840/GLORY//OH526	OH
OH904	ZM10782/FREEDOM//30584-37-2/VA91-54-219	OH
RCAT13/18	2737W x Ruby/Frontana #1	ONT
RCAT23/1	ACRON x ENA	ONT
RCATL24	RNA/ACRON/Ruby/Frontana #1	ONT
RCATL28	Ruby/Frontana #1 x ACRON/ EX9806 x ACRON	ONT
RCATL31	Ruby/Frontana #1 x ACRON/ AC RON x SVP72017-17-5-10-1	ONT
VA01W-99	FFR525/93-52-55(MSY*3/BALKAN//SAL),F10	VA
VA04W-439	NING 7840/PION2691//Roane(71-54-147/CK68-15//IN65309C7-18-2-3-2),F8	VA
VA04W-474	ROANE//W14/CK9134,H4	VA
VA04W-561	Roane*2//Futai8944/Roane,BC2F5	VA
VA04W-568	Roane*2//W14/Roane/3/2*Roane,BC4F4	VA

Table 3. Traits assessed in the 2004-05 PNUWWSN and NUWWSN tests and the locations where data was collected.

Code	Trait	Description	PNUWWSN Locations	NUWWSN Locations
SEV	Disease severity from field tests	% of infected spikelets in an infected head.	IL,KY,MI,MO,VA	IL,KY,MD,MI,MO,NE,NY,OH,ONT,VA
INC	Disease incidence	% of heads with at least one infected spikelets	IL,KY,MI,MO,VA	IL,KY,MD,MI,MO,NE,NY,OH,ONT,VA
IND	Disease index	IND = (SEVxINC)/100	IL,KY,MI,MO,VA,OH	IL,KS,KY,MD,MI,MO,NE,NY,OH,ONT,VA
IS	Number of infected spikelets	Number of infected spikelets from single point inolculation in the field	IN	IN
GH	Greenhouse severity	Same as SEV except from greenhouse	IL,KY,MO,VA	IL, KY, MO
KR	Kernel rating	A visual assessment of the percent infected kernels	IL,KY,MO	IL,KS,KY,MO
PSS	Percent scabby seed	Percent of scabby seed by weight	KY	KY,MD,MO
ISK	Composite of head and kernel traits	ISK Index = .3 (Severity) + .3 (Incidence)+.4 (% FDK or PSS)	IL,MO,KY	IL,KY,MD,MO
DON	DON (vomitoxin)	PPM of vomitoxin in grain	IL,VA	IL,MD,OH,VA

Table 4. Percentage of total sum of squares attributable to genetic (G), environment (E), and genotype by environment interaction (GEI) effects for the 2005 PNUWWSN and the NUWWSN.

	PNUWWSN				NUWWSN		
	G	E	GEI		G	E	GEI
SEV	21	48	31		14	54	32
INC	30	22	48		10	63	27
IND	31	27	42		14	48	38
IS							
GH	41	6	53		58	4	38
KR	20	56	24		13	72	15
PSS					37	34	29
ISK	49	21	30		38	33	29
DON	38	30	32		28	40	32
HD	12	85	3		7	90	3
HGT	3	96	1		72	17	11

Table 5. Traits means for 2005 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)). These are summed in last columns.

NAME	SEV		INC		IND		IS		GH		KR		PSS		ISK		DON		#l	#h
ERNIE	23.3	l	38.3	l	9.4	l	3.8	l	17.6	l	16.3	l	25.6	l	16.7	l	1.4	l	9	0
TRUMAN	14.4	l	61.5		7.6	l	4.2		4.8	l	12.0	l	11.1	l	27.3	l	1.9	l	7	0
FREEDOM	24.7	l	80.1	h	16.8	l	3.0	l	24.0	l	28.6	lh	18.6	l	44.1	h	2.4	l	7	3
PIONEER 2545	41.1	h	77.0	h	28.0	h	10.3	h	33.9	h	45.6	h	50.9	h	52.0	h	7.9	lh	1	9
981358C1-4-2-1-3-2	27.7	l	48.7	l	11.3	l	4.2		24.9	l	20.8	l	13.2	l	29.6	l	2.2	l	8	0
P.99608C1-1-3-4	39.8	h	53.0	l	17.9	l	6.7	h	49.6	h	29.4	lh	37.4	h	37.9		2.8	l	4	5
P.99751D8-2-3	18.9	l	52.4	l	9.0	l	4.8		14.9	l	31.4	lh	43.7	h	36.2		1.1	l	6	2
99817RD1-7-5-5-2	19.0	l	53.1	l	9.8	l	2.9	l	19.7	l	24.7	l	36.3	h	25.4	l	2.3	l	8	1
P.99840C4-8-3-1	24.5	l	59.6	l	11.6	l	4.7		19.1	l	25.1	l	21.2	l	32.7	l	2.1	l	8	0
D9163	40.3	h	78.2	h	26.7		8.7	h	23.9	l	32.8	h	19.0	l	49.1	h	7.4	lh	3	6
E2001	40.9	h	82.7	h	30.6	h	7.9	h	18.0	l	38.1	h	34.0		50.5	h	9.4	h	1	7
E2052	45.2	h	81.5	h	34.8	h	10.3	h	16.1	l	39.9	h	25.0	l	54.7	h	10.2	h	2	7
E3005	49.0	h	88.6	h	39.8	h	9.4	h	31.9		47.1	h	40.5	h	60.3	h	12.7	h	0	8
E3009	30.9		75.0	h	22.7		4.6		16.4	l	37.2	h	33.3		51.1	h	9.6	h	1	4
IL01-11445	25.1	l	54.1	l	10.8	l	8.8	h	17.7	l	11.9	l	17.7	l	24.0	l	1.1	l	8	1
IL01-11934	21.5	l	47.0	l	8.1	l	5.7		22.5	l	15.2	l	19.9	l	22.7	l	1.2	l	8	0
IL01-13776	19.1	l	45.9	l	6.8	l	8.3	h	17.6	l	13.3	l	15.1	l	21.2	l	1.3	l	8	1
IL01-5550	27.6	l	49.0	l	10.0	l	8.8	h	27.9		19.0	l	34.4		29.8	l	1.1	l	6	1
IL01-6243	20.7	l	46.3	l	8.4	l	9.2	h	22.8	l	15.3	l	21.4	l	22.0	l	1.1	l	8	1
KY97C-0554-02	30.2		74.2	h	18.7	l	5.6		20.6	l	25.9	l	24.5	l	41.2		2.1	l	5	1
KY98C-1161-03	37.6	h	73.6	h	23.2		4.3		32.3	h	33.0	h	32.9		48.1	h	3.8	l	1	5
KY98C-1169-06	28.9	l	55.1	l	14.8	l	8.4	h	20.9	l	30.4	lh	24.8	l	35.3		3.1	l	7	2
KY98C-1440-01	34.4	h	69.2	h	22.6		8.5	h	34.5	h	35.9	h	34.4		43.3		5.8	lh	1	6
KY98C-1517-01	27.0	l	63.4		15.6	l	1.8	l	15.7	l	19.3	l	13.2	l	31.0	l	2.6	l	8	0
OH01-5295	23.8	l	57.5	l	11.6	l	3.5	l	18.1	l	26.7	l	29.7		36.2		2.3	l	7	0
OH01-6167	37.6	h	70.6	h	22.5		8.5	h	52.9	h	25.8	l	21.4	l	42.2		3.5	l	3	4
OH01-6964	35.1	h	69.6	h	20.5		3.6	l	32.9	h	28.8	lh	15.6	l	42.1		2.2	l	4	4
OH01-7576	28.1	l	58.2	l	14.8	l	4.8		43.9	h	20.6	l	14.9	l	32.2	l	2.3	l	7	1
OH01-7653	35.5	h	70.6	h	22.8		8.4	h	38.6	h	28.6	lh	26.6		42.1		2.8	l	2	5
VA04W-389	33.4		62.2		18.2	l	3.6	l	18.3	l	28.6	lh	25.0	l	42.7		1.1	l	6	1
VA04W-569	20.5	l	66.5	h	11.4	l	1.8	l	12.9	l	23.0	l	36.7	h	31.8	l	2.0	l	7	2
VA04W-570	20.3	l	60.0	l	10.4	l	2.6	l	12.3	l	21.7	l	34.2		26.2	l	1.5	l	8	0
VA04W-571	20.1	l	67.8	h	11.9	l	1.7	l	15.2	l	24.5	l	37.8	h	31.4	l	1.7	l	7	2
VA04W-592	21.4	l	49.7	l	8.1	l	6.3	h	15.6	l	22.0	l	28.3		26.8	l	1.0	l	7	1
AVERAGE	29.0		62.9		16.7		5.9		23.8		26.4		27.0		36.5		3.4		5.4	2.6
MAXIMUM	49.0		88.6		39.8		10.3		52.9		47.1		50.9		60.3		12.7		9	9
MINIMUM	14.4		38.3		6.8		1.7		4.8		11.9		11.1		16.7		1.0		0	0
LSD	17.7		26.9		13.8		2.4		26.3		27.7		14.8		19.6		8.2			
CV	38.1		31.8		61.0		49.0		63.9		37.6		37.3		27.1		117			
# LOCATIONS	5		5		6		1		4		3		1		2		2			

Table 6. Traits means for 2005 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)). These are summed in last columns.

NAME	SEV		INC		IND		IS		GH		KR		PS		ISK		DON		# l	# h
ERNIE	18.5	l	50.8		11.3	l	1.4	l	12.5	l	13.8	l	23.9		31.4	l	6.2	l	7	0
TRUMAN	16.1	l	48.2		9.9	l	3.6		9.0	l	17.3	l	17.4	l	25.9	l	2.7	l	7	0
FREEDOM	21.0		65.0	h	16.1		3.1	l	17.2	l	24.1		29.7		40.3		6.1	l	3	1
PIONEER 2545	39.2	h	72.5	h	32.5	h	8.1	h	27.4	l	40.6	h	41.0	h	59.2	h	11.3		1	7
P.981238A1-11-3W	19.4	l	50.3		14.0	l	1.4	l	6.8	l	16.4	l	26.0		30.5	l	5.1	l	7	0
P.981517A1-1-5-2	13.0	l	51.8		11.5	l	1.0	l	5.7	l	18.0	l	16.7	l	30.6	l	2.0	l	8	0
981542A1-10-4-5-6	25.7		64.3	h	21.5		1.6	l	16.2	l	34.2	h	41.0	h	44.4		8.0	l	3	3
P.9824C1-26-2	19.7	l	55.3		13.6	l	4.7		22.0	l	21.1	l	25.8		31.6	l	1.7	l	6	0
P.99794RA4-14-10	13.6	l	48.0		10.7	l	1.6	l	12.5	l	20.5	l	26.5		30.7	l	1.6	l	7	0
E0001	23.4		57.7		14.5	l	7.1	h	40.4		22.5	l	18.9	l	40.8		11.3		3	1
E2017	34.1	h	59.9		22.5		7.0	h	24.2	l	26.4		26.4		43.3		10.5		1	2
E2042	24.0		57.8		16.6		5.5		16.2	l	24.0		23.8		44.2		11.2		1	0
E2043	31.3	h	67.5	h	22.9		6.4		26.6	l	34.9	h	31.1	h	54.1	h	16.4	h	1	6
E3012	30.6		66.2	h	24.6	h	4.1		18.0	l	34.5	h	29.8		55.6	h	13.5	h	1	5
IL00-1665	20.2		54.8		13.5	l	4.6		29.0		20.5	l	22.7	l	32.1		1.7	l	4	0
IL00-8061	16.0	l	47.1		9.7	l	2.9	l	19.7	l	13.1	l	16.6	l	24.9	l	1.0	l	8	0
IL00-8530	18.3	l	53.2		13.5	l	2.9	l	12.0	l	9.6	l	14.4	l	25.7	l	1.1	l	8	0
IL01-15511	22.2		55.7		13.8	l	4.4		27.9	l	16.5	l	19.8	l	34.0		1.7	l	5	0
IL01-5943	15.9	l	51.1		10.6	l	5.8		14.1	l	13.7	l	20.0	l	31.3	l	2.7	l	7	0
KS01HW163-4	41.2	h	70.2	h	34.0	h	6.7		43.7		32.2	h	43.8	h	58.2	h	19.4	h	0	7
KS950910-8-2	28.6		58.2		22.8		8.9	h	54.2	h	29.4	h	32.1	h	48.2	h	4.7	l	1	5
KY93C-0378-5-2	27.1		72.1	h	23.9		2.1	l	33.8		32.1	h	29.3		51.4	h	9.6	l	2	3
KY96C-0399-5	28.1		70.5	h	25.7	h	4.7		25.5	l	33.8	h	32.9	h	55.0	h	12.2	h	1	6
KY96C-0769-7-1	23.0		64.1	h	18.9		2.1	l	25.0	l	24.0		30.0		46.7	h	6.5	l	3	2
KY97C-0304-16	21.6		63.3	h	20.1		4.6		28.1	l	30.7	h	29.5		46.0	h	6.1	l	2	3
KY97C-0574-01	27.4		62.1	h	21.4		3.1	l	34.4		32.2	h	28.8		45.6	h	6.8	l	2	3
MV-5-46	32.6	h	68.2	h	29.8	h	9.5	h	75.9	h	29.8	h	30.4		49.3	h	5.3	l	1	7
NE01643	23.1		56.7		16.1		7.4	h	26.9	l	32.5	h	26.4		43.3		7.3	l	2	2
NE02465	29.0		56.4		24.5	h	8.5	h	29.2		29.8	h	30.6		43.3		2.2	l	1	3
NE02495	29.2		59.7		22.4		5.6		39.8		27.1		26.9		43.5		6.1	l	1	0
NE02549	28.7		58.8		19.7		7.7	h	60.0	h	22.7	l	32.4	h	43.1		7.9	l	2	3
NE02588	31.9	h	64.0	h	25.4	h	6.5		43.6		34.1	h	37.3	h	56.1	h	10.7		0	6
NY91017-8080	26.6		58.0		19.6		6.6		10.5	l	23.6		24.3		45.0		12.6	h	1	1
NY91028-7085	33.8	h	75.2	h	26.9	h	7.1	h	39.9		27.4	h	32.5	h	54.0	h	20.4	h	0	8

