

**Evaluation of Soybean Varieties Resistant to  
Soybean Cyst Nematode in Iowa**

**2005**

**Gregory L. Tylka, Gregory D. Gebhart, and  
Christopher C. Marett  
Department of Plant Pathology  
Iowa State University**

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# Evaluation of Soybean Varieties Resistant to Soybean Cyst Nematode in Iowa in 2005

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## Introduction

Use of resistant soybean varieties is a very effective strategy for managing soybean cyst nematode (SCN), and numerous SCN-resistant soybean varieties are available for Iowa soybean growers. Each year, public and private SCN-resistant soybean varieties are evaluated in SCN-infested fields throughout Iowa by Iowa State University personnel. The research described in this report was performed to assess the agronomic performance of maturity group (MG) I, II, and III SCN-resistant soybean varieties and to determine the effects of the varieties on SCN numbers or population densities.

## Materials and Methods

In the northern Iowa district, eight conventional and 46 Roundup Ready<sup>®</sup>, SCN-resistant soybean varieties were evaluated in SCN-infested fields near Albert City (northwest Iowa), near Mason City (north central Iowa), and near Fredericksburg (northeast Iowa). Four SCN-susceptible varieties also were planted in the experiments. Plots were four 17-foot-long rows spaced 30 inches apart and were planted at a rate of 10 seeds per foot, with four replications per variety. Preplant herbicide was applied to each location. Conventional post-emergent herbicides were applied to the conventional varieties and Roundup<sup>®</sup> herbicide was applied to the Roundup Ready<sup>®</sup> varieties. The site near Albert City was planted on May 24<sup>th</sup> and harvested on October 14<sup>th</sup>, the site near Mason City was planted on May 10<sup>th</sup> and harvested on October 7<sup>th</sup>, and the site near Fredericksburg was planted on May 3<sup>rd</sup> and harvested on October 6<sup>th</sup>. **Portions of the northwest Iowa location at Albert City were severely affected by Iron Deficiency Chlorosis. This should be taken into account when interpreting the results for the Albert City location.**

In the central Iowa district, seven conventional and 35 Roundup Ready<sup>®</sup>, SCN-resistant soybean varieties were evaluated in SCN-infested fields near Jefferson (west central Iowa), near Cambridge (central Iowa), and near Shellsburg (east central Iowa). Four SCN-susceptible varieties also were planted in the experiments. Plots were four 17-foot-long rows spaced 30 inches apart and were planted at a rate of 10 seeds per foot, with four replications per variety. Preplant herbicide was applied to each location. Conventional post-emergent herbicides were applied to the conventional varieties and Roundup<sup>®</sup> herbicide was applied to the Roundup Ready<sup>®</sup> varieties. The site near Jefferson was planted on May 9<sup>th</sup> and harvested on September 30<sup>th</sup>, the site near Cambridge was planted on May 17<sup>th</sup> and harvested on October 11<sup>th</sup>, and the site near Shellsburg was planted on May 5<sup>th</sup> and harvested on September 23<sup>rd</sup>.

In the southern Iowa district, 39 Roundup Ready<sup>®</sup>, SCN-resistant soybean varieties were evaluated in SCN-infested fields near Lenox (southwest Iowa), near Melrose (south central Iowa), and near Crawfordsville (southeast Iowa). Four SCN-susceptible varieties also were planted in the experiments. Plots were four 17-foot-long rows spaced 30 inches apart and were planted at a rate of 10 seeds per foot, with four replications per variety. Preplant herbicide and Roundup<sup>®</sup> herbicide were applied to the Lenox and Crawfordsville locations. Roundup<sup>®</sup> herbicide was the only herbicide used at the Melrose location. The site near Lenox was planted on May 6<sup>th</sup> and harvested on September 30<sup>th</sup>, the site near Melrose was planted on May 4<sup>th</sup> and harvested on October 5<sup>th</sup>, and the site near Crawfordsville was planted on May 2<sup>nd</sup> and harvested on October 4<sup>th</sup>.

Plant emergence (number of plants per foot) was assessed in each plot 35 to 40 days after planting. All plots were end trimmed to a length of 14 feet during the first three weeks of September. Maturity notes were taken at one location in each district (northern, central, and southern), but for reference purposes are listed in the tables for all three locations in the same district. Maturity was recorded as the number of days after August 31<sup>st</sup> that a variety was considered mature. A variety was considered mature when 95 percent

of the pods had turned brown. For all locations, just prior to harvest, average plant height and lodging (1=all plants fully erect, 5=all plants flat) were assessed in each plot. For each location, the center two rows of each four-row plot were harvested with a plot combine, total seed weight per plot and seed moisture were determined, and total plot seed weights subsequently were converted to bushels per acre. Varieties are listed in the report in order of ascending maturity date, and then by descending order of yield.

At the beginning of the growing season, plots were sampled for the presence of SCN. Soil samples, consisting of ten 1-inch-diameter, 6- to 8-inch-deep soil cores, were collected from the center 14 feet of the center two rows of each plot immediately after planting. SCN cysts were extracted from each soil sample, and SCN eggs were extracted from the cysts and counted. SCN egg population densities also were determined for each plot at the end of the growing season in an identical manner.

Conventional varieties and Roundup Ready® varieties were grouped and results were analyzed separately for each location in each district.

Because of the consistent relationship between higher soil pH and SCN population densities, all varieties also were field tested for tolerance to iron deficiency chlorosis (IDC). Each variety was planted in a hill plot consisting of five seeds per hill, with two replications per variety, at two high pH field locations. Locations were chosen by identifying IDC symptoms on soybeans growing in each field at the end of June. One field was located at the Iowa State University Woodruff Farm near Ames (central Iowa) and the other was located on a grower's farm, also near Ames. Prior to planting the experiments, the soybeans growing at each location were removed. The IDC evaluation plots near the Woodruff Farm were planted on June 22<sup>nd</sup> and the plots on the grower's farm were planted on June 21<sup>st</sup>. Notes were taken for IDC symptoms at each location approximately four weeks after planting and again at five weeks after planting. Varieties were rated on a scale of "1" to "5" with a "1" indicating no symptoms of IDC present and a "5" indicating plant death due to IDC. The scores from each location then were averaged together and an overall rating was assigned to each variety. One variety highly resistant to IDC and one variety highly susceptible to IDC also were included in the experiments as checks. The highly resistant variety scored an average of 1.2 and the highly susceptible variety scored an average of 3.2. The scores from these IDC field tests are listed in each location table in the report for reference.