	22.		63.		18.			22.		20.		20.		40.								
OH01-75	2		5	h	5		6.6	0	l	7	l	0	l	6		3.6	l	4	1			
	25.		59.		18.			33.		20.		25.		41.								
OH01-7664	0		0		4		5.7	0		1	l	8		4		7.1	l	2	0			
	20.		42.							15.		16.		27.								
OH902	3		2	l	9.0	l	1.2	l	8.2	l	5	l	7	l	1	l	2.1	l	8	0		
	10.		32.					14.		12.		10.		17.								
OH903	0	l	1	l	6.2	l	0.9	l	9	l	4	l	6	l	8	l	0.8	l	9	0		
	17.		35.							13.		14.		22.								
OH904	6	l	1	l	6.7	l	3.0	l	9.2	l	5	l	0	l	1	l	1.2	l	9	0		
	32.		61.		23.			57.		25.		27.		48.								
RCAT13/18	6	h	8	h	6		6.2	9	h	7		6		0	h	8.9	l	1	4			
	25.		61.		19.			24.		22.		22.		44.								
RCAT23/1	4		7	h	2		4.0	2	l	3	l	6	l	9		9.2	l	4	1			
	27.		63.		21.			12.		16.		20.		40.								
RCATL24	0		7	h	7		6.0	1	l	9	l	1	l	1		17.6	h	3	2			
	34.		57.		22.			33.		35.		36.		48.								
RCATL28	3	h	6		3		7.5	h	7		9	h	1	h	3	h	11.4		0	5			
	18.		51.		14.			25.		15.		20.		35.								
RCATL31	7	l	5		2	l	4.1	1	l	3	l	3	l	6		2.7	l	6	0			
	24.		62.		21.			38.		26.		24.		42.								
VA01W-99	3		5	h	3		5.0	5		6		9		0		4.0	l	1	1			
	18.		57.		14.			16.		27.		27.		39.								
VA04W-439	5	l	6		1	l	4.9	1	l	9	h	6		5		3.4	l	4	1			
	11.		48.							18.		17.		27.								
VA04W-474	7	l	1		8.7	l	2.3	l	3.7	l	1	l	9	l	5	l	1.3	l	8	0		
	20.		57.		14.					19.		23.		36.								
VA04W-561	1	l	8		9	l	1.9	l	7.7	l	1	l	7		1		1.8	l	6	0		
	20.		60.		15.					14.		23.		34.								
VA04W-568	2		6		7	l	2.6	l	3.5	l	6	l	5		8		1.7	l	5	0		
	24.		58.		18.			25.		23.		25.		40.								
AVERAGE	1		2		1		4.7	3		8		9		5		6.7		4	2			
	41.		75.		34.			75.		40.		43.		59.								
MAXIMUM	2		2		0		9.5	9		6		8		2		20.4		9	8			
	10.		32.									10.		17.								
MINIMUM	0		1		6.2		0.9	3.5		9.6		6		8		0.8		0	0			
	10.		13.					25.		13.		12.		14.								
LSD	1		8		9.5		2.5	4		4		7		1		8.9						
	16.		26.		61.		57.	61.		39.		30.		24.								
CV	7		6		4		3	3		7		2		9		94.2						
# LOCATIONS	10		10		11		1	3		4		3		4		4						

Table 7. Best (top of table) and worst (bottom of table) entries from the 2005 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)). These are summed in last columns.

NAME	SEV	INC	IND	IS	GH	KR	PSS	ISK	DON	#l	#h
ERNIE	23.3 l	38.3 l	9.4 l	3.8 l	17.6 l	16.3 l	25.6 l	16.7 l	1.4 l	9	0
IL01-13776	19.1 l	45.9 l	6.8 l	8.3 h	17.6 l	13.3 l	15.1 l	21.2 l	1.3 l	8	1
IL01-11934	21.5 l	47.0 l	8.1 l	5.7	22.5 l	15.2 l	19.9 l	22.7 l	1.2 l	8	0
IL01-6243	20.7 l	46.3 l	8.4 l	9.2 h	22.8 l	15.3 l	21.4 l	22.0 l	1.1 l	8	1
P.99817RD1-7-5-5-2	19.0 l	53.1 l	9.8 l	2.9 l	19.7 l	24.7 l	36.3 h	25.4 l	2.3 l	8	1
VA04W-570	20.3 l	60.0 l	10.4 l	2.6 l	12.3 l	21.7 l	34.2	26.2 l	1.5 l	8	0
IL01-11445	25.1 l	54.1 l	10.8 l	8.8 h	17.7 l	11.9 l	17.7 l	24.0 l	1.1 l	8	1
981358C1-4-2-1-3-2	27.7 l	48.7 l	11.3 l	4.2	24.9 l	20.8 l	13.2 l	29.6 l	2.2 l	8	0
P.99840C4-8-3-1	24.5 l	59.6 l	11.6 l	4.7	19.1 l	25.1 l	21.2 l	32.7 l	2.1 l	8	0
KY98C-1517-01	27.0 l	63.4	15.6 l	1.8 l	15.7 l	19.3 l	13.2 l	31.0 l	2.6 l	8	0
TRUMAN	14.4 l	61.5	7.6 l	4.2	4.8 l	12.0 l	11.1 l	27.3 l	1.9 l	7	0
VA04W-592	21.4 l	49.7 l	8.1 l	6.3 h	15.6 l	22.0 l	28.3	26.8 l	1 l	7	1
VA04W-569	20.5 l	66.5 h	11.4 l	1.8 l	12.9 l	23.0 l	36.7 h	31.8 l	2 l	7	2
OH01-5295	23.8 l	57.5 l	11.6 l	3.5 l	18.1 l	26.7 l	29.7	36.2	2.3 l	7	0
VA04W-571	20.1 l	67.8 h	11.9 l	1.7 l	15.2 l	24.5 l	37.8 h	31.4 l	1.7 l	7	2
KY98C-1169-06	28.9 l	55.1 l	14.8 l	8.4 h	20.9 l	30.4 lh	24.8 l	35.3	3.1 l	7	2
OH01-7576	28.1 l	58.2 l	14.8 l	4.8	43.9 h	20.6 l	14.9 l	32.2 l	2.3 l	7	1
FREEDOM	24.7 l	80.1 h	16.8 l	3.0 l	24.0 l	28.6 lh	18.6 l	44.1 h	2.4 l	7	3
E2001	40.9 h	82.7 h	30.6 h	7.9 h	18.0 l	38.1 h	34.0	50.5 h	9.4 h	1	7
E2052	45.2 h	81.5 h	34.8 h	10.3 h	16.1 l	39.9 h	25.0 l	54.7 h	10.2 h	2	7
E3005	49.0 h	88.6 h	39.8 h	9.4 h	31.9	47.1 h	40.5 h	60.3 h	12.7 h	0	8
PIONEER 2545	41.1 h	77.0 h	28.0 h	10.3 h	33.9 h	45.6 h	50.9 h	52.0 h	7.9 lh	1	9
LSD	17.7	26.9	13.8	2.4	26.3	27.7	14.8	19.6	8.2		

Table 8. Best (top of table) and worst (bottom of table) entries from the 2005 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)). These are summed in last columns.

NAME	SEV	INC	IND	IS	GH	KR	PSS	ISK	DON	#l	#h
OH903	10.0 l	32.1 l	6.2 l	0.9 l	14.9 l	12.4 l	10.6 l	17.8 l	0.8 l	9	0
OH904	17.6 l	35.1 l	6.7 l	3.0 l	9.2 l	13.5 l	14.0 l	22.1 l	1.2 l	9	0
VA04W-474	11.7 l	48.1	8.7 l	2.3 l	3.7 l	18.1 l	17.9 l	27.5 l	1.3 l	8	0
OH902	20.3	42.2 l	9.0 l	1.2 l	8.2 l	15.5 l	16.7 l	27.1 l	2.1 l	8	0
IL00-8061	16.0 l	47.1	9.7 l	2.9 l	19.7 l	13.1 l	16.6 l	24.9 l	1.0 l	8	0
P.981517A1-1-5-2	13.0 l	51.8	11.5 l	1.0 l	5.7 l	18.0 l	16.7 l	30.6 l	2.0 l	8	0
IL00-8530	18.3 l	53.2	13.5 l	2.9 l	12.0 l	9.6 l	14.4 l	25.7 l	1.1 l	8	0
TRUMAN	16.1 l	48.2	9.9 l	3.6	9.0 l	17.3 l	17.4 l	25.9 l	2.7 l	7	0
IL01-5943	15.9 l	51.1	10.6 l	5.8	14.1 l	13.7 l	20.0 l	31.3 l	2.7 l	7	0
P.99794RA4-14-10	13.6 l	48.0	10.7 l	1.6 l	12.5 l	20.5 l	26.5	30.7 l	1.6 l	7	0
ERNIE	18.5 l	50.8	11.3 l	1.4 l	12.5 l	13.8 l	23.9	31.4 l	6.2 l	7	0
P.981238A1-11-3W	19.4 l	50.3	14.0 l	1.4 l	6.8 l	16.4 l	26.0	30.5 l	5.1 l	7	0
MV-5-46	32.6 h	68.2 h	29.8 h	9.5 h	75.9 h	29.8 h	30.4	49.3 h	5.3 l	1	7
PIONEER 2545	39.2 h	72.5 h	32.5 h	8.1 h	27.4 l	40.6 h	41.0 h	59.2 h	11.3	1	7
KS01HW163-4	41.2 h	70.2 h	34.0 h	6.7	43.7	32.2 h	43.8 h	58.2 h	19.4 h	0	7
NY91028-7085	33.8 h	75.2 h	26.9 h	7.1 h	39.9	27.4 h	32.5 h	54.0 h	20.4 h	0	8
LSD	10.1	13.8	9.5	2.5	25.4	13.4	12.7	14.1	8.9		

Table 9. Correlation among traits for PNUWWSN (Above diagonal, df = 32) and NUWWSN (below diagonal, df = 47). Correlation > 0.44 are bold and in large font and are all significant at P > 0.01. "n" indicates a non-significant correlation while "*" indicates a correlation that is significant at P >0.05 < 0.01.

	SEV	INC	IND	IS	GH	KR	PSS	ISK	DON	HD	HGT
SEV	1	**0.68**	**0.94**	**0.55**	**0.57**	**0.78**	0.24n	**0.85**	**0.76**	**0.58**	**0.47**
INC	**0.75**	1	**0.86**	0.17n	0.16n	**0.76**	0.23n	**0.90**	**0.76**	**0.90**	0.30n
IND	**0.93**	**0.87**	1	**0.46**	0.37*	**0.86**	0.29n	**0.93**	**0.89**	**0.75**	0.43*
IS	**0.69**	**0.47**	**0.64**	1	0.37*	0.32n	0.11n	0.33n	**0.47**	0.23n	0.33n
GH	**0.64**	**0.49**	**0.64**	**0.69**	1	0.27n	0.07n	0.32n	0.14n	0.04n	0.43*
KR	**0.76**	**0.72**	**0.81**	**0.52**	**0.50**	1	**0.60**	**0.92**	**0.82**	0.58	0.22n
PSS	**0.77**	**0.74**	**0.83**	0.44	**0.50**	**0.85**	1	0.35*	0.34*	0.01n	-0.36*
ISK	**0.88**	**0.89**	**0.93**	**0.60**	**0.59**	**0.88**	**0.84**	1	**0.82**	**0.73**	0.37*
DON	**0.76**	**0.68**	**0.71**	**0.45**	0.32*	**0.58**	**0.58**	**0.77**	1	**0.81**	0.41*
HD	0.43	0.28*	-0.29*	0.30*	0.10n	0.28n	0.10n	0.40	**0.69**	1	**0.49**
HGT	0.15n	-0.13n	-0.02n	0.22n	0.02n	-0.05n	-0.19n	0.02n	0.26n	**0.57**	1

Table 10. Field severity (SEV, %) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KYLEX	MIELA	MOCOL	VABLA
ERNIE	23.3	l	35.4	14.7	50.0	5.8	10.5
TRUMAN	14.4	l	11.2	23.3	16.7	7.0	13.7
FREEDOM	24.7	l	24.5	47.9	9.2	13.1	28.6
PIONEER 2545	41.1	h	68.9	45.4	50.0	17.0	24.4
P.981358C1-4-2-1-3-2	27.7	l	62.4	15.6	40.0	7.8	12.5
P.99608C1-1-3-4	39.8	h	61.7	42.6	50.0	28.4	16.5
P.99751D8-2-3	18.9	l	50.0	13.1	5.0	14.1	12.4
P.99817RD1-7-5-5-2	19.0	l	27.6	13.3	36.7	8.9	8.6
P.99840C4-8-3-1	24.5	l	47.9	13.9	31.7	14.6	14.2
D9163	40.3	h	57.9	45.0	73.3	9.6	15.5
E2001	40.9	h	65.8	43.1	50.0	8.1	37.6
E2052	45.2	h	73.9	63.7	44.5	8.1	35.9
E3005	49.0	h	80.6	60.5	59.5	16.6	27.9
E3009	30.9		59.3	47.6	12.6	11.1	24
IL01-11445	25.1	l	37.9	26.7	33.3	14.5	13.3
IL01-11934	21.5	l	42.2	10.4	21.7	16.4	16.7
IL01-13776	19.1	l	40.6	10.4	30.0	6.6	7.8
IL01-5550	27.6	l	62.8	17.0	36.7	15.8	5.9
IL01-6243	20.7	l	46.3	13.7	34.5	2.5	6.7
KY97C-0554-02	30.2		48.9	41.1	13.3	21.6	25.9
KY98C-1161-03	37.6	h	50.1	62.0	43.3	23.5	9.3
KY98C-1169-06	28.9	l	58.1	13.8	46.7	17.6	8.4
KY98C-1440-01	34.4	h	77.0	15.7	36.7	18.3	24.4
KY98C-1517-01	27.0	l	41.4	20.7	36.7	17.1	19.1
OH01-5295	23.8	l	22.3	45.1	31.7	11.1	8.8
OH01-6167	37.6	h	62.3	60.4	40.0	11.0	14.3
OH01-6964	35.1	h	54.0	32.6	50.0	18.1	20.9
OH01-7576	28.1	l	46.0	26.4	40.0	16.1	12.1
OH01-7653	35.5	h	46.5	38.4	56.7	20.4	15.3
VA04W-389	33.4		66.6	28.8	36.7	28.7	6.4
VA04W-569	20.5	l	18.8	39.0	18.3	5.1	21.1
VA04W-570	20.3	l	27.2	14.4	31.7	4.0	24.3
VA04W-571	20.1	l	31.3	19.6	16.7	5.4	27.7
VA04W-592	21.4	l	47.7	21.6	26.7	3.7	7.1
AVERAGE	29.0		48.7	30.8	35.6	13.2	17.0
MAXIMUM	49.0		80.6	63.7	73.3	28.7	37.6
MINIMUM	14.4		11.2	10.4	5.0	2.5	5.9
LSD	17.7		25.4	18.3	37.3		6
CV	38.1		32.1	42.9	40.5		20.8