## Summary

The results of the experiments described in this report were consistent and dramatic. The data convincingly illustrate the benefits of utilizing SCN-resistant soybean varieties for management of this important soybean pest. Throughout the experiments, most of the soybean varieties with SCN resistance had greater yields than susceptible varieties, although some resistant varieties had greater yields than others. End-of-season SCN population densities were significantly greater in plots where susceptible varieties were grown relative to plots planted with resistant varieties. Nematode control is an extremely important aspect of growing SCN-resistant soybean varieties that must be considered when selecting soybean varieties.

**Growing soybean varieties in SCN-infested fields in an attempt to maximize soybean yields in the short term without any consideration of the effect of the varieties on SCN population densities will seriously reduce the long-term soybean productivity of the land.**

The results of these experiments illustrate that SCN-resistant varieties can suppress SCN reproduction and provide increased soybean yields relative to using susceptible varieties. Currently, there are three main genetic sources for SCN resistance genes in commercial soybean varieties, namely PI88788, Peking, and PI437654 (also known as Hartwig and PUSCN14 resistance, the latter also known as CystX® resistance). Each of these sources of SCN resistance contains several genes that confer resistance to the nematode. Consequently, soybean varieties developed from the various sources of resistance may not all contain the same genes in the same combinations. All of these sources of SCN resistance allow limited reproduction of only a few soybean cyst nematodes. Consequently, resistant varieties must be used in an integrated management program, along with the use of nonhost crops and scouting for early detection of SCN, to maximize yields and minimize reproduction of the pest on a long-term basis.

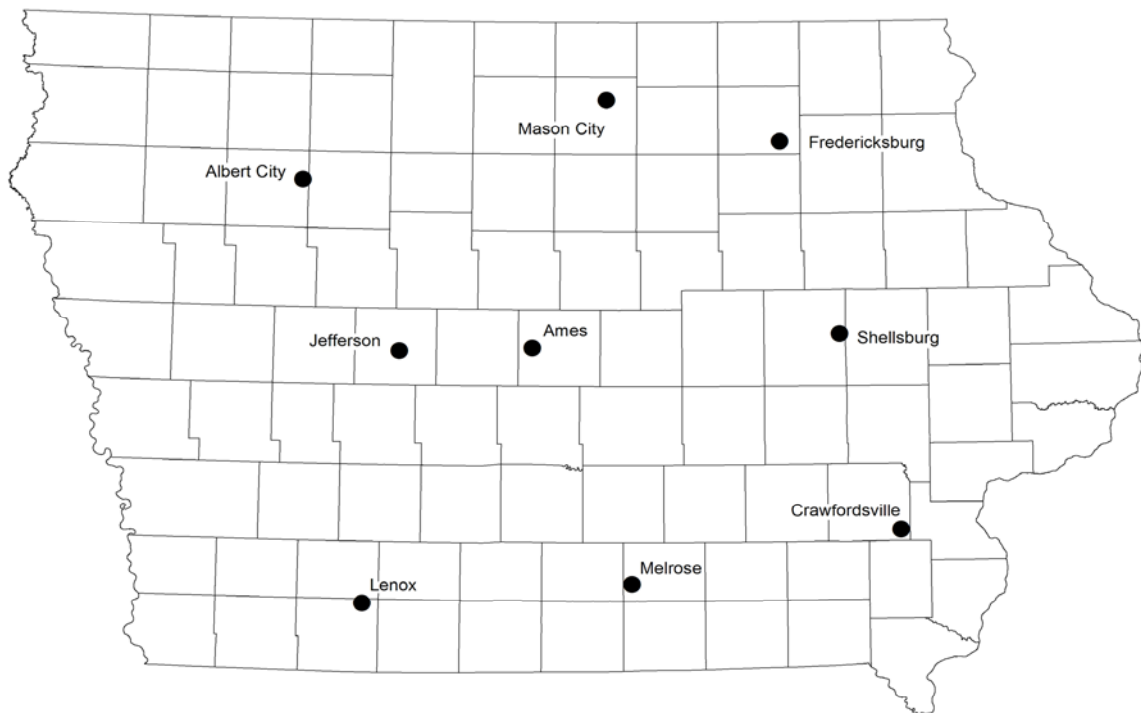
The data presented in this report are from a limited number of locations and should be used only as a beginning point for developing a SCN management program for any specific field. Performance of individual SCN-resistant soybean varieties in SCN-infested fields will vary among locations and years.

**Growers are encouraged to evaluate several SCN-resistant soybean varieties at their own locations to determine the best varieties for their local conditions.**

### **Acknowledgments**

This research was supported, in part, by Iowa soybean checkoff funds administered through the Iowa Soybean Association. Additionally, the individual seed companies were assessed a fee to enter varieties into these experiments. Appreciation is expressed to the staff of the Iowa State University Southeast Research and Demonstration Farm, especially Kevin VanDee and to Kent Berns, the Superintendent of the Central Research Farms. Gratitude also is expressed to Mick Sundblad of Albert City, Randy Lutz of Mason City, Gene Nolte of Fredericksburg, Lynn Hardin of Jefferson, Mark Longnecker of Cambridge, Fred Jensen of Ames, Brian Schminke of Shellsburg, John Wilson of Clearfield, and Mike Ryan of Melrose for use of land for some of the experiments.

### **Map of 2005 Locations**



### **Additional Information**

There are several Iowa State University Extension publications available containing information about SCN. The biology, life cycle, and recommended management of SCN are described in publication PM 879, Soybean Cyst Nematode. Publication PM 1649, Soybean Cyst Nematode-Resistant Soybean Varieties for Iowa, lists soybean varieties with resistance to SCN. Publication IPM 47s, Scouting for Soybean Cyst Nematode, illustrates the recommended procedures for scouting for SCN. Finally, publication PD 32, Plant Nematode Sample Submission Form, is the form that should be submitted with soil samples to the Iowa State University Plant Disease Clinic for testing for SCN. All of these publications should be available at your county extension office or can be ordered by telephone from the office of Extension Distribution Center (515) 294-5247. Additionally, this report is available online at [www.isuscnvarietytrials.info](http://www.isuscnvarietytrials.info). Questions about this report can be directed to Iowa State University Plant Pathology (515) 294-1741.

Table 1.

Location		Albert City (NW Iowa)		Planting date	5/24/2005	Initial SCN (eggs/100cc soil)	17,729				
Herbicide Treatment		Conventional		Harvest date	10/14/2005	SCN HG Type / Race	7 / 3				
				ISU field data							
Brand	Variety	Relative maturity	Resistance source	IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Asgrow</i>	<i>AG2106</i>	2.1	<i>None (S)</i>	3.3	15	8.3	23.5	1.0	24.3	11	24,100
Public	IA1008	1.8	PI 88788	3.5	18	6.6	25.8	1.3	30.0	9	4,600
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	<i>None (S)</i>	2.7	19	9.3	28.6	1.3	34.7	7	22,613
Public	IA2068	2.5	PI 88788	2.3	21	8.8	27.5	1.8	47.2	1	2,600
Sands of Iowa	SOI 228N	2.2	PI 88788	1.6	21	7.9	29.8	1.3	41.7	5	4,875
Public	Loda	2.1	PI 88788	3.2	21	7.9	26.5	1.5	34.5	8	3,000
Farm Advantage	2145N	2.1	PI 88788	2.7	22	8.1	28.8	1.8	42.7	4	5,950
FS HiSOY	HS 2431	2.4	PI 88788	2.4	22	9.5	28.3	1.5	38.2	6	4,125
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	<i>None (S)</i>	3.4	23	8.1	21.4	1.1	25.3	10	25,588
Public	Turner	2.3	PI 88788	2.0	24	8.4	31.8	1.8	45.5	2	4,125
<i>DEKALB</i>	<i>DKB25-51</i>	2.5	<i>None (S)</i>	3.1	25	9.5	20.0	1.0	23.7	12	15,625
Kruger Seed Company	K-2320SCN	2.3	PI 88788	2.6	26	8.0	30.8	1.3	43.2	3	3,775
Trial Average		2.3	---	2.7	21	8.2	26.3	1.4	34.5	---	9,331
LSD <sup>2</sup>		---	---	---	---	NS	5.8	0.5	12.7	---	7,320

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the NC location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

Portions of this location were severely affected by iron deficiency chlorosis. This should be taken into consideration when interpreting the results.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 2.

**Location** Albert City (NW Iowa) **Planting date** 5/24/2005 **Initial SCN (eggs/100cc soil)** 18,342  
**Herbicide Treatment** Roundup® **Harvest date** 10/14/2005 **SCN HG Type / Race** 7 / 3

				ISU field data							
Brand	Variety	Relative maturity	Resistance source	IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
LATHAM	Latham E1838R	1.8	PI 88788	2.8	12	7.8	27.5	1.0	48.2	11	4,400
Kruger Seed Company	K-188RR/SCN	1.8	PI 88788	2.5	12	8.7	27.8	1.0	47.6	14	5,525
Stine	Stine 1832-4	1.8	PI 88788	2.4	12	9.2	25.8	1.5	46.3	22	4,125
Renk Seed	RS204NRR	2.0	PI 88788	2.7	13	8.2	27.5	1.0	48.6	9	4,500
Kaltenberg Seeds	KB194RR	1.9	PI 88788	2.9	13	6.6	28.3	1.0	47.0	17	4,900
FOUR STAR SEED CO.	3220RR	2.2	PI 88788	2.7	13	8.6	26.8	1.3	46.5	21	5,275
Kruger Seed Company	K-195+RR/SCN	2.0	PI 88788	2.6	14	8.4	29.8	1.0	51.1	1	3,450
Crow's	C2015R	2.0	PI 88788	2.9	14	8.6	27.5	1.0	47.7	13	5,050
Midwest Seed Genetics	GR2031	2.0	PI 88788	2.8	14	8.7	26.8	1.3	47.3	15	7,625
Asgrow	AG2107	2.1	PI 88788	2.2	14	8.2	27.0	1.0	44.6	28	6,325
Sands of Iowa	SOI 2151NRR	2.1	PI 88788	2.4	15	9.4	28.5	1.3	50.3	2	10,200
FS HiSOY	HS 2036	2.0	PI 88788	2.1	15	7.1	27.3	1.3	49.1	6	5,625
PRAIRIE BRAND	PB-2183NRR	2.1	PI 88788	2.8	15	7.9	29.3	1.0	48.7	8	4,950
<i>Asgrow</i>	<i>AG2106</i>	<i>2.1</i>	<i>None (S)</i>	<i>3.3</i>	<i>15</i>	<i>8.3</i>	<i>23.5</i>	<i>1.0</i>	<i>24.3</i>	<i>50</i>	<i>24,100</i>
Viking	1768CNRR	1.7	PI 88788	2.6	16	8.0	31.5	1.3	43.8	32	5,750
EXCEL Brand	8212HPRR/STS	2.1	Hartwig/Peking	2.4	18	9.2	31.5	2.0	49.3	5	4,700
Wilson Seeds	2401RR	2.4	PI 88788	2.4	18	7.7	29.8	1.8	45.4	26	3,900
Renk Seed	RS262NRR	2.6	PI 88788	3.8	18	8.6	30.5	1.0	42.1	35	4,600
Asgrow	AG2203	2.2	PI 88788	2.5	18	9.6	31.0	1.3	41.0	39	5,125
Viking	X2378CNRR	2.3	PI 88788	2.9	19	9.3	30.8	1.5	49.1	6	5,000
Merschman	Merschman Mohegan 624R	2.4	PI 88788	2.8	19	7.6	32.5	1.3	48.3	10	4,275
Midwest Seed Genetics	GRX24-01-5	2.4	PI 88788	3.5	19	8.3	30.8	1.5	47.9	12	5,025
Viking	X2388CNRR	2.3	PI 88788	3.1	19	8.9	30.3	1.3	47.1	16	3,350
Kruger Seed Company	K-240RR/SCN	2.4	PI 88788	2.4	19	6.6	32.0	2.0	46.6	19	4,175
FOUR STAR SEED CO.	2241RR	2.4	PI 88788	3.5	19	8.3	30.8	1.3	46.0	23	5,450
Kaltenberg Seeds	KB236RR	2.3	PI 88788	3.0	19	8.3	29.8	1.3	46.0	23	3,250