Table 11. Field incidence (INC, %) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KYLEX	MIELA	MOCOL	VABLA
ERNIE	38.3	l	5.0	18.6	88.1	35	45
TRUMAN	61.5		13.3	84.8	44.2	90	75
FREEDOM	80.1	h	58.3	94.5	67.7	100	80
PIONEER 2545	77.0	h	76.7	55.0	73.2	85	95
P.981358C1-4-2-1-3-2	48.7	l	51.7	16.3	55.5	65	55
P.99608C1-1-3-4	53.0	l	43.3	37.7	69.1	60	55
P.99751D8-2-3	52.4	l	41.7	42.7	32.5	80	65
P.99817RD1-7-5-5-2	53.1	l	24.3	22.1	84.3	70	65
P.99840C4-8-3-1	59.6	l	43.3	30.0	64.6	85	75
D9163	78.2	h	75.0	93.1	58.0	90	75
E2001	82.7	h	90.0	90.6	63.0	70	100
E2052	81.5	h	86.7	92.3	53.5	80	95
E3005	88.6	h	96.7	92.6	68.6	85	100
E3009	75.0	h	85.0	83.6	41.5	80	85
IL01-11445	54.1	l	30.0	26.7	78.9	60	75
IL01-11934	47.0	l	5.0	29.9	60.1	70	70
IL01-13776	45.9	l	14.3	18.8	71.5	75	50
IL01-5550	49.0	l	13.3	41.6	70.2	80	40
IL01-6243	46.3	l	25.0	41.9	69.4	40	55
KY97C-0554-02	74.2	h	63.3	46.1	66.4	95	100
KY98C-1161-03	73.6	h	85.0	46.2	71.9	95	70
KY98C-1169-06	55.1	l	50.0	27.7	72.7	75	50
KY98C-1440-01	69.2	h	78.3	38.9	78.8	70	80
KY98C-1517-01	63.4		43.3	44.1	74.7	80	75
OH01-5295	57.5	l	46.7	58.2	62.6	85	35
OH01-6167	70.6	h	51.7	64.2	77.2	85	75
OH01-6964	69.6	h	90.0	34.1	43.9	90	90
OH01-7576	58.2	l	51.7	48.4	81.0	60	50
OH01-7653	70.6	h	75.0	58.6	84.2	75	60
VA04W-389	62.2		36.7	65.9	78.6	95	35
VA04W-569	66.5	h	28.3	65.4	73.9	75	90
VA04W-570	60.0	l	33.3	43.3	63.5	65	95
VA04W-571	67.8	h	53.3	45.7	79.8	70	90
VA04W-592	49.7	l	21.7	48.0	68.7	50	60
AVERAGE	62.9		49.6	51.4	67.4	75.4	70.9
MAXIMUM	88.6		96.7	94.5	88.1	100.0	100.0
MINIMUM	38.3		5.0	16.3	32.5	35.0	35.0
LSD	17.7		29.6	26.2	23.8		25
CV	38.1		37.7	30.5	17.7		21

Table 12. Field index (IND, %) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		IL+KY+ OH+VA	ILURB	KYLEX	OHWOO	VABLA	MIELA	MOCOL
ERNIE	9.4	l	2.6	1.7	2.7	1.7	4.3	44.0	2.0
TRUMAN	7.6	l	8.3	1.3	19.7	1.7	10.4	6.3	6.3
FREEDOM	16.8	l	21.2	13.5	45.2	3.3	22.9	2.9	13.1
PIONEER 2545	28.0	h	29.6	52.4	25.0	17.7	23.3	35.0	14.4
P.981358C1-4-2-1-3-2	11.3	l	10.3	31.3	2.5	0.7	6.5	21.5	5.1
P.99608C1-1-3-4	17.9	l	13.9	26.9	16.0	1.3	11.2	35.0	17.1
P.99751D8-2-3	9.0	l	10.2	25.4	5.6	1.7	8.2	1.7	11.3
P.99817RD1-7-5-5-2	9.8	l	4.8	8.9	2.9	2.0	5.5	33.0	6.3
P.99840C4-8-3-1	11.6	l	9.3	20.0	4.2	1.7	11.1	20.0	12.4
D9163	26.7		27.8	45.0	41.9	12.3	12	40.0	8.7
E2001	30.6	h	36.6	58.8	39.1	10.7	37.6	31.7	5.7
E2052	34.8	h	44.3	63.3	58.8	21.0	34	25.1	6.5
E3005	39.8	h	46.5	78.0	56.1	24.0	27.9	38.6	14.1
E3009	22.7		29.9	52.1	39.8	7.3	20.5	7.6	8.9
IL01-11445	10.8	l	7.0	9.2	7.1	1.3	10.2	28.0	8.7
IL01-11934	8.1	l	5.6	2.1	3.1	5.7	11.6	14.7	11.5
IL01-13776	6.8	l	3.4	5.8	2.0	1.7	4.1	22.0	5.0
IL01-5550	10.0	l	5.0	7.6	7.1	3.0	2.4	27.0	12.7
IL01-6243	8.4	l	6.4	14.8	5.7	1.3	3.7	23.6	1.0
KY97C-0554-02	18.7	l	20.6	30.5	19.0	7.0	25.9	9.3	20.5
KY98C-1161-03	23.2		21.3	42.9	28.6	7.0	6.7	31.7	22.4
KY98C-1169-06	14.8	l	10.1	30.7	3.8	1.3	4.4	35.3	13.2
KY98C-1440-01	22.6		23.2	58.7	6.1	8.3	19.6	30.0	12.8
KY98C-1517-01	15.6	l	12.7	17.7	9.1	9.7	14.4	28.7	13.7
OH01-5295	11.6	l	10.5	10.5	26.2	2.3	3.1	18.0	9.4
OH01-6167	22.5		23.8	33.4	38.7	12.0	11	30.3	9.4
OH01-6964	20.5		20.6	48.6	11.1	4.0	18.8	24.0	16.3
OH01-7576	14.8	l	12.1	24.8	12.8	4.7	6.2	30.7	9.7
OH01-7653	22.8		17.5	33.3	22.5	5.0	9	51.5	15.3
VA04W-389	18.2	l	13.1	28.3	19.0	2.7	2.3	29.7	27.3
VA04W-569	11.4	l	13.1	5.3	25.5	2.7	18.9	12.2	3.8
VA04W-570	10.4	l	10.0	8.5	6.2	2.3	23.1	19.5	2.6
VA04W-571	11.9	l	13.5	17.7	8.9	2.3	24.9	14.0	3.8
VA04W-592	8.1	l	6.8	9.3	10.4	3.3	4.3	19.7	1.9
AVERAGE	16.7		16.2	27.0	18.6	5.7	13.5	24.8	10.4
MAXIMUM	39.8		46.5	78.0	58.8	24.0	37.6	51.5	27.3
MINIMUM	6.8		2.6	1.3	2.0	0.7	2.3	1.7	1.0
LSD	17.7			22.5	17.0	6.2	6.1	23.7	
CV (0.05)	38.1			52.5	67.0	67	26.8	50.1	

Table 13. Greenhouse severity (GH, %) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		IL+KY+MO	ILURB	KYLEX	MOCOL	VABLA
ERNIE	17.6	l	18.7	30.9	11.6	13.7	14.4
TRUMAN	4.8	l	3.4	5.2	1.1	3.9	9.1
FREEDOM	24.0	l	22.9	9.6	48.9	10.3	27.3
PIONEER 2545	33.9	h	38.1		50.0	26.2	20.2
P.981358C1-4-2-1-3-2	24.9	l	28.0	62.3	6.0	15.6	15.8
P.99608C1-1-3-4	49.6	h	62.4	100.0	51.8	35.5	11.2
P.99751D8-2-3	14.9	l	13.6	10.2	9.9	20.7	18.7
P.99817RD1-7-5-5-2	19.7	l	22.7	31.3	21.5	15.3	10.6
P.99840C4-8-3-1	19.1	l	18.0	32.0	4.9	17.0	22.6
D9163	23.9	l	27.0	42.0	28.4	10.5	14.5
E2001	18.0	l	20.3	30.4	5.2	25.2	11.3
E2052	16.1	l	13.9	21.1	3.1	17.4	22.8
E3005	31.9		39.8	52.3	47.8	19.4	8.3
E3009	16.4	l	14.3	14.5	10.2	18.2	22.7
IL01-11445	17.7	l	18.9	27.3	21.7	7.8	14.1
IL01-11934	22.5	l	23.0	30.5	26.2	12.3	20.8
IL01-13776	17.6	l	15.6	4.3	30.1	12.3	23.5
IL01-5550	27.9		31.3	19.0	65.5	9.5	17.8
IL01-6243	22.8	l	22.8	29.7	24.0	14.8	22.8
KY97C-0554-02	20.6	l	19.5	23.9	26.2	8.3	24.0
KY98C-1161-03	32.3	h	37.4	23.8	45.9	42.5	16.9
KY98C-1169-06	20.9	l	18.5	17.1	12.5	25.8	28.2
KY98C-1440-01	34.5	h	41.7	36.8	36.3	51.9	13.0
KY98C-1517-01	15.7	l	15.8	3.4	28.4	15.6	15.4
OH01-5295	18.1	l	15.7	11.6	16.5	18.9	25.4
OH01-6167	52.9	h	61.6	69.0	69.8	45.9	27.1
OH01-6964	32.9	h	34.6	27.3	56.4	20.0	28.0
OH01-7576	43.9	h	51.7	75.1	44.4	35.5	20.6
OH01-7653	38.6	h	36.1	44.2	44.0	20.0	46.3
VA04W-389	18.3	l	15.2	21.6	3.1	21.0	27.3
VA04W-569	12.9	l	9.2	9.2	9.0	9.4	23.9
VA04W-570	12.3	l	5.8	3.4	7.9	6.2	31.7
VA04W-571	15.2	l	13.9	2.2	29.1	10.5	19.1
VA04W-592	15.6	l	12.1	23.2	8.6	4.6	25.8
AVERAGE	23.8		24.8	28.6	26.6	18.9	20.6
MAXIMUM	52.9		62.4	100.0	69.8	51.9	46.3
MINIMUM	4.8		3.4	2.2	1.1	3.9	8.3
LSD	17.7			42.2	24.2		
CV	38.1			11.3	118.6		

Table 14. Kernel rating (KR, %) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KYLEX	MOCOL
ERNIE	16.3	l	12.0	35.0	2.0
TRUMAN	12.0	l	18.0	15.0	3.0
FREEDOM	28.6	lh	53.0	27.9	5.0
PIONEER 2545	45.6	h	63.0	58.8	15.0
P.981358C1-4-2-1-3-2	20.8	l	40.0	17.4	5.0
P.99608C1-1-3-4	29.4	lh	37.0	46.3	5.0
P.99751D8-2-3	31.4	lh	43.0	48.3	3.0
P.99817RD1-7-5-5-2	24.7	l	27.0	44.0	3.0
P.99840C4-8-3-1	25.1	l	43.0	27.4	5.0
D9163	32.8	h	67.0	26.3	5.0
E2001	38.1	h	63.0	45.2	6.0
E2052	39.9	h	77.0	37.6	5.0
E3005	47.1	h	82.0	53.4	6.0
E3009	37.2	h	73.0	36.5	2.0
IL01-11445	11.9	l	13.0	20.6	2.0
IL01-11934	15.2	l	17.0	25.5	3.0
IL01-13776	13.3	l	17.0	19.9	3.0
IL01-5550	19.0	l	10.0	40.9	6.0
IL01-6243	15.3	l	15.0	28.8	2.0
KY97C-0554-02	25.9	l	40.0	30.6	7.0
KY98C-1161-03	33.0	h	47.0	41.9	10.0
KY98C-1169-06	30.4	lh	53.0	33.2	5.0
KY98C-1440-01	35.9	h	57.0	40.8	10.0
KY98C-1517-01	19.3	l	27.0	23.0	8.0
OH01-5295	26.7	l	37.0	39.1	4.0
OH01-6167	25.8	l	37.0	32.4	8.0
OH01-6964	28.8	lh	57.0	24.4	5.0
OH01-7576	20.6	l	30.0	21.7	10.0
OH01-7653	28.6	lh	47.0	31.8	7.0
VA04W-389	28.6	lh	50.0	31.9	4.0
VA04W-569	23.0	l	23.0	41.1	5.0
VA04W-570	21.7	l	17.0	43.1	5.0
VA04W-571	24.5	l	23.0	45.4	5.0
VA04W-592	22.0	l	23.0	38.0	5.0
AVERAGE	26.4		39.4	34.5	5.4
MAXIMUM	47.1		82.0	58.8	15.0
MINIMUM	11.9		10.0	15.0	2.0
LSD	17.7		25.7	15.2	
CV	38.1		41.1	30.0	