Table 2 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Kruger Seed Company	K-236RR/SCN	2.3	PI 88788	3.2	19	9.6	29.5	1.5	44.2	30	3,975
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	<i>None (S)</i>	2.7	19	9.3	28.6	1.3	34.7	48	22,613
Farm Advantage	7244N	2.4	PI 88788	2.2	20	7.4	29.5	1.3	46.7	18	5,150
EXCEL Brand	8184HPRR/STS	1.8	Hartwig/Peking	2.4	20	8.7	29.3	1.8	45.6	25	5,125
Viking	2368CNRR	2.3	PI 88788	2.9	20	8.6	29.0	1.3	44.4	29	4,525
PRAIRIE BRAND	PB-2385NRR	2.3	PI 88788	3.0	20	8.4	28.5	1.3	43.9	31	6,125
Vigoro	Vigoro V21N6RR	2.1	PI 88788	2.7	20	6.6	30.5	1.8	43.0	33	20,400
Stine	Stine 2402-4	2.4	PI 88788	2.9	20	8.9	30.3	1.8	42.9	34	3,625
EXCEL Brand	8236NRR	2.3	PI 88788	3.1	20	7.8	27.3	1.5	41.7	36	19,525
Kruger Seed Company	K-213RR/SCN	2.2	PI 88788	2.4	20	7.7	28.8	1.3	41.1	38	27,475
LATHAM	Latham E2183R	2.1	PI 88788	2.6	20	7.3	28.0	1.5	39.8	40	24,475
Dairyland	DSR-2100/RR	2.1	PI 88788	3.0	20	8.3	30.5	1.3	39.3	42	25,725
Kruger Seed Company	K-235RR/SCN	2.3	PI 88788	3.4	20	7.8	26.8	1.3	37.8	44	3,450
EXCEL Brand	8211NRR	2.1	PI 88788	2.4	20	10.0	29.0	1.3	36.4	47	29,125
PRAIRIE BRAND	PB-2385NRR+	2.4	PI 88788	3.3	21	8.2	31.0	1.5	49.7	3	4,875
PRAIRIE BRAND	PB-2494NRR	2.4	PI 88788	3.4	22	8.5	29.3	1.3	49.7	3	5,300
Sands of Iowa	SOI 2467NRR	2.4	PI 88788	2.8	22	7.9	30.3	1.8	39.7	41	6,000
<i>NK</i>	<i>S24-K4</i>	2.4	<i>None (S)</i>	3.8	23	7.2	32.0	1.3	37.7	45	24,875
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	<i>None (S)</i>	3.4	23	8.1	21.4	1.1	25.3	49	25,588
LATHAM	Latham E2422RX	2.4	CystX	2.6	24	7.1	34.3	1.5	46.6	19	6,175
Kruger Seed Company	K-266RR/SCN	2.6	PI 88788	2.6	25	7.9	27.3	1.3	36.6	46	22,375
Vigoro	Vigoro V24C5RR	2.5	CystX	3.2	26	6.6	32.5	2.0	45.0	27	4,625
Kaltenberg Seeds	KB265RR	2.7	PI 88788	3.4	26	8.8	30.8	1.0	41.3	37	26,025
LATHAM	Latham E2201RX	2.2	CystX	3.2	30	9.8	36.5	1.8	37.9	43	3,175
	Trial Average	2.2	---	2.9	19	8.3	29.4	1.3	44.2	---	9,800
	LSD <sup>2</sup>	---	---	---	---	1.9	3.5	0.6	7.8	---	11,317

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the NC location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

Portions of this location were severely affected by iron deficiency chlorosis. This should be taken into consideration when interpreting the results.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.



Table 3.

Location		Mason City (NC Iowa)	Planting date	5/10/2005	Initial SCN (eggs/100cc soil)	3,575					
Herbicide Treatment		Conventional	Harvest date	10/7/2005	SCN HG Type / Race	7 / 3					
		ISU field data									
Brand	Variety	Relative maturity	Resistance source	IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Asgrow</i>	<i>AG2106</i>	2.1	None (S)	3.3	15	8.7	34.1	1.0	55.2	12	2,775
Public	IA1008	1.8	PI 88788	3.5	18	7.5	41.3	1.8	64.1	8	500
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	None (S)	2.7	19	8.8	39.8	2.0	62.6	10	3,038
Public	Loda	2.1	PI 88788	3.2	21	7.3	35.8	1.8	69.7	1	450
Sands of Iowa	SOI 228N	2.2	PI 88788	1.6	21	8.1	40.5	2.0	66.5	4	1,175
Public	IA2068	2.5	PI 88788	2.3	21	6.3	39.0	2.0	63.8	9	750
FS HiSOY	HS 2431	2.4	PI 88788	2.4	22	8.1	41.8	2.0	68.2	3	850
Farm Advantage	2145N	2.1	PI 88788	2.7	22	8.3	38.8	2.0	65.4	5	1,425
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	None (S)	3.4	23	8.4	36.0	2.0	64.5	7	2,588
Public	Turner	2.3	PI 88788	2.0	24	8.4	40.5	3.0	59.3	11	775
<i>DEKALB</i>	<i>DKB25-51</i>	2.5	None (S)	3.1	25	8.3	34.8	2.0	64.6	6	2,325
Kruger Seed Company	K-2320SCN	2.3	PI 88788	2.6	26	8.2	40.3	2.0	69.5	2	625
Trial Average		2.3	---	2.7	21	8.1	38.2	2.0	64.6	---	1,406
LSD <sup>2</sup>		---	---	---	---	NS	2.6	0.3	4.3	---	1,378

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the NC location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 4.

**Location** Mason City (NC Iowa) **Planting date** 5/10/2005 **Initial SCN (eggs/100cc soil)** 4,659  
**Herbicide Treatment** Roundup® **Harvest date** 10/7/2005 **SCN HG Type / Race** 7 / 3

				ISU field data							
Brand	Variety	Relative maturity	Resistance source	IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
LATHAM	Latham E1838R	1.8	PI 88788	2.8	12	8.5	35.0	1.0	69.4	5	925
Stine	Stine 1832-4	1.8	PI 88788	2.4	12	8.2	37.5	1.3	68.1	11	1,000
Kruger Seed Company	K-188RR/SCN	1.8	PI 88788	2.5	12	7.2	36.3	1.5	68.0	12	1,050
Renk Seed	RS204NRR	2.0	PI 88788	2.7	13	8.9	36.3	1.5	69.7	2	1,425
FOUR STAR SEED CO.	3220RR	2.2	PI 88788	2.7	13	10.2	37.0	1.3	69.6	3	1,300
Kaltenberg Seeds	KB194RR	1.9	PI 88788	2.9	13	7.5	36.5	1.5	67.0	20	1,000
Kruger Seed Company	K-195+RR/SCN	2.0	PI 88788	2.6	14	8.4	38.0	1.5	71.3	1	725
Crow's	C2015R	2.0	PI 88788	2.9	14	9.5	34.8	1.3	69.0	7	1,325
Midwest Seed Genetics	GR2031	2.0	PI 88788	2.8	14	8.5	35.3	1.0	67.7	14	1,000
Asgrow	AG2107	2.1	PI 88788	2.2	14	7.7	39.0	1.5	67.3	18	1,175
Sands of Iowa	SOI 2151NRR	2.1	PI 88788	2.4	15	9.4	37.3	1.5	69.6	3	1,175
PRAIRIE BRAND	PB-2183NRR	2.1	PI 88788	2.8	15	9.1	38.3	1.3	69.1	6	1,875
FS HiSOY	HS 2036	2.0	PI 88788	2.1	15	9.0	38.5	1.8	67.4	16	1,400
Asgrow	AG2106	2.1	None (S)	3.3	15	8.7	34.1	1.0	55.2	50	2,775
Viking	1768CNRR	1.7	PI 88788	2.6	16	9.8	40.8	2.0	61.8	43	1,175
Wilson Seeds	2401RR	2.4	PI 88788	2.4	18	8.1	38.8	2.0	66.1	21	1,200
Renk Seed	RS262NRR	2.6	PI 88788	3.8	18	7.7	41.5	1.3	65.3	25	1,275
Asgrow	AG2203	2.2	PI 88788	2.5	18	8.0	41.3	2.0	62.3	42	1,125
EXCEL Brand	8212HPRR/STS	2.1	Hartwig/Peking	2.4	18	8.3	39.3	1.5	58.6	47	625
Kruger Seed Company	K-240RR/SCN	2.4	PI 88788	2.4	19	6.7	39.3	2.0	67.6	15	1,325
Merschman	Merschman Mohegan 624RR	2.4	PI 88788	2.8	19	8.4	43.5	2.0	67.4	16	1,300
Kaltenberg Seeds	KB236RR	2.3	PI 88788	3.0	19	8.6	43.0	1.8	65.3	25	1,125
FOUR STAR SEED CO.	2241RR	2.4	PI 88788	3.5	19	9.6	43.3	2.0	64.8	28	2,100
Kruger Seed Company	K-236RR/SCN	2.3	PI 88788	3.2	19	7.3	43.3	2.0	64.4	32	1,475
Midwest Seed Genetics	GRX24-01-5	2.4	PI 88788	3.5	19	8.5	42.8	1.8	64.3	33	950
Viking	X2378CNRR	2.3	PI 88788	2.9	19	7.3	42.3	1.8	64.3	33	1,750

Table 4 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Viking	X2388CNRR	2.3	PI 88788	3.1	19	6.6	39.8	1.8	63.4	38	750
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	<i>None (S)</i>	2.7	19	8.8	39.8	2.0	62.6	41	3,038
Farm Advantage	7244N	2.4	PI 88788	2.2	20	6.8	40.3	1.8	68.2	9	1,775
Kruger Seed Company	K-235RR/SCN	2.3	PI 88788	3.4	20	7.1	38.8	1.5	67.9	13	1,625
Dairyland	DSR-2100/RR	2.1	PI 88788	3.0	20	8.3	40.0	2.0	65.9	22	3,350
PRAIRIE BRAND	PB-2385NRR	2.3	PI 88788	3.0	20	7.5	41.0	2.0	65.8	23	1,125
Stine	Stine 2402-4	2.4	PI 88788	2.9	20	8.7	44.3	2.0	65.7	24	725
Viking	2368CNRR	2.3	PI 88788	2.9	20	7.2	39.5	1.8	65.3	25	1,075
Kruger Seed Company	K-213RR/SCN	2.2	PI 88788	2.4	20	7.8	39.5	2.0	64.3	33	2,925
Vigoro	Vigoro V21N6RR	2.1	PI 88788	2.7	20	7.2	39.0	2.0	64.3	33	6,525
EXCEL Brand	8211NRR	2.1	PI 88788	2.4	20	7.8	40.3	2.0	63.8	37	1,525
LATHAM	Latham E2183R	2.1	PI 88788	2.6	20	8.0	39.8	2.0	63.2	40	2,125
EXCEL Brand	8236NRR	2.3	PI 88788	3.1	20	7.5	36.3	1.8	61.4	45	1,925
EXCEL Brand	8184HPRR/STS	1.8	Hartwig/Peking	2.4	20	7.8	38.3	2.0	57.5	48	600
PRAIRIE BRAND	PB-2385NRR+	2.4	PI 88788	3.3	21	8.5	37.0	1.5	67.2	19	1,975
Sands of Iowa	SOI 2467NRR	2.4	PI 88788	2.8	22	7.5	38.3	2.0	68.2	9	1,275
PRAIRIE BRAND	PB-2494NRR	2.4	PI 88788	3.4	22	9.9	40.3	2.0	64.6	29	900
<i>NK</i>	<i>S24-K4</i>	2.4	<i>None (S)</i>	3.8	23	9.1	41.0	2.0	69.0	7	1,200
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	<i>None (S)</i>	3.4	23	8.4	36.0	2.0	64.5	31	2,588
LATHAM	Latham E2422RX	2.4	CystX	2.6	24	6.7	43.3	2.0	61.8	43	1,050
Kruger Seed Company	K-266RR/SCN	2.6	PI 88788	2.6	25	8.9	40.3	2.3	64.6	29	2,250
Kaltenberg Seeds	KB265RR	2.7	PI 88788	3.4	26	8.6	41.0	2.0	63.3	39	3,625
Vigoro	Vigoro V24C5RR	2.5	CystX	3.2	26	7.3	43.3	2.0	59.4	46	1,950
LATHAM	Latham E2201RX	2.2	CystX	3.2	30	8.8	42.3	3.3	56.0	49	1,150
	Trial Average	2.2	---	2.9	19	8.2	39.5	1.8	65.1	---	1,621
	LSD <sup>2</sup>	---	---	---	---	1.7	2.7	0.5	4.4	---	1,666