Table 15. ISK (ISK, %) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KYLEX	MOCOL
ERNIE	16.7	l	16.8	20.2	13.0
TRUMAN	27.3	l	14.7	36.8	30.3
FREEDOM	44.1	h	46.2	50.1	35.9
PIONEER 2545	52.0	h	69.0	50.5	36.6
P.981358C1-4-2-1-3-2	29.6	l	50.2	14.8	23.8
P.99608C1-1-3-4	37.9		46.2	39.0	28.5
P.99751D8-2-3	36.2		44.9	34.2	29.4
P.99817RD1-7-5-5-2	25.4	l	26.3	25.1	24.9
P.99840C4-8-3-1	32.7	l	44.7	21.6	31.9
D9163	49.1	h	66.5	49.0	31.9
E2001	50.5	h	72.1	53.7	25.8
E2052	54.7	h	78.8	56.8	28.4
E3005	60.3	h	85.9	62.2	32.9
E3009	51.1	h	72.6	52.7	28.1
IL01-11445	24.0	l	25.7	23.1	23.1
IL01-11934	22.7	l	20.9	20.1	27.1
IL01-13776	21.2	l	23.2	14.8	25.7
IL01-5550	29.8	l	26.9	31.3	31.1
IL01-6243	22.0	l	27.4	25.2	13.5
KY97C-0554-02	41.2		49.7	36.0	37.8
KY98C-1161-03	48.1	h	59.2	45.6	39.6
KY98C-1169-06	35.3		53.7	22.4	29.8
KY98C-1440-01	43.3		69.2	30.1	30.5
KY98C-1517-01	31.0	l	36.1	24.7	32.3
OH01-5295	36.2		35.4	42.9	30.4
OH01-6167	42.2		48.8	45.9	32.0
OH01-6964	42.1		65.8	26.2	34.4
OH01-7576	32.2	l	41.3	28.4	26.8
OH01-7653	42.1		55.1	39.7	31.4
VA04W-389	42.7		51.0	38.4	38.7
VA04W-569	31.8	l	23.5	46.0	26.0
VA04W-570	26.2	l	24.8	31.0	22.7
VA04W-571	31.4	l	34.8	34.7	24.6
VA04W-592	26.8	l	30.1	32.2	18.1
AVERAGE	36.5		45.2	35.5	28.7
MAXIMUM	60.3		85.9	62.2	39.6
MINIMUM	16.7		14.7	14.8	13.0
LSD	16.9		19.6		
CV	28.5		37.1		

Table 16. Vomitoxin concentration (DON, ppm) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	VAWAR
ERNIE	1.4	l	2.3	0.6
TRUMAN	1.9	l	3.3	0.6
FREEDOM	2.4	l	4	0.8
PIONEER 2545	7.9	lh	13.3	2.4
P.981358C1-4-2-1-3-2	2.2	l	4.3	0.1
P.99608C1-1-3-4	2.8	l	4	1.6
P.99751D8-2-3	1.1	l	1.9	0.3
P.99817RD1-7-5-5-2	2.3	l	4.3	0.2
P.99840C4-8-3-1	2.1	l	4	0.1
D9163	7.4	lh	13.8	0.9
E2001	9.4	h	17.5	1.2
E2052	10.2	h	18.5	1.8
E3005	12.7	h	24.5	0.9
E3009	9.6	h	18.8	0.4
IL01-11445	1.1	l	1.9	0.3
IL01-11934	1.2	l	2.2	0.2
IL01-13776	1.3	l	2.3	0.4
IL01-5550	1.1	l	1.8	0.4
IL01-6243	1.1	l	1.7	0.6
KY97C-0554-02	2.1	l	3.2	0.9
KY98C-1161-03	3.8	l	6.5	1.1
KY98C-1169-06	3.1	l	4.7	1.6
KY98C-1440-01	5.8	lh	10.5	1.1
KY98C-1517-01	2.6	l	4.9	0.3
OH01-5295	2.3	l	4.1	0.5
OH01-6167	3.5	l	5	2
OH01-6964	2.2	l	4.1	0.4
OH01-7576	2.3	l	4.2	0.5
OH01-7653	2.8	l	5.6	0.1
VA04W-389	1.1	l	1.9	0.3
VA04W-569	2	l	2.6	1.4
VA04W-570	1.5	l	2.6	0.5
VA04W-571	1.7	l	2.7	0.7
VA04W-592	1	l	1.8	0.2
AVERAGE	3.4		6.1	0.7
MAXIMUM	12.7		24.5	2.4
MINIMUM	1.0		1.7	0.1
LSD	17.7			
CV	38.1			

Table 17. Other FHB and disease traits from the 2004-05 PNUWWSN from Missouri (MO) and Virginia (VA)

NAME	Field Spread (MO) # spikelets	GH Spread (MO) # spikelets	Rachis Score (MO) (0-1)	Stag. Leaf Blotch (VA) (1-4)
ERNIE	0.7	1.6	0.3	2
TRUMAN	1.3	0.8	0.1	3
FREEDOM	2.1	1.7	0.9	4
PIONEER 2545	2.5	4.8	0.8	3
P.981358C1-4-2-1-3-2	1.2	2.7	0.6	1
P.99608C1-1-3-4	3.7	5.5	1.0	1
P.99751D8-2-3	2.1	2.7	0.6	2
P.99817RD1-7-5-5-2	1.4	2.0	0.9	4
P.99840C4-8-3-1	2.4	2.8	0.8	1
D9163	1.7	2.4	0.9	4
E2001	1.6	4.4	1.0	4
E2052	1.4	3.6	0.8	3
E3005	3.3	4.3	0.8	3
E3009	1.7	2.8	0.4	2
IL01-11445	2.2	1.3	0.5	2
IL01-11934	2.4	1.9	0.4	2
IL01-13776	1.1	2.4	0.9	4
IL01-5550	2.5	1.1	0.3	3
IL01-6243	0.4	2.4	0.8	2
KY97C-0554-02	3.5	1.3	0.5	2
KY98C-1161-03	3.4	5.6	0.9	4
KY98C-1169-06	2.6	3.2	0.8	3
KY98C-1440-01	2.5	5.9	0.9	4
KY98C-1517-01	2.4	2.3	0.3	1
OH01-5295	1.7	3.5	1.0	3
OH01-6167	1.8	7.0	1.0	3
OH01-6964	2.8	2.9	0.9	2
OH01-7576	2.2	6.3	1.0	1
OH01-7653	2.7	3.5	1.0	4
VA04W-389	3.5	2.1	0.6	1
VA04W-569	0.8	1.5	0.4	2
VA04W-570	0.6	1.0	0.1	3
VA04W-571	0.8	1.6	0.4	2
VA04W-592	0.6	0.8	0.4	2
AVERAGE	2.0	2.9	0.7	2.3
MAXIMUM	3.7	7.0	1.0	4.0
MINIMUM	0.4	0.8	0.1	1.0

Table 18. Heading date (HD, julian days) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KYLEX	MIELA	MOCOL	OHWOO	VABLA
ERNIE	140.3	l	135	137	158	136	142	134
TRUMAN	146.7		143	145	163	143	148	138
FREEDOM	145.1		141	145	162	139	148	136
PIONEER 2545	144.5		141	140	160	139	150	138
P.981358C1-4-2-1-3-2	142.7		138	139	160	139	146	134
P.99608C1-1-3-4	142.0		137	139	159	136	147	134
P.99751D8-2-3	139.5	l	135	134	158	137	141	133
P.99817RD1-7-5-5-2	140.0	l	135	134	158	137	143	133
P.99840C4-8-3-1	141.5		137	136	159	139	145	134
D9163	149.7	h	145	150	164	146	152	142
E2001	148.1		145	146	164	144	151	139
E2052	148.6		145	149	162	144	151	141
E3005	150.7	h	148	150	165	146	152	143
E3009	149.1	h	145	151	165	144	151	139
IL01-11445	141.5		137	138	158	137	146	134
IL01-11934	142.0		137	137	158	139	147	134
IL01-13776	141.0		137	136	159	137	143	134
IL01-5550	139.0	l	134	132	159	137	140	133
IL01-6243	140.0	l	136	137	158	137	140	132
KY97C-0554-02	143.7		140	139	159	140	148	136
KY98C-1161-03	142.9		138	141	160	139	146	134
KY98C-1169-06	141.3		135	136	159	139	145	134
KY98C-1440-01	142.5		138	137	159	139	145	138
KY98C-1517-01	142.5		140	137	159	139	147	134
OH01-5295	145.1		143	142	162	140	148	136
OH01-6167	146.1		142	143	161	143	149	138
OH01-6964	143.8		139	141	162	140	145	136
OH01-7576	143.0		139	139	159	139	147	135
OH01-7653	143.6		140	141	160	140	147	134
VA04W-389	141.0		135	140	158	139	142	132
VA04W-569	143.0		141	139	158	139	147	134
VA04W-570	143.2		140	138	159	139	149	134
VA04W-571	143.0		141	138	159	139	147	134
VA04W-592	142.5		139	138	159	139	147	134
AVERAGE	143.5		139	140	160	140	147	136
MAXIMUM	150.7		148	151	165	146	152	143
MINIMUM	139.0		134	132	158	136	140	132
LSD	1.7							
CV	1.1							

Table 19. Height (HGT, inches) from all locations for the 2004-05 PNUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		KYLEX	MOCOL
ERNIE	33.1	l	32	34
TRUMAN	35.5		35	36
FREEDOM	35.5		35	36
PIONEER 2545	35.3		34	37
P.981358C1-4-2-1-3-2	42.3	h	43	42
P.99608C1-1-3-4	34.5		34	35
P.99751D8-2-3	34.0		34	34
P.99817RD1-7-5-5-2	32.0	l	30	34
P.99840C4-8-3-1	33.3		33	34
D9163	38.5		38	39
E2001	40.0	h	40	40
E2052	37.0		37	37
E3005	38.0		38	38
E3009	37.0		37	37
IL01-11445	36.0		36	36
IL01-11934	34.3		35	34
IL01-13776	37.3		37	38
IL01-5550	33.5		32	35
IL01-6243	34.8		35	35
KY97C-0554-02	34.3		35	34
KY98C-1161-03	36.5		35	38
KY98C-1169-06	36.5		36	37
KY98C-1440-01	34.5		33	36
KY98C-1517-01	36.5		36	37
OH01-5295	36.0		34	38
OH01-6167	39.5		38	41
OH01-6964	39.0		37	41
OH01-7576	39.5		39	40
OH01-7653	36.8		35	39
VA04W-389	30.8	l	31	31
VA04W-569	31.5	l	30	33
VA04W-570	32.0	l	33	31
VA04W-571	33.3		33	34
VA04W-592	34.8		36	34
AVERAGE	35.7		35.0	36.3
MAXIMUM	42.3		42.5	42.0
MINIMUM	30.8		30.0	31.0
LSD	2.4			
CV	3.3			