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the NC location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 5.

Location		Fredericksburg (NE Iowa)		Planting date	5/3/2005	Initial SCN (eggs/100cc soil)	8,053				
Herbicide Treatment		Conventional		Harvest date	10/6/2005	SCN HG Type / Race	7 / 3				
				ISU field data							
Brand	Variety	Relative maturity	Resistance source	IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Asgrow</i>	<i>AG2106</i>	2.1	None (S)	3.3	15	8.6	30.1	2.1	55.4	7	6,838
Public	IA1008	1.8	PI 88788	3.5	18	7.2	35.0	2.5	58.9	4	1,275
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	None (S)	2.7	19	8.5	35.4	2.5	55.2	8	3,775
Public	IA2068	2.5	PI 88788	2.3	21	7.4	36.0	3.3	64.6	1	775
Public	Loda	2.1	PI 88788	3.2	21	8.3	36.5	2.5	62.1	3	950
Sands of Iowa	SOI 228N	2.2	PI 88788	1.6	21	7.8	36.0	2.8	52.3	12	1,600
Farm Advantage	2145N	2.1	PI 88788	2.7	22	8.6	39.5	3.0	54.9	10	1,550
FS HiSOY	HS 2431	2.4	PI 88788	2.4	22	7.2	39.3	3.0	54.7	11	1,625
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	None (S)	3.4	23	7.9	32.3	2.6	57.0	5	4,813
Public	Turner	2.3	PI 88788	2.0	24	8.8	38.5	3.5	56.4	6	1,500
<i>DEKALB</i>	<i>DKB25-51</i>	2.5	None (S)	3.1	25	8.4	33.3	2.3	63.3	2	3,725
Kruger Seed Company	K-2320SCN	2.3	PI 88788	2.6	26	8.6	37.0	3.0	55.2	8	1,525
Trial Average		2.3	---	2.7	21	8.0	35.9	2.8	58.0	---	2,102
LSD <sup>2</sup>		---	---	---	---	NS	3.9	0.6	3.9	---	1,805

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the NC location), then by decreasing order of yield. Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 6.

**Location** Fredericksburg (NE Iowa) **Planting date** 5/3/2005 **Initial SCN (eggs/100cc soil)** 6,628  
**Herbicide Treatment** Roundup® **Harvest date** 10/6/2005 **SCN HG Type / Race** 7 / 3

				ISU field data							
Brand	Variety	Relative maturity	Resistance source	IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
LATHAM	Latham E1838R	1.8	PI 88788	2.8	12	8.5	32.0	2.0	58.7	8	1,100
Stine	Stine 1832-4	1.8	PI 88788	2.4	12	8.5	32.5	2.0	58.1	10	1,450
Kruger Seed Company	K-188RR/SCN	1.8	PI 88788	2.5	12	9.4	29.8	2.3	56.3	19	2,050
Renk Seed	RS204NRR	2.0	PI 88788	2.7	13	9.7	33.0	2.0	59.4	3	1,150
FOUR STAR SEED CO.	3220RR	2.2	PI 88788	2.7	13	8.3	32.0	1.8	58.9	5	1,250
Kaltenberg Seeds	KB194RR	1.9	PI 88788	2.9	13	6.4	30.8	2.0	49.5	50	1,525
Kruger Seed Company	K-195+RR/SCN	2.0	PI 88788	2.6	14	8.9	33.3	2.3	60.2	1	1,600
Midwest Seed Genetics	GR2031	2.0	PI 88788	2.8	14	8.7	32.3	2.0	58.2	9	1,100
Asgrow	AG2107	2.1	PI 88788	2.2	14	7.9	34.8	2.3	58.1	10	2,225
Crow's	C2015R	2.0	PI 88788	2.9	14	9.7	31.0	1.8	57.3	15	950
Sands of Iowa	SOI 2151NRR	2.1	PI 88788	2.4	15	10.0	31.5	2.3	59.1	4	1,375
FS HiSOY	HS 2036	2.0	PI 88788	2.1	15	8.9	31.3	2.0	58.8	6	2,000
PRAIRIE BRAND	PB-2183NRR	2.1	PI 88788	2.8	15	8.7	33.3	2.3	58.0	12	1,850
<i>Asgrow</i>	<i>AG2106</i>	<i>2.1</i>	<i>None (S)</i>	<i>3.3</i>	<i>15</i>	<i>8.6</i>	<i>30.1</i>	<i>2.1</i>	<i>55.4</i>	<i>26</i>	<i>6,838</i>
Viking	1768CNRR	1.7	PI 88788	2.6	16	9.8	35.5	2.8	54.9	33	750
EXCEL Brand	8212HPRR/STS	2.1	Hartwig/Peking	2.4	18	8.1	34.8	2.3	57.1	17	975
Asgrow	AG2203	2.2	PI 88788	2.5	18	8.8	36.3	2.0	56.0	20	1,050
Renk Seed	RS262NRR	2.6	PI 88788	3.8	18	8.6	34.0	2.0	55.3	28	2,000
Wilson Seeds	2401RR	2.4	PI 88788	2.4	18	8.6	34.5	2.5	50.0	47	1,750
FOUR STAR SEED CO.	2241RR	2.4	PI 88788	3.5	19	9.2	39.3	2.0	56.0	20	1,425
Viking	X2388CNRR	2.3	PI 88788	3.1	19	8.3	35.5	2.3	55.5	24	2,200
Midwest Seed Genetics	GRX24-01-5	2.4	PI 88788	3.5	19	9.3	36.3	2.0	55.2	31	1,600
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	<i>2.3</i>	<i>None (S)</i>	<i>2.7</i>	<i>19</i>	<i>8.5</i>	<i>35.4</i>	<i>2.5</i>	<i>55.2</i>	<i>31</i>	<i>3,775</i>
Kruger Seed Company	K-240RR/SCN	2.4	PI 88788	2.4	19	7.5	36.3	2.8	54.7	34	1,450
Kruger Seed Company	K-236RR/SCN	2.3	PI 88788	3.2	19	8.0	40.0	2.3	53.8	36	1,200
Viking	X2378CNRR	2.3	PI 88788	2.9	19	7.8	37.5	2.0	53.7	38	1,275

Table 6 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Stand (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Kaltenberg Seeds	KB236RR	2.3	PI 88788	3.0	19	9.3	36.3	2.5	52.6	42	1,650
Merschman	Merschman Mohegan 624RR	2.4	PI 88788	2.8	19	8.4	36.8	2.0	51.9	45	875
Kruger Seed Company	K-235RR/SCN	2.3	PI 88788	3.4	20	7.3	36.3	2.0	59.6	2	1,325
Vigoro	Vigoro V21N6RR	2.1	PI 88788	2.7	20	7.0	34.3	2.0	58.8	6	4,925
Farm Advantage	7244N	2.4	PI 88788	2.2	20	8.4	34.8	2.3	57.6	13	1,450
EXCEL Brand	8211NRR	2.1	PI 88788	2.4	20	8.7	36.8	2.0	55.6	23	3,550
PRAIRIE BRAND	PB-2385NRR	2.3	PI 88788	3.0	20	8.3	38.3	2.0	55.5	24	1,500
Viking	2368CNRR	2.3	PI 88788	2.9	20	8.7	31.0	2.0	55.4	26	1,550
Dairyland	DSR-2100/RR	2.1	PI 88788	3.0	20	9.2	32.8	2.0	55.3	28	4,900
EXCEL Brand	8236NRR	2.3	PI 88788	3.1	20	8.7	31.3	2.0	55.3	28	3,875
Stine	Stine 2402-4	2.4	PI 88788	2.9	20	8.1	37.8	2.0	53.8	36	1,650
EXCEL Brand	8184HPRR/STS	1.8	Hartwig/Peking	2.4	20	8.2	33.5	2.8	52.7	41	525
LATHAM	Latham E2183R	2.1	PI 88788	2.6	20	8.8	34.3	2.0	51.9	45	4,275
Kruger Seed Company	K-213RR/SCN	2.2	PI 88788	2.4	20	9.3	32.8	2.5	49.9	48	5,225
PRAIRIE BRAND	PB-2385NRR+	2.4	PI 88788	3.3	21	8.2	35.8	2.3	57.2	16	1,225
Sands of Iowa	SOI 2467NRR	2.4	PI 88788	2.8	22	7.8	32.0	2.0	57.5	14	1,850
PRAIRIE BRAND	PB-2494NRR	2.4	PI 88788	3.4	22	8.6	31.5	1.8	52.9	40	1,275
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	<i>2.7</i>	<i>None (S)</i>	<i>3.4</i>	<i>23</i>	<i>7.9</i>	<i>32.3</i>	<i>2.6</i>	<i>57.0</i>	<i>18</i>	<i>4,813</i>
<i>NK</i>	<i>S24-K4</i>	<i>2.4</i>	<i>None (S)</i>	<i>3.8</i>	<i>23</i>	<i>8.2</i>	<i>33.0</i>	<i>2.3</i>	<i>53.2</i>	<i>39</i>	<i>4,350</i>
LATHAM	Latham E2422RX	2.4	CystX	2.6	24	6.5	38.0	2.3	55.7	22	775
Kruger Seed Company	K-266RR/SCN	2.6	PI 88788	2.6	25	8.8	35.3	2.3	52.2	44	2,550
Kaltenberg Seeds	KB265RR	2.7	PI 88788	3.4	26	7.9	35.3	2.5	54.6	35	4,200
Vigoro	Vigoro V24C5RR	2.5	CystX	3.2	26	9.2	37.3	2.0	52.6	42	1,775
LATHAM	Latham E2201RX	2.2	CystX	3.2	30	8.1	37.3	3.5	49.8	49	1,050
	Trial Average	2.2	---	2.9	19	8.5	34.3	2.2	55.3	---	2,236
	LSD <sup>2</sup>	---	---	---	---	1.6	3.1	0.6	5.8	---	2,279

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the NC location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 7.