Table 20. Field severity (SEV, %) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	Average		ILURB	KYLEX	MDCLA	MIELA	MOCOL	NELIN	NYITH	OHWOO	ONRID	VABLA
ERNIE	18.5	l	57.5	21.7	20.0	28.7	10.5	21.0	0.8	3.0	8.1	13.5
TRUMAN	16.1	l	15.6	32.0	5.0	34.4	6.0	.	0.5	14.8	27.4	17.5
FREEDOM	21.0		37.6	48.4	15.0	23.8	15.5	6.0	2.2	13.5	32.4	15.4
PIONEER 2545	39.2	h	69.0	72.7	35.0	36.6	33.1	21.0	6.8	30.3	60.0	27.9
P.981238A1-11-3W	19.4	l	29.3	31.8	25.0	50.6	12.5	17.0	0.1	4.1	12.0	11.5
P.981517A1-1-5-2	13.0	l	18.5	14.8	27.5	25.0	10.1	7.0	0.0	1.7	11.4	13.6
981542A1-10-4-5-6	25.7		41.5	35.8	25.0	21.9	33.9	16.0	1.1	5.4	43.1	33.0
P.9824C1-26-2	19.7	l	48.4	12.4	25.0	25.0	17.6	15.0	1.3	5.8	30.1	16.8
P.99794RA4-14-10	13.6	l	25.4	10.7	17.5	25.0	13.0	7.0	0.5	3.3	19.9	13.8
E0001	23.4		41.4	60.7	20.0	15.0	10.3	15.0	2.9	30.3	23.6	15.2
E2017	34.1	h	66.9	52.5	10.0	52.5	20.3	36.0	7.0	37.3	41.9	16.3
E2042	24.0		55.7	53.5	7.5	25.0	9.6	18.0	2.1	35.5	15.4	18.0
E2043	31.3	h	63.5	42.9	30.0	32.5	11.9	22.0	9.8	53.1	30.0	17.6
E3012	30.6		78.7	64.5	35.0	31.6	12.4	21.0	1.1	20.8	27.9	13.1
IL00-1665	20.2		50.2	33.3	12.5	24.6	12.1	8.0	1.7	12.4	36.3	10.7
IL00-8061	16.0	l	43.8	18.9	17.5	22.5	12.4	11.0	0.6	3.0	13.0	17.8
IL00-8530	18.3	l	49.4	10.0	15.0	23.8	13.9	19.0	0.6	4.3	29.1	17.9
IL01-15511	22.2		47.7	32.0	20.0	25.0	14.7	13.0	3.3	30.0	25.5	11.3
IL01-5943	15.9	l	44.6	19.7	22.5	20.0	11.0	9.0	0.7	1.3	17.8	12.6
KS01HW163-4	41.2	h	87.6	48.9	75.0	60.0	33.0	9.0	12.8	27.7	32.1	26.4
KS950910-8-2	28.6		78.3	26.3	55.0	43.3	19.8	9.0	1.9	17.2	19.8	15.1
KY93C-0378-5-2	27.1		56.4	46.4	30.0	35.0	18.1	7.0	2.0	29.6	30.1	16.2
KY96C-0399-5	28.1		95.4	34.4	30.0	39.9	22.3	13.0	5.0	6.4	15.3	19.6
KY96C-0769-7-1	23.0		60.1	32.3	25.0	36.3	18.1	9.0	1.5	10.6	20.0	17.5
KY97C-0304-16	21.6		71.7	27.4	12.5	45.0	16.2	10.0	1.0	6.5	10.5	15.2
KY97C-0574-01	27.4		63.1	67.7	12.5	35.0	18.1	15.0	1.0	17.0	26.0	18.4
MV-5-46	32.6	h	87.0	22.1	55.0	28.7	26.5	27.0	3.0	9.2	48.1	19.4
NE01643	23.1		38.9	59.6	20.0	37.5	17.1	9.0	2.0	15.1	19.1	12.7
NE02465	29.0		81.9	12.7	50.0	75.0	13.8	12.0	4.7	14.6	14.0	11.5
NE02495	29.2		80.4	19.8	45.0	55.0	14.2	9.0	4.9	28.6	20.0	15.3
NE02549	28.7		56.7	39.8	22.5	42.5	13.4	31.0	8.8	39.1	19.9	13.6
NE02588	31.9	h	72.5	38.3	45.0	57.5	26.9	9.0	8.5	33.4	14.0	13.8
NY91017-8080	26.6		44.5	57.7	45.0	19.6	19.9	17.0	0.7	15.5	24.9	21.3
NY91028-7085	33.8	h	67.8	63.8	30.0	36.6	13.4	25.0	11.4	18.1	49.5	22.2
OH01-75	22.2		58.2	17.3	25.0	44.9	13.6	11.0	2.3	3.9	32.1	14.0
OH01-7664	25.0		58.6	38.0	15.0	52.5	22.8	13.0	2.6	16.5	12.4	18.7
OH902	20.3		52.3	28.1	30.0	15.0	8.6	.	0.4	18.2	23.0	15.2
OH903	10.0	l	9.1	11.7	12.5	11.7	9.1	7.0	0.9	5.7	17.9	14.4
OH904	17.6	l	33.8	23.7	10.0	11.3	7.4	40.0	0.3	16.7	19.9	13.2
RCAT13/18	32.6	h	81.6	71.1	25.0	47.5	12.2	10.0	7.2	23.1	33.1	15.2
RCAT23/1	25.4		62.2	49.0	15.0	49.6	7.3	17.0	6.4	13.9	20.8	13.1
RCATL24	27.0		53.3	39.6	7.5	56.3	11.9	43.0	7.8	10.9	24.5	15.5
RCATL28	34.3	h	59.1	72.1	10.0	54.9	9.5	73.0	5.9	20.3	20.5	17.6
RCATL31	18.7	l	63.9	11.6	25.0	37.5	12.4	7.0	0.8	1.0	12.0	16.2
VA01W-99	24.3		62.6	54.7	15.0	30.0	17.2	17.0	3.3	5.3	21.5	16.2
VA04W-439	18.5	l	56.4	20.0	15.0	23.8	12.7	8.0	0.9	5.0	25.8	17.7
VA04W-474	11.7	l	20.2	18.6	10.0	17.5	9.7	8.0	0.2	6.2	13.9	12.8
VA04W-561	20.1	l	28.7	36.4	15.0	26.6	13.6	17.0	1.9	6.2	37.0	18.8
VA04W-568	20.2		39.5	31.4	10.0	31.3	16.9	13.0	1.3	5.2	35.0	18.3
AVERAGE	24.1		54.4	36.5	24.0	34.7	15.4	16.5	3.2	15.4	24.8	16.5
MAXIMUM	41.2		95.4	72.7	75.0	75.0	33.9	73.0	12.8	53.1	60.0	33.0
MINIMUM	10.0		9.1	10.0	5.0	11.3	6.0	6.0	0.0	1.0	8.1	10.7
LSD	10.1		22.4	25.6	24.1	21.0	7.8	7.0		20.1	13.5	5.3
CV (%)	16.7		25.4	48.2	49.8	37.4	36.1			80.0	34.8	23.8

Table 21. Field incidence (INC, %) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KYLEX	MDCLA	MIELA	MOCOL	NELIN	NYITH	OHWOO	ONRID	VABLA
ERNIE	50.8		18.0	49.7	50.0	89.6	72.5	99.0	7.0	10.0	52.5	60.0
TRUMAN	48.2		50.0	61.8	10.0	64.9	55.0		9.2	21.7	70.0	76.7
FREEDOM	65.0	h	71.7	63.5	20.0	85.0	88.8	95.0	27.1	33.3	82.5	83.3
PIONEER 2545	72.5	h	95.0	78.0	60.0	79.9	93.8	92.0	25.1	40.0	75.0	86.7
P.981238A1-11-3W	50.3		28.3	40.4	30.0	90.3	82.5	90.0	9.2	8.3	57.5	66.7
P.981517A1-1-5-2	51.8		40.0	66.7	35.0	87.5	75.0	72.0	11.1	11.7	52.5	66.7
981542A1-10-4-5-6	64.3	h	60.0	25.6	45.0	69.7	95.0	99.0	21.0	58.3	82.5	86.7
P.9824C1-26-2	55.3		26.7	17.1	55.0	87.5	80.0	100.0	6.2	28.3	75.0	76.7
P.99794RA4-14-10	48.0		43.3	23.8	25.0	80.0	86.3	65.0	11.7	23.3	65.0	56.7
E0001	57.7		76.7	73.8	45.0	80.0	73.8	36.0	23.8	30.0	67.5	70.0
E2017	59.9		60.0	75.0	20.0	82.5	91.3	80.0	31.1	11.7	77.5	70.0
E2042	57.8		98.3	95.4	15.0	67.5	83.8	56.0	22.4	25.0	55.0	60.0
E2043	67.5	h	98.3	91.2	60.0	77.5	87.5	46.0	34.1	18.3	75.0	86.7
E3012	66.2	h	95.0	92.7	65.0	79.9	85.0	43.0	16.1	40.0	72.5	73.3
IL00-1665	54.8		63.3	22.1	30.0	89.9	73.8	86.0	14.3	23.3	82.5	63.3
IL00-8061	47.1		18.3	25.3	25.0	82.5	71.3	100.0	5.0	6.7	60.0	76.7
IL00-8530	53.2		21.7	47.6	45.0	87.5	67.5	100.0	7.2	15.0	77.5	63.3
IL01-15511	55.7		30.0	45.1	75.0	82.5	70.0	95.0	12.4	15.0	72.5	60.0
IL01-5943	51.1		30.0	39.9	40.0	89.9	72.5	87.0	7.3	6.7	67.5	70.0
KS01HW163-4	70.2	h	93.3	39.0	85.0	87.5	90.0	87.0	26.3	45.0	72.5	76.7
KS950910-8-2	58.2		86.7	50.1	65.0	89.9	80.0	37.0	9.3	20.0	67.5	76.7
KY93C-0378-5-2	72.1	h	100.0	65.2	80.0	87.5	87.5	74.0	25.3	41.7	80.0	80.0
KY96C-0399-5	70.5	h	96.7	84.4	75.0	89.9	87.5	85.0	21.9	28.3	60.0	76.7
KY96C-0769-7-1	64.1	h	85.0	86.5	60.0	87.5	95.0	57.0	20.5	11.7	67.5	70.0
KY97C-0304-16	63.3	h	95.0	59.6	50.0	87.5	82.5	94.0	13.9	25.0	52.5	73.3
KY97C-0574-01	62.1	h	98.3	54.7	20.0	90.0	82.5	82.0	17.0	31.7	65.0	80.0
MV-5-46	68.2	h	85.0	24.3	80.0	89.6	80.0	100.0	11.9	38.3	90.0	83.3
NE01643	56.7		60.0	64.5	35.0	90.0	83.8	64.0	19.2	10.0	70.0	70.0
NE02465	56.4		65.0	33.2	65.0	87.5	62.5	94.0	12.5	18.3	62.5	63.3
NE02495	59.7		76.7	33.3	70.0	80.0	71.3	92.0	12.7	21.7	62.5	76.7
NE02549	58.8		63.3	64.2	45.0	90.0	91.3	76.0	22.5	15.0	57.5	63.3
NE02588	64.0	h	90.0	71.4	80.0	87.5	86.3	52.0	23.6	20.0	62.5	66.7
NY91017-8080	58.0		65.0	49.5	55.0	73.2	95.0	60.0	16.6	13.3	72.5	80.0
NY91028-7085	75.2	h	98.3	84.2	80.0	73.2	72.5	90.0	44.3	40.0	90.0	80.0
OH01-75	63.5	h	88.3	76.7	45.0	89.9	83.8	70.0	18.2	15.0	75.0	73.3
OH01-7664	59.0		85.0	53.9	45.0	85.0	77.5	66.0	25.1	16.7	62.5	73.3
OH902	42.2	l	11.7	29.9	35.0	76.6	63.8		11.1	8.3	65.0	63.3
OH903	32.1	l	1.3	19.1	50.0	63.4	41.3	10.0	9.9	3.3	62.5	60.0
OH904	35.1	l	5.0	39.5	20.0	70.0	63.8	20.0	8.0	1.7	60.0	63.3
RCAT13/18	61.8	h	71.7	91.5	35.0	67.5	88.8	83.0	23.0	10.0	67.5	80.0
RCAT23/1	61.7	h	96.7	90.8	45.0	73.2	71.3	56.0	28.7	13.3	62.5	80.0
RCATL24	63.7	h	96.7	92.7	15.0	73.2	80.0	90.0	29.0	16.7	67.5	76.7
RCATL28	57.6		76.7	89.0	20.0	79.9	70.0	50.0	27.1	16.7	70.0	76.7
RCATL31	51.5		80.0	30.2	50.0	90.0	85.0	50.0	7.6	3.3	52.5	66.7
VA01W-99	62.5	h	90.0	58.1	20.0	82.5	81.3	96.0	22.6	33.3	65.0	76.7
VA04W-439	57.6		75.0	47.8	27.5	85.0	86.3	73.0	7.6	25.0	65.0	83.3
VA04W-474	48.1		46.7	41.7	15.0	67.5	80.0	93.0	4.7	15.0	57.5	60.0
VA04W-561	57.8		58.3	76.6	35.0	89.9	87.5	49.0	16.0	6.7	82.5	76.7
VA04W-568	60.6		40.0	83.6	40.0	90.0	91.3	66.0	16.1	21.7	77.5	80.0
AVERAGE	58.2		65.4	57.5	44.7	82.2	79.7	73.6	17.4	20.7	68.3	72.7
MAXIMUM	75.2		100.0	95.4	85.0	90.3	95.0	100.0	44.3	58.3	90.0	86.7
MINIMUM	32.1		1.3	17.1	10.0	63.4	41.3	10.0	4.7	1.7	52.5	56.7
LSD	13.8		30.0	29.1	42.6	17.4	17.7	22.0		19.0	17.2	16.0
CV (%)	26.6		28.6	35.0	47.4	13.3	15.9			57.0	18.0	16.0

Table 22. Field index (IND %) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVG.		KS+MD +MO	KS	MD	MO	IL+KY+ NY+OH	IL	KY	NY	OH	ON+ VA	ON	VA	MI	NE
ERNIE	11.3	l	15.2	27.8	10.0	7.8	5.1	9.3	10.8	0.1	0.2	6.6	4.8	8.4	25.6	20.0
TRUMAN	9.9	l	6.7	15.5	0.5	4.1	7.4	7.5	19.8	0.0	2.4	17.0	20.6	13.4	22.4	.
FREEDOM	16.1		16.1	31.3	3.0	13.9	15.5	26.5	30.7	0.6	4.3	20.5	27.9	13.0	19.9	6.0
PIONEER 2545	32.5	h	34.9	51.3	22.0	31.4	33.7	65.6	56.7	1.7	10.6	34.6	45.0	24.2	29.6	19.0
981238A1-11-3W	14.0	l	18.1	36.3	7.5	10.4	6.0	10.3	12.8	0.0	1.0	7.5	7.1	7.8	45.9	15.0
981517A1-1-5-2	11.5	l	22.0	42.5	15.3	8.1	4.4	7.4	9.9	0.0	0.3	7.7	6.1	9.3	22.3	5.0
981542A1-10-4-5-6	21.5		33.5	55.0	12.5	33.1	9.1	23.7	9.2	0.2	3.4	32.6	36.1	29.1	18.4	16.0
P.9824C1-26-2	13.6	l	20.0	30.0	16.0	14.1	4.2	12.7	2.1	0.1	1.8	18.3	23.0	13.5	21.8	15.0
99794RA4-14-10	10.7	l	18.0	37.5	5.0	11.6	4.6	14.7	2.6	0.1	1.1	10.8	13.7	7.9	19.0	4.0
E0001	14.5	l	10.0	13.3	9.0	7.8	21.0	30.4	44.8	0.7	8.1	14.3	17.0	11.5	12.0	5.0
E2017	22.5		14.6	23.3	2.0	18.5	21.8	40.7	39.4	2.2	5.0	22.2	33.1	11.2	43.3	29.0
E2042	16.6		7.3	12.8	1.0	8.1	28.5	54.6	51.1	0.5	7.7	10.1	9.1	11.1	16.8	10.0
E2043	22.9		20.9	34.0	18.0	10.6	28.5	62.4	39.1	3.3	9.2	19.9	24.3	15.4	26.0	10.0
E3012	24.6	h	20.6	27.5	23.5	10.7	35.6	74.7	59.8	0.2	7.7	15.7	21.8	9.6	26.1	9.0
IL00-1665	13.5	l	13.3	26.5	4.3	9.2	10.4	31.3	7.3	0.2	2.8	19.1	31.2	7.0	22.0	7.0
IL00-8061	9.7	l	13.2	26.8	4.3	8.6	3.8	10.1	4.8	0.0	0.3	11.1	8.4	13.7	18.8	11.0
IL00-8530	13.5	l	20.3	43.8	8.0	9.0	3.3	7.6	4.8	0.0	0.7	17.2	23.2	11.2	21.3	19.0
IL01-15511	13.8	l	19.5	32.5	14.5	11.4	8.4	14.6	14.4	0.4	4.3	13.3	19.7	6.8	21.3	12.0
IL01-5943	10.6	l	16.8	31.8	9.5	9.1	5.3	12.9	7.9	0.1	0.3	10.4	12.0	8.7	17.9	7.0
KS01HW163-4	34.0	h	51.6	61.3	63.5	30.1	28.9	81.4	19.1	3.4	11.5	22.3	24.1	20.4	52.3	7.0
KS950910-8-2	22.8		33.0	45.0	38.0	15.9	21.2	68.1	13.2	0.2	3.2	12.6	13.4	11.8	38.9	3.0
KY93C-0378-5-2	23.9		30.9	52.5	24.0	16.3	24.3	56.4	30.3	0.5	10.1	18.8	24.2	13.3	30.5	5.0
KY96C-0399-5	25.7	h	28.8	45.0	22.0	19.5	31.2	92.4	29.1	1.1	2.2	12.2	9.5	14.9	36.1	11.0
KY96C-0769-7-1	18.9		21.6	32.5	15.0	17.2	20.1	51.0	28.0	0.3	1.2	13.0	13.7	12.3	31.9	5.0
KY97C-0304-16	20.1		23.0	47.5	7.8	13.7	21.5	68.1	16.3	0.1	1.4	8.5	5.8	11.2	39.8	9.0
KY97C-0574-01	21.4		18.1	36.5	2.5	15.4	26.3	62.1	37.1	0.2	5.7	16.1	17.4	14.7	31.5	12.0
MV-5-46	29.8	h	43.8	65.0	44.0	22.5	20.9	73.8	5.4	0.4	3.8	30.2	44.0	16.3	25.6	27.0
NE01643	16.1		16.5	28.8	6.5	14.1	16.0	23.3	38.5	0.4	1.8	11.8	14.6	9.0	33.8	6.0
NE02465	24.5	h	35.6	62.5	35.5	8.8	17.4	60.4	4.2	0.6	4.4	8.2	9.1	7.2	65.3	11.0
NE02495	22.4		30.6	48.8	32.0	10.9	19.0	61.9	6.6	0.6	6.7	12.3	12.8	11.8	45.8	8.0
NE02549	19.7		21.2	40.0	11.3	12.3	17.3	35.6	25.6	2.0	5.9	11.1	13.3	8.9	38.3	23.0
NE02588	25.4	h	34.8	43.8	37.0	23.7	25.2	65.5	27.3	2.0	6.1	9.4	9.4	9.3	50.0	5.0
NY91017-8080	19.6		32.1	46.3	31.0	19.0	14.9	29.1	28.6	0.1	1.9	17.7	18.4	17.0	13.8	10.0
NY91028-7085	26.9	h	17.0	16.5	24.0	10.6	33.3	66.7	53.8	5.1	7.4	31.5	44.7	18.2	27.3	22.0
OH01-75	18.5		18.6	32.5	12.0	11.3	16.3	50.8	13.2	0.4	0.9	17.5	24.6	10.3	40.6	7.0
OH01-7664	18.4		18.1	28.0	8.0	18.2	18.4	49.4	20.5	0.7	3.0	11.0	8.2	13.8	44.8	8.0
OH902	9.0	l	13.9	25.0	11.0	5.8	4.1	6.0	8.4	0.0	1.8	13.1	16.0	10.2	12.6	.
OH903	6.2	l	12.0	24.3	7.8	3.9	0.7	0.1	2.2	0.1	0.3	10.5	11.9	9.0	7.3	1.0
OH904	6.7	l	8.7	18.5	2.5	5.2	2.9	1.2	9.4	0.0	0.8	10.6	12.7	8.5	7.2	8.0
RCAT13/18	23.6		18.6	32.5	12.5	10.9	32.3	58.8	65.1	1.6	3.5	17.8	23.4	12.2	31.3	8.0
RCAT23/1	19.2		11.2	20.8	7.5	5.3	27.1	60.3	44.4	1.8	1.8	12.3	13.9	10.6	35.5	9.0
RCATL24	21.7		12.3	25.3	1.3	10.3	23.0	51.4	36.7	2.2	1.8	15.2	18.6	11.8	41.2	38.0
RCATL28	22.3		7.2	13.0	2.0	6.7	28.8	45.8	64.2	1.6	3.4	14.3	14.9	13.6	44.6	36.0
RCATL31	14.2	l	15.7	19.5	17.0	10.5	13.4	50.0	3.5	0.1	0.1	9.2	7.5	10.8	33.8	3.0
VA01W-99	21.3		24.9	57.5	3.0	14.1	23.2	58.4	31.8	0.7	1.7	13.4	14.3	12.4	24.8	16.0
VA04W-439	14.1	l	15.3	30.0	4.8	11.0	12.8	40.2	9.5	0.1	1.3	16.2	17.7	14.7	19.4	6.0
VA04W-474	8.7	l	12.9	28.8	1.5	8.4	5.0	10.9	7.8	0.0	1.2	7.9	8.3	7.5	14.3	7.0
VA04W-561	14.9	l	14.1	25.0	5.5	11.8	11.3	16.5	27.8	0.3	0.6	22.2	30.5	13.8	23.9	8.0
VA04W-568	15.7	l	16.3	28.8	4.0	16.1	11.3	17.7	26.2	0.2	1.0	21.1	27.6	14.6	28.1	8.0
AVERAGE	18.1		20.4	34.3	13.9	13.0	16.8	39.4	23.7	0.8	3.4	15.4	18.5	12.3	29.0	11.6
MAXIMUM	34.0		51.6	65.0	63.5	33.1	35.6	92.4	65.1	5.1	11.5	34.6	45.0	29.1	65.3	38.0
MINIMUM	6.2		6.7	12.8	0.5	3.9	0.7	0.1	2.1	0.0	0.1	6.6	4.8	6.8	7.2	1.0
LSD	9.5			115.0	22.5	8.5		21.4	22.2		4.4		13.0	5.5	18.9	7.0
CV (%)	61.4			21.6	80.6	46.7		34.1	60.5		80.0		51.4	33.0	40.4	

Table 23. Greenhouse severity (GH, %) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KYLEX	MOCOL
ERNIE	12.5	l	23.8	7.4	6.3
TRUMAN	9.0	l	3.4	19.8	3.8
FREEDOM	17.2	l	19.0	14.0	18.5
PIONEER 2545	27.4	l	3.3	47.0	31.8
P.981238A1-11-3W	6.8	l	10.6	3.0	6.8
P.981517A1-1-5-2	5.7	l	6.5	5.8	4.7
P.981542A1-10-4-5-6	16.2	l	4.8	20.2	23.7
P.9824C1-26-2	22.0	l	45.4	12.2	8.3
P.99794RA4-14-10	12.5	l	25.0	2.1	10.3
E0001	40.4		58.9	45.6	16.7
E2017	24.2	l	52.0	7.9	12.6
E2042	16.2	l	9.3	34.6	4.8
E2043	26.6	l	31.7	24.1	24.1
E3012	18.0	l	29.4	6.5	18.2
IL00-1665	29.0		19.9	48.3	18.7
IL00-8061	19.7	l	16.7	35.3	7.0
IL00-8530	12.0	l	22.5	7.0	6.4
IL01-15511	27.9	l	70.0	6.6	7.2
IL01-5943	14.1	l	14.7	6.5	21.0
KS01HW163-4	43.7		37.1	40.2	53.9
KS950910-8-2	54.2	h	54.7	57.2	50.6
KY93C-0378-5-2	33.8		39.3	34.4	27.7
KY96C-0399-5	25.5	l	39.0	14.0	23.5
KY96C-0769-7-1	25.0	l	7.0	56.3	11.8
KY97C-0304-16	28.1	l	41.9	19.6	22.9
KY97C-0574-01	34.4		62.6	11.0	29.5
MV-5-46	75.9	h	85.6	82.3	59.8
NE01643	26.9	l	24.1	22.1	34.6
NE02465	29.2		21.7	13.1	52.9
NE02495	39.8		39.6	49.2	30.5
NE02549	60.0	h	91.7	31.5	56.7
NE02588	43.6		70.0	25.0	35.7
NY91017-8080	10.5	l	10.8	5.8	14.9
NY91028-7085	39.9		60.1	34.0	25.7
OH01-75	22.0	l	13.1	36.1	16.9
OH01-7664	33.0		15.1	17.3	66.7
OH902	8.2	l	6.8	2.0	15.8
OH903	14.9	l	26.5	12.8	5.3
OH904	9.2	l	.	1.8	10.6
RCAT13/18	57.9	h	74.8	74.5	24.4
RCAT23/1	24.2	l	31.5	28.7	12.4
RCATL24	12.1	l	7.1	9.1	20.0
RCATL28	33.7		67.7	1.0	32.3
RCATL31	25.1	l	30.0	27.2	18.1
VA01W-99	38.5		52.3	24.8	38.3
VA04W-439	16.1	l	23.3	15.4	9.7
VA04W-474	3.7	l	3.6	3.3	4.1
VA04W-561	7.7	l	8.7	5.7	8.6
VA04W-568	3.5	l	3.5	3.3	3.8
AVERAGE	25.3		31.6	22.7	21.8
MAXIMUM	75.9		91.7	82.3	66.7
MINIMUM	3.5		3.3	1.0	3.8
LSD	25.4		42.1	26.8	2.8
CV (%)	61.3		98.0	119.9	57.1

Table 24. Kernel rating(KR, %) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KSMAN	KYLEX	MOCOL
ERNIE	13.8	l	17.0	5.5	29.2	3.3
TRUMAN	17.3	l	30.0	3.8	33.0	2.3
FREEDOM	24.1		43.0	6.5	42.4	4.5
PIONEER 2545	40.6	h	67.0	14.5	65.9	15.0
P.981238A1-11-3W	16.4	l	17.0	10.8	34.8	3.0
P.981517A1-1-5-2	18.0	l	40.0	6.0	22.5	3.5
P.981542A1-10-4-5-6	34.2	h	50.0	10.3	68.0	8.3
P.9824C1-26-2	21.1	l	27.0	4.3	49.9	3.3
P.99794RA4-14-10	20.5	l	43.0	4.3	31.8	2.8
E0001	22.5	l	50.0	7.8	27.2	4.8
E2017	26.4		57.0	16.3	28.7	3.8
E2042	24.0		57.0	3.8	31.6	3.5
E2043	34.9	h	83.0	12.8	38.9	4.8
E3012	34.5	h	70.0	11.3	52.6	4.0
IL00-1665	20.5	l	30.0	1.8	46.5	3.5
IL00-8061	13.1	l	20.0	1.5	28.6	2.5
IL00-8530	9.6	l	12.0	1.0	22.3	3.3
IL01-15511	16.5	l	30.0	1.5	30.5	3.8
IL01-5943	13.7	l	23.0	1.8	25.6	4.3
KS01HW163-4	32.2	h	37.0	20.3	57.8	13.8
KS950910-8-2	29.4	h	40.0	11.5	59.5	6.5
KY93C-0378-5-2	32.1	h	63.0	10.0	48.9	6.5
KY96C-0399-5	33.8	h	57.0	24.8	46.0	7.5
KY96C-0769-7-1	24.0		30.0	8.3	54.0	3.5
KY97C-0304-16	30.7	h	60.0	10.3	47.3	5.3
KY97C-0574-01	32.2	h	57.0	12.0	54.7	5.0
MV-5-46	29.8	h	57.0	12.0	40.2	10.0
NE01643	32.5	h	70.0	16.3	38.3	5.3
NE02465	29.8	h	53.0	9.3	53.4	3.3
NE02495	27.1		47.0	17.8	39.3	4.3
NE02549	22.7	l	37.0	8.0	42.5	3.5
NE02588	34.1	h	67.0	10.8	52.8	5.8
NY91017-8080	23.6		53.0	8.8	26.9	5.8
NY91028-7085	27.4	h	60.0	7.5	37.0	5.3
OH01-75	20.7	l	40.0	8.8	29.6	4.3
OH01-7664	20.1	l	40.0	7.8	25.9	6.8
OH902	15.5	l	27.0	3.5	28.4	3.0
OH903	12.4	l	30.0	4.8	12.5	2.3
OH904	13.5	l	27.0	3.3	20.4	3.3
RCAT13/18	25.7		40.0	10.3	49.3	3.3
RCAT23/1	22.3	l	53.0	8.3	26.2	1.8
RCATL24	16.9	l	43.0	5.0	17.2	2.3
RCATL28	35.9	h	70.0	7.5	63.1	3.0
RCATL31	15.3	l	27.0	10.3	21.3	2.5
VA01W-99	26.6		47.0	6.0	49.0	4.5
VA04W-439	27.9	h	57.0	8.3	42.4	3.8
VA04W-474	18.1	l	40.0	2.0	27.0	3.3
VA04W-561	19.1	l	27.0	3.0	42.5	3.8
VA04W-568	14.6	l	13.0	3.8	37.8	3.8
AVERAGE	23.8		43.6	8.3	38.8	4.6
MAXIMUM	40.6		83.0	24.8	68.0	15.0
MINIMUM	9.6		12.0	1.0	12.5	1.8
LSD	13.4		17.9	9.0	21.1	1.1
CV (%)	39.7		25.5	15.7	37.8	37.4

Table 25. Percent scabby seed by weight (KR, %) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		KYLEX	MDCLA	MOCOL
ERNIE	23.9		20.6	25.0	26.2
TRUMAN	17.4	l	26.9	6.0	19.2
FREEDOM	29.7		31.9	24.0	33.1
PIONEER 2545	41.0	h	55.8	23.0	44.1
P.981238A1-11-3W	26.0		39.8	8.5	29.7
P.981517A1-1-5-2	16.7	l	16.2	7.0	26.9
P.981542A1-10-4-5-6	41.0	h	59.4	21.5	42.0
P.9824C1-26-2	25.8		41.9	5.0	30.6
P.99794RA4-14-10	26.5		29.0	19.5	30.9
E0001	18.9	l	18.7	11.0	27.1
E2017	26.4		23.3	21.0	35.0
E2042	23.8		21.1	21.0	29.4
E2043	31.1	h	29.7	32.0	31.7
E3012	29.8		42.2	16.5	30.8
IL00-1665	22.7	l	37.0	4.0	27.2
IL00-8061	16.6	l	17.6	6.1	26.1
IL00-8530	14.4	l	14.1	3.5	25.7
IL01-15511	19.8	l	25.4	7.0	26.9
IL01-5943	20.0	l	17.2	16.1	26.8
KS01HW163-4	43.8	h	51.9	37.0	42.4
KS950910-8-2	32.1	h	50.8	13.0	32.6
KY93C-0378-5-2	29.3		39.2	14.5	34.3
KY96C-0399-5	32.9	h	37.8	25.0	36.0
KY96C-0769-7-1	30.0		43.7	11.0	35.3
KY97C-0304-16	29.5		38.7	18.0	31.7
KY97C-0574-01	28.8		44.3	10.0	32.2
MV-5-46	30.4		33.7	21.5	36.0
NE01643	26.4		23.3	23.5	32.4
NE02465	30.6		45.2	22.5	24.2
NE02495	26.9		32.9	20.5	27.3
NE02549	32.4	h	41.5	23.0	32.8
NE02588	37.3	h	46.0	29.5	36.3
NY91017-8080	24.3		20.2	16.0	36.8
NY91028-7085	32.5	h	28.5	41.0	27.9
OH01-75	20.0	l	22.5	6.5	30.9
OH01-7664	25.8		21.5	23.0	32.8
OH902	16.7	l	19.2	8.0	22.9
OH903	10.6	l	8.9	7.0	16.0
OH904	14.0	l	16.0	3.5	22.6
RCAT13/18	27.6		37.1	14.0	31.6
RCAT23/1	22.6	l	16.9	26.5	24.3
RCATL24	20.1	l	10.2	21.5	28.5
RCATL28	36.1	h	53.8	29.5	25.0
RCATL31	20.3	l	19.7	11.0	30.2
VA01W-99	24.9		36.9	6.5	31.3
VA04W-439	27.6		34.2	17.5	31.2
VA04W-474	17.9	l	20.9	4.5	28.2
VA04W-561	23.7		34.7	4.5	31.8
VA04W-568	23.5		31.6	5.0	34.0
AVERAGE	25.9		31.2	16.2	30.4
MAXIMUM	43.8		59.4	41.0	44.1
MINIMUM	10.6		8.9	3.5	16.0
LSD	12.7		18.9		3.2
CV (%)	30.2		42.2		50.1

Table 26. ISK from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		IL+KY+MO	ILURB	KYLEX	MOCOL	MDCLA
ERNIE	31.4	l	31.5	29.4	29.7	35.4	31.0
TRUMAN	25.9	l	32.2	31.7	38.9	26.0	6.9
FREEDOM	40.3		47.0	50.1	46.3	44.5	20.1
PIONEER 2545	59.2	h	66.3	75.8	67.5	55.7	37.7
P.981238A1-11-3W	30.5	l	34.0	24.0	37.6	40.4	19.9
P.981517A1-1-5-2	30.6	l	33.6	33.5	30.9	36.3	21.6
P.981542A1-10-4-5-6	44.4		49.4	50.4	42.2	55.5	29.6
P.9824C1-26-2	31.6	l	33.4	33.2	25.6	41.5	26.0
P.99794RA4-14-10	30.7	l	34.0	38.0	22.0	42.1	20.6
E0001	40.8		46.4	55.4	47.8	36.0	23.9
E2017	43.3		51.9	60.8	47.6	47.4	17.4
E2042	44.2		53.9	68.9	53.1	39.8	15.2
E2043	54.1	h	58.8	81.9	52.1	42.5	39.8
E3012	55.6	h	61.9	80.1	64.0	41.6	36.6
IL00-1665	32.1		38.0	46.1	31.4	36.6	14.4
IL00-8061	24.9	l	27.5	26.7	20.3	35.5	16.9
IL00-8530	25.7	l	27.9	26.0	22.9	34.7	19.4
IL01-15511	34.0		34.9	35.3	33.3	36.2	31.3
IL01-5943	31.3	l	30.7	31.7	24.8	35.7	32.9
KS01HW163-4	58.2	h	56.7	69.0	47.1	53.9	62.8
KS950910-8-2	48.2	h	50.6	65.5	43.2	43.0	41.2
KY93C-0378-5-2	51.4	h	55.6	72.3	49.2	45.4	38.8
KY96C-0399-5	55.0	h	59.5	80.3	50.8	47.3	41.5
KY96C-0769-7-1	46.7	h	52.3	55.6	53.1	48.1	29.9
KY97C-0304-16	46.0	h	52.6	74.0	41.6	42.3	26.0
KY97C-0574-01	45.6	h	56.2	71.1	54.4	43.1	13.8
MV-5-46	49.3	h	49.3	74.3	27.4	46.3	49.1
NE01643	43.3		49.1	57.7	46.5	43.2	25.9
NE02465	43.3		43.3	65.4	31.8	32.6	43.5
NE02495	43.5		43.8	65.8	29.1	36.6	42.7
NE02549	43.1		47.7	50.7	47.8	44.5	29.5
NE02588	56.1	h	58.4	75.4	51.3	48.5	49.3
NY91017-8080	45.0		47.9	54.2	40.2	49.2	36.4
NY91028-7085	54.0	h	55.5	73.8	55.8	36.9	49.4
OH01-75	40.6		46.3	60.0	37.2	41.6	23.6
OH01-7664	41.4		46.2	59.1	36.2	43.2	27.2
OH902	27.1	l	28.6	29.9	25.1	30.9	22.7
OH903	17.8	l	16.5	15.1	12.8	21.5	21.6
OH904	22.1	l	26.0	22.3	25.3	30.4	10.4
RCAT13/18	48.0	h	56.2	62.0	63.6	42.9	23.6
RCAT23/1	44.9		50.3	69.0	48.7	33.3	28.6
RCATL24	40.1		48.3	62.3	43.7	39.0	15.4
RCATL28	48.3	h	57.5	68.7	69.9	33.9	20.8
RCATL31	35.6		38.5	53.9	20.4	41.3	26.9
VA01W-99	42.0		51.7	64.4	48.6	42.1	13.1
VA04W-439	39.5		46.1	62.1	34.0	42.2	19.8
VA04W-474	27.5	l	33.6	36.1	26.4	38.2	9.3
VA04W-561	36.1		42.5	36.8	47.8	43.0	16.8
VA04W-568	34.8		40.8	29.2	47.1	46.0	17.0
AVERAGE	40.5		44.9	53.4	40.7	40.7	27.3
MAXIMUM	59.2		66.3	81.9	69.9	55.7	62.8
MINIMUM	17.8		16.5	15.1	12.8	21.5	6.9
LSD	14.1			14.8		7.3	0.8
CV(%)	24.9			17.2		17.2	38.4

Table 27. Vomitoxin concentration (DON, ppm) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	MDCLA	OHWOO	VABLA
ERNIE	6.2	l	2.6	20.6	0.2	1.3
TRUMAN	2.7	l	6.0	3.2	1.4	0.4
FREEDOM	6.1	l	5.5	17.8	1.0	0.3
PIONEER 2545	11.3		18.8	21.6	3.4	1.4
P.981238A1-11-3W	5.1	l	9.8	8.0	2.5	0.2
P.981517A1-1-5-2	2.0	l	3.3	4.3	0.4	0.1
P.981542A1-10-4-5-6	8.0	l	9.3	19.5	1.2	1.8
P.9824C1-26-2	1.7	l	2.1	3.8	0.5	0.6
P.99794RA4-14-10	1.6	l	2.7	3.0	0.2	0.3
E0001	11.3		14.8	27.3	2.5	0.5
E2017	10.5		13.3	27.0	1.0	0.5
E2042	11.2		18.0	24.3	1.8	0.8
E2043	16.4	h	26.3	34.3	3.4	1.6
E3012	13.5	h	19.0	30.8	3.3	0.9
IL00-1665	1.7	l	3.0	3.2	0.3	0.2
IL00-8061	1.0	l	1.9	1.9	0.1	0.3
IL00-8530	1.1	l	1.5	2.1	0.3	0.6
IL01-15511	1.7	l	2.5	2.9	1.0	0.2
IL01-5943	2.7	l	2.7	7.5	0.2	0.3
KS01HW163-4	19.4	h	22.8	42.5	6.4	6.0
KS950910-8-2	4.7	l	4.8	11.5	1.0	1.4
KY93C-0378-5-2	9.6	l	19.5	14.8	2.3	1.7
KY96C-0399-5	12.2	h	19.5	26.0	2.2	1.0
KY96C-0769-7-1	6.5	l	12.3	11.5	0.7	1.7
KY97C-0304-16	6.1	l	11.3	12.0	0.8	0.3
KY97C-0574-01	6.8	l	15.3	8.8	1.6	1.4
MV-5-46	5.3	l	5.7	12.8	0.9	1.8
NE01643	7.3	l	14.8	13.3	0.8	0.3
NE02465	2.2	l	4.0	4.0	0.3	0.3
NE02495	6.1	l	12.0	10.5	1.5	0.6
NE02549	7.9	l	6.5	24.0	1.0	0.1
NE02588	10.7		18.3	22.3	1.2	1.1
NY91017-8080	12.6	h	15.0	33.0	1.1	1.4
NY91028-7085	20.4	h	19.8	56.3	4.1	1.5
OH01-75	3.6	l	7.3	6.2	0.3	0.5
OH01-7664	7.1	l	10.5	15.8	0.8	1.3
OH902	2.1	l	1.6	6.3	0.2	0.4
OH903	0.8	l	0.8	2.1	0.2	0.1
OH904	1.2	l	1.2	3.1	0.3	0.1
RCAT13/18	8.9	l	10.5	23.3	1.4	0.3
RCAT23/1	9.2	l	15.8	19.3	0.5	1.2
RCATL24	17.6	h	18.3	49.3	1.5	1.2
RCATL28	11.4		11.8	32.5	0.8	0.4
RCATL31	2.7	l	2.9	7.0	0.2	0.6
VA01W-99	4.0	l	11.0	3.4	0.4	1.3
VA04W-439	3.4	l	7.3	3.9	1.1	1.2
VA04W-474	1.3	l	2.8	1.7	0.3	0.3
VA04W-561	1.8	l	4.0	2.4	0.5	0.2
VA04W-568	1.7	l	3.5	2.2	0.6	0.5
AVERAGE	6.7		9.7	15.2	1.2	0.9
MAXIMUM	20.4		26.3	56.3	6.4	6.0
MINIMUM	0.8		0.8	1.7	0.1	0.1
LSD	8.9			23.1	1.3	
CV (%)	94.2			0.7	0.9	

Table 28. Other FHB, disease, and agronomic data from all Missouri (MO), Illinois (IL) and Virginia (VA) for the 2004-05 NUWWSN

NAME	Field Spread (MO) # spikelets	GH Spread (MO) # spikelets	Rachis Score (MO) (0-1)	Winterkill (IL) (%)	Stag. Leaf Blotch (VA) (1-4)	Seed Weight (MD) (g/100)
ERNIE	1.4	0.6	0.4	0	1	2.56
TRUMAN	1.0	0.9	0.0	0	1	3.32
FREEDOM	2.1	3.6	1.0	0	1	2.22
PIONEER 2545	4.8	4.9	1.0	0	1	2.80
P.981238A1-11-3W	1.8	1.0	0.5	0	1	3.69
P.981517A1-1-5-2	1.3	0.7	0.4	0	2	3.49
981542A1-10-4-5-6	5.0	3.8	1.0	0	2	2.78
P.9824C1-26-2	2.5	0.9	0.4	0	1	3.36
P.99794RA4-14-10	1.7	1.7	0.8	0	1	2.80
E0001	1.8	2.7	1.0	0	1	3.08
E2017	3.2	2.5	0.8	0	2	2.69
E2042	1.5	0.9	0.3	0	1	2.94
E2043	2.1	5.1	0.9	0	1	2.56
E3012	2.2	4.0	0.9	0	2	3.17
IL00-1665	1.6	2.9	0.9	0	1	3.21
IL00-8061	1.6	1.1	0.1	0	1	2.98
IL00-8530	1.9	0.7	0.4	0	1	3.31
IL01-15511	2.1	0.9	0.3	0	2	2.36
IL01-5943	1.4	3.6	0.8	0	1	2.57
KS01HW163-4	3.9	6.9	0.9	0	1	2.31
KS950910-8-2	2.7	6.3	1.0	0	2	2.62
KY93C-0378-5-2	2.4	2.9	0.7	0	2	4.11
KY96C-0399-5	3.3	3.4	0.9	0	1	3.04
KY96C-0769-7-1	2.5	1.9	0.3	0	1	2.89
KY97C-0304-16	2.3	4.8	0.9	0	1	2.87
KY97C-0574-01	2.4	4.5	0.9	0	1	3.98
MV-5-46	3.6	9.6	1.0	0	1	2.98
NE01643	2.3	4.6	0.6	0	2	2.29
NE02465	1.9	6.9	0.9	0	2	2.30
NE02495	2.1	4.3	0.9	0	2	2.77
NE02549	1.9	10.6	1.0	0	2	2.95
NE02588	3.8	6.4	1.0	0	2	2.20
NY91017-8080	2.7	2.1	0.2	0	2	2.46
NY91028-7085	2.1	5.2	1.0	0	1	2.33
OH01-75	2.0	2.3	0.6	0	2	2.87
OH01-7664	2.9	10.0	1.0	0	2	3.22
OH902	1.2	2.6	0.8	0	2	2.30
OH903	1.3	0.8	0.5	0	1	3.06
OH904	1.0	1.9	0.4	0	1	2.78
RCAT13/18	2.1	4.9	1.0	0	2	2.56
RCAT23/1	1.1	2.4	0.5	0	1	3.23
RCATL24	1.7	4.0	0.6	0	1	2.66
RCATL28	1.6	6.6	1.0	0	1	3.08
RCATL31	1.6	3.1	0.7	0	1	3.38
VA01W-99	2.2	4.4	0.9	16.7	1	3.62
VA04W-439	1.8	1.2	0.3	0	1	2.13
VA04W-474	1.4	0.7	0.3	8.3	1	3.04
VA04W-561	1.9	1.8	0.6	0	1	3.31
VA04W-568	2.3	0.6	0.3	0	1	3.18
AVERAGE	2.2	3.5	0.7	0.5	1.4	2.9
MAXIMUM	5.0	10.6	1.0	16.7	2.3	4.1
MINIMUM	1.0	0.6	0.0	0.0	1.0	2.1

Table 29. Heading date (HD, julian days) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		ILURB	KSMAN	KYLEX	MDCLA	MIELA	MOCOL	OHWOO	ONRID	VABLA
ERNIE	139	l	135	129	136	133	158	134	142	154	133
TRUMAN	145		143	135	143	137	162	142	148	158	137
FREEDOM	144		141	130	141	139	161	139	149	158	136
PIONEER 2545	143		140	131	141	140	160	139	149	155	136
P.981238A1-11-3W	143		140	131	140	138	160	140	146	154	135
P.981517A1-1-5-2	141		136	130	137	136	159	137	145	154	133
P.981542A1-10-4-5-6	140	l	135	129	132	136	160	138	141	154	134
P.9824C1-26-2	138	l	133	128	133	133	158	134	141	154	131
P.99794RA4-14-10	140		136	130	134	135	160	138	142	154	134
E0001	146		144	138	144	140	161	144	150	157	138
E2017	146		144	139	145	142	161	142	149	158	138
E2042	148	h	146	139	147	143	163	142	152	158	142
E2043	148	h	147	130	151	143	162	144	153	158	141
E3012	148	h	146	139	148	142	163	144	153	158	139
IL00-1665	143		140	131	138	138	159	139	147	157	136
IL00-8061	141		139	131	137	136	159	135	147	154	134
IL00-8530	139	l	135	128	133	133	158	133	142	154	133
IL01-15511	141		137	129	136	135	159	138	148	154	134
IL01-5943	141		138	129	136	137	159	138	145	155	134
KS01HW163-4	142		139	132	138	138	159	139	145	155	134
KS950910-8-2	141		136	130	138	133	158	135	147	154	135
KY93C-0378-5-2	142		139	131	139	135	159	139	148	156	135
KY96C-0399-5	142		139	130	139	137	160	138	146	154	134
KY96C-0769-7-1	143		140	131	139	139	159	139	149	155	135
KY97C-0304-16	142		139	132	138	137	159	139	147	155	134
KY97C-0574-01	143		140	131	141	137	160	138	148	155	136
MV-5-46	141		138	129	134	136	162	136	146	155	134
NE01643	144		140	134	141	140	161	140	147	157	135
NE02465	140		137	130	134	133	159	136	145	154	135
NE02495	142		138	132	141	138	161	139	146	154	134
NE02549	144		140	132	141	141	159	141	148	156	137
NE02588	144		140	138	139	139	159	140	148	154	136
NY91017-8080	144		141	131	140	140	162	140	149	158	138
NY91028-7085	149	h	147	141	150	143	163	144	153	158	141
OH01-75	141		139	130	135	137	160	137	144	154	134
OH01-7664	143		139	131	140	138	158	139	147	156	135
OH902	143		141	131	140	136	160	139	149	156	135
OH903	142		140	131	136	136	159	138	148	156	136
OH904	143		139	130	141	138	160	139	148	157	135
RCAT13/18	145		143	137	144	141	160	142	147	157	137
RCAT23/1	147		146	140	146	143	162	143	148	158	139
RCATL24	148	h	146	140	146	144	160	143	149	158	141
RCATL28	146		145	138	147	140	162	142	147	157	139
RCATL31	141		138	130	136	136	158	137	144	154	134
VA01W-99	142		139	130	139	135	159	139	145	155	133
VA04W-439	141		139	130	134	134	158	137	144	154	134
VA04W-474	142		141	129	138	137	159	138	146	155	134
VA04W-561	142		140	129	139	138	160	138	147	155	134
VA04W-568	142		139	130	136	137	159	138	147	155	135
AVERAGE	143		140	132	139	138	160	139	147	156	136
MAXIMUM	149		147	141	151	144	163	144	153	158	142
MINIMUM	138		133	128	132	133	158	133	141	154	131
LSD	1.5		2	1.2		3	1.6	1.7		1.1	2
CV (%)	1.1		6	7.6		1.2	1.8	0.9		0.5	8

Table 30. Height (HGT, inches) from all locations for the 2004-05 NUWWSN. "l", "h" indicate means that are not significantly different from the lowest (l) or highest (h) mean in a column (LSD (0.05)).

NAME	AVERAGE		KYLEX	MOCOL	ONRID	VABLA
ERNIE	30.3	l	27.8	32	32	29
TRUMAN	36.6		38.0	39	35	35
FREEDOM	35.8		35.5	38	36	34
PIONEER 2545	35.1		34.0	38	34	34
P.981238A1-11-3W	31.1	l	30.0	35	31	29
P.981517A1-1-5-2	32.7	l	30.5	36	34	31
P.981542A1-10-4-5-6	29.3	l	28.5	30	30	29
P.9824C1-26-2	32.6	l	30.5	36	33	31
P.99794RA4-14-10	31.3	l	30.0	35	31	29
E0001	37.3		39.5	39	36	35
E2017	37.2		39.0	41	37	32
E2042	39.3		42.0	42	37	36
E2043	37.1		39.0	41	36	33
E3012	35.7		38.5	37	36	31
IL00-1665	33.7	l	31.5	37	35	32
IL00-8061	37.1		36.5	39	38	35
IL00-8530	35.4		35.5	36	36	34
IL01-15511	33.1	l	32.0	35	33	32
IL01-5943	36.6		35.5	39	37	35
KS01HW163-4	34.6		33.0	38	34	33
KS950910-8-2	31.7	l	29.5	34	33	30
KY93C-0378-5-2	33.5	l	33.0	36	33	32
KY96C-0399-5	34.1	l	31.0	36	35	34
KY96C-0769-7-1	35.7		35.0	39	35	34
KY97C-0304-16	35.3		35.0	37	34	35
KY97C-0574-01	34.2	l	32.5	38	34	33
MV-5-46	32.1	l	34.0	34	32	29
NE01643	37.5		39.0	40	36	35
NE02465	35.4		33.5	39	37	32
NE02495	34.2	l	29.0	40	36	32
NE02549	35.3		32.0	38	35	36
NE02588	36.5		35.0	41	36	34
NY91017-8080	34.1	l	32.5	39	34	31
NY91028-7085	36.5		38.0	40	37	31
OH01-75	35.0		31.0	40	36	33
OH01-7664	37.3		39.0	39	36	35
OH902	39.2		40.0	41	39	37
OH903	38.4		37.5	42	40	34
OH904	40.5		40.5	43	41	38
RCAT13/18	40.0		40.0	42	40	38
RCAT23/1	42.6	h	42.5	48	42	38
RCATL24	43.7	h	46.0	46	42	41
RCATL28	47.1	h	49.0	49	48	42
RCATL31	43.8	h	44.0	46	45	40
VA01W-99	33.1	l	32.5	34	33	33
VA04W-439	34.4	l	35.5	36	35	31
VA04W-474	32.7	l	32.0	34	33	32
VA04W-561	32.5	l	29.5	34	33	33
VA04W-568	33.1	l	32.0	34	33	33
AVERAGE	35.7		35.2	38.4	35.8	33.6
MAXIMUM	47.1		49.0	49.3	48.0	42.0
MINIMUM	29.3		27.8	29.5	30.0	29.0
LSD	5.1			5.9	1.4	3.0
CV (%)	4.5			4.3	2.9	6.0

Table 31. Cooperators and experimental parameters.

CODE - INSTITUTE:	ILURB - University of Illinois	FERTILIZER:	40 lbs N/A preplant, P and K ok, no spring topdress
COOPERATOR(S):	Fred Kolb, Eric Brucker, Amy Wilson, Norman Smith	IRR./MISTING METHOD:	misted 3x per 24 hour period
TEST LOCATION:	Urbana, IL	INOCULATION METHOD:	grain spawn and corn stalks
PLOT SIZE:	1 row x 3'	PRECIP DURING GRAIN FILL:	very little natural precip.
REPS:	3	AVG. TEMP. DURING GRAIN FILL:	
SEEDING DATE:	9/30/2004	DATE/FEEKES WHEN RATED:	6/13-21/2005
HARVEST DATE:	6/29/2005	COMMENTS:	symptoms slow to develop due to cool temperatures
CODE - INSTITUTE:	INWLA - Purdue University	FERTILIZER:	
COOPERATOR(S):	Herb Ohm	IRR./MISTING METHOD:	
TEST LOCATION:	West Lafayette, Indiana	INOCULATION METHOD:	single point inoculation in field. Inoculated heads then covered
CODE - INSTITUTE:	KSMAN - Kansas State University	FERTILIZER:	None neded
COOPERATOR(S):	Bockus, Davis, Bowden	IRR./MISTING METHOD:	3 min/hr from 9:00 p.m. to 6:00 a.m. @ heading
TEST LOCATION:	Manhattan, KS	INOCULATION METHOD:	Infested corn kernels (8.0 g/ft^2)
PLOT SIZE:	Single rows, 7.5' long, 20" apart	PRECIP DURING GRAIN FILL:	9.45" from May 6-June 10
REPS:	4, randomized complete block	AVG. TEMP. DURING GRAIN FILL:	unknown
SEEDING DATE:	10/1/2004	DATE/FEEKES WHEN RATED:	May 25, May 28, June 1, June 4, June 7, June 10
HARVEST DATE:	6/28/2005	COMMENTS:	Beginning of heading was May 5 (=Julian 125) Late spring frosts occurred on May 1-4
CODE - INSTITUTE:	KYLEX - Univeristy of Kentucky	FERTILIZER:	P, K acc. to soil tests; 110# N, split appl
COOPERATOR(S):	Carrie Knott, Dave VanSanford	IRR./MISTING METHOD:	Overhead- Evening/ Early Morning Mist
TEST LOCATION:	Lexington, KY	INOCULATION METHOD:	Scabby Corn
PLOT SIZE:	2 rows, 4ft long	PRECIP DURING GRAIN FILL:	3.9 Inches
REPS:	2	AVG. TEMP. DURING GRAIN FILL:	70^o F
SEEDING DATE:	11/8/2004	DATE/FEEKES WHEN RATED:	Feekes 10.5 +21 days
HARVEST DATE:	7/7/2005	COMMENTS:	
CODE - INSTITUTE:	MDCLA - Univeristy of Maryland		
COOPERATOR(S):	Jose Costa		
TEST LOCATION:	Clarkville, MD		
CODE - INSTITUTE:	MIELA - Michigan State University	FERTILIZER:	200# 6-24-24 Fall / 197# 46-0-0 Spring
COOPERATOR(S):	Rick Ward		
TEST LOCATION:	East Lansing, Michigan		
No. of Reps:	4		
SEEDING DATE:	Oct. 8, 2004		

CODE - INSTITUTE:	MOCOL - University of Missouri	FERTILIZER:	
COOPERATOR(S):	Anne L. McKendry	IRR./MISTING METHOD:	overhead mist
TEST LOCATION:	Columbia, MO	INOCULATION METHOD:	Greenhouse - point inoculation; Field spray inoculation:Point inoculation with 10 uL of F. graminearum concentrated to 50,000 spores/mL
PLOT SIZE:	30 in x 28 in	PRECIP DURING GRAIN FILL:	N/A
REPS:	4	AVG. TEMP. DURING GRAIN FILL:	N/A
SEEDING DATE:	10/25/2004	DATE/FEEKES WHEN RATED:	21 days after inoculation
HARVEST DATE:	7/8/2005	COMMENTS:	Very dry summer, cool during the inoculation period

CODE - INSTITUTE:	NELIN - University of Nebraska, LincolnUNL	FERTILIZER:	none
COOPERATOR(S):	Dr. S. Baenziger, Dr. J. Watkins, J. Schimelfenig	IRR./MISTING METHOD:	misting from overhead risers
TEST LOCATION:	Mead, NE.	INOCULATION METHOD:	spray 70 000 condia/ml: 5/20, 5/24 and 5/29 in 2005.
PLOT SIZE:	Total of 10 ft2 (1 row, 10 foot long, 1 foot between rows)	PRECIP DURING GRAIN FILL:	(unusually frequent and high precip for NE)
REPS:	2	AVG. TEMP. DURING GRAIN FILL	69, (cooler than usual):
SEEDING DATE:	10/6/2004	DATE/FEEKES WHEN RATED:	Feekes 11.2
HARVEST DATE:	6/27/2005	COMMENTS:	Ideal conditions - excellent infection in 2005.

CODE - INSTITUTE:	NYITH - Cornell Univ.	FERTILIZER:	300 lbs 10-20-20 preplant; 40# N topdress
COOPERATOR(S):	Mark E. Sorrells	IRR./MISTING METHOD:	Overhead- daily Mist
TEST LOCATION:	Ithaca, NY	INOCULATION METHOD:	Sprayer applied 2X
PLOT SIZE:	1M x 0.3M	PRECIP DURING GRAIN FILL:	5.45 inches
REPS:	6	AVG. TEMP. DURING GRAIN FILL:	69.9F
SEEDING DATE:	24-Sep-04	DATE/FEEKES WHEN RATED:	Heading+ 1 week
HARVEST DATE:	18-Jul-05	COMMENTS:	

CODE - INSTITUTE:	OHWOO - Ohio State University	FERTILIZER:	
COOPERATOR(S):	Clay Sneller and Pat Lipps	IRR./MISTING METHOD:	Misted 1 week prior to heading to 5 days after latest line headed
TEST LOCATION:	Wooster OH	INOCULATION METHOD:	Spread infested corn seed on ground
PLOT SIZE:	1M x 0.3M	PRECIP DURING GRAIN FILL:	> than usual
REPS:	3	AVG. TEMP. DURING GRAIN FILL:	< than usual

CODE - INSTITUTE:	ONRID - Ridgetown College, University of Guelph		
COOPERATOR(S):	Art Schaafsma, Lily Tamburic		
TEST LOCATION:	Ridgetwon, Ontario		

CODE - INSTITUTE:	VABLA - Virginia Tech	INOCULATION METHOD:	conidial suspension was sprayed on spikes in the field nursery and floret
COOPERATOR(S):	Jody Fanelli, Jianli Chen and Carl A. Griffey		
TEST LOCATION:	Blacksburg, Virginia		