**Location** Jefferson (WC Iowa)      **Planting date** 5/9/2005      **Initial SCN (eggs/100cc soil)** 3,948  
**Herbicide Treatment** Conventional      **Harvest date** 9/30/2005      **SCN HG Type / Race** 2.5.7 / 1

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	None (S)	2.7	16	9.7	32.9	1.3	44.3	9	14,963
Public	IA2068	2.5	PI 88788	2.3	18	7.2	27.8	1.5	52.8	1	1,600
Public	Loda	2.1	PI 88788	3.2	18	8.2	25.8	1.5	43.9	10	1,000
<i>Asgrow</i>	<i>AG2703</i>	2.7	None (S)	2.1	20	9.6	34.3	1.1	46.2	6	19,313
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	None (S)	3.4	20	9.0	27.8	1.3	39.7	11	19,263
Public	Turner	2.3	PI 88788	2.0	21	9.3	33.8	2.0	47.3	5	4,050
Public	Dwight	2.9	PI 88788	3.4	26	9.3	31.3	1.5	50.0	3	2,550
<i>Pioneer Hi-Bred</i>	<i>93B09</i>	3.0	None (S)	1.9	27	8.0	31.8	1.0	44.5	8	23,488
Public	Jack	2.9	PI 88788	3.3	29	7.7	42.0	2.0	46.2	6	2,175
LATHAM	Latham E2980	2.9	PI 88788	2.8	32	8.5	32.3	1.5	51.3	2	1,250
Kruger Seed Company	K-2918SCN	2.9	PI 88788	3.1	33	8.8	33.5	1.8	49.6	4	1,500
	Trial Average	2.7	---	2.8	24	8.6	31.3	1.5	46.4	---	7,864
	LSD <sup>2</sup>	---	---	---	---	NS	4.8	0.6	9.1	---	12,967

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the C location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 8.

**Location** Jefferson (WC Iowa) **Planting date** 5/9/2005 **Initial SCN (eggs/100cc soil)** 3,713  
**Herbicide Treatment** Roundup® **Harvest date** 9/30/2005 **SCN HG Type / Race** 2.5.7 / 1

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Pioneer Hi-Bred</i>	92B38	2.3	None (S)	2.7	16	9.7	32.9	1.3	44.3	36	14,963
PRAIRIE BRAND	PB-2385NRR	2.3	PI 88788	3.0	17	10.1	37.5	1.5	52.6	20	1,825
EXCEL Brand	8236NRR	2.3	PI 88788	3.1	17	8.3	30.0	1.0	50.8	26	9,525
LATHAM	Latham E2522RX	2.5	CystX	3.6	18	7.7	38.8	2.0	54.8	10	2,450
Merschman	Merschman Mohegan 624RR	2.4	PI 88788	2.8	18	9.0	36.8	1.0	48.4	31	2,125
PRAIRIE BRAND	PB-2494NRR	2.4	PI 88788	3.4	19	9.4	34.3	1.8	58.1	1	2,900
Wilson Seeds	2801RR	2.8	PI 88788	2.3	19	8.0	40.8	1.8	57.6	2	2,575
Kruger Seed Company	K-284RR/CX	2.8	CystX	3.5	19	9.0	37.0	1.3	51.3	25	2,175
Kruger Seed Company	K-277+RR/SCN	2.7	PI 88788	3.4	19	7.9	30.8	1.3	50.8	26	3,275
Crow's	C2617R	2.7	PI 88788	2.9	19	8.9	32.3	1.5	49.9	28	3,500
Midwest Seed Genetics	GR2633	2.6	PI 88788	3.4	19	9.0	31.0	1.3	49.6	29	5,675
Kruger Seed Company	K-266RR/SCN	2.6	PI 88788	2.6	19	8.4	31.8	1.3	43.5	37	18,525
Merschman	Merschman Apache 626RR	2.6	PI 88788	2.8	19	8.8	31.5	1.8	40.0	38	27,150
Kruger Seed Company	K-287RR/SCN	2.8	PI 88788	1.7	20	8.2	39.8	2.0	56.5	4	2,475
FOUR STAR SEED CO.	2281RR	2.8	PI 88788	2.1	20	8.1	36.8	1.5	55.6	7	2,025
LATHAM	Latham E2922RX	2.9	CystX	2.9	20	7.3	37.0	1.8	54.0	13	2,425
<i>Asgrow</i>	AG2703	2.7	None (S)	2.1	20	9.6	34.3	1.1	46.2	33	19,313
<i>Pioneer Hi-Bred</i>	92B74	2.7	None (S)	3.4	20	9.0	27.8	1.3	39.7	39	19,263
FS HiSOY	HS 2846	2.8	PI 88788	2.4	21	8.2	38.5	2.0	56.3	5	2,550
Crow's	C2815R	2.8	PI 88788	1.8	21	8.5	38.5	1.8	55.0	9	2,500
PRAIRIE BRAND	PB-2794NRR	2.7	PI 88788	1.7	21	7.6	37.8	1.8	53.7	16	2,000
Kruger Seed Company	K-294RR/SCN	2.9	Peking/Hartwig	2.0	23	8.7	39.5	2.0	55.8	6	1,075
EXCEL Brand	8291NNRR	2.9	PI 88788	2.6	23	8.6	36.3	1.3	54.5	11	1,800
Dairyland	DSR-2850/RRHP	2.9	Hartwig/Peking	1.8	23	9.7	40.0	1.8	51.9	22	650



Table 8 continued.

				ISU field data							
Brand	Variety	Relative maturity	Resistance source	IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Midwest Seed Genetics	GRX29-01-5	2.9	PI 88788	2.8	24	8.6	38.8	2.0	53.9	15	2,100
Kruger Seed Company	K-292RR/SCN	2.9	PI 88788	3.1	25	9.0	38.0	1.8	53.3	18	1,225
PRAIRIE BRAND	PB-2994NRR	2.9	PI 88788	3.2	25	9.1	36.5	2.0	52.9	19	1,850
Merschman	Merschman Jefferson 630RR	3.0	PI 88788	2.9	25	8.3	36.8	2.0	51.7	23	2,650
FOUR STAR SEED CO.	2282RR	2.8	PI 88788	3.0	26	7.8	38.3	2.0	54.0	13	2,925
Crow's	C3015R	3.0	PI 88788	3.8	26	7.6	36.5	1.8	48.8	30	2,750
EXCEL Brand	8260NNRR	2.6	PI 88788	3.5	26	6.8	34.5	1.3	47.7	32	2,000
Renk Seed	RS295NRR	2.9	PI 88788	3.4	27	8.2	39.5	2.0	52.2	21	2,075
<i>Pioneer Hi-Bred</i>	<i>93B09</i>	<i>3.0</i>	<i>None (S)</i>	<i>1.9</i>	<i>27</i>	<i>8.0</i>	<i>31.8</i>	<i>1.0</i>	<i>44.5</i>	<i>35</i>	<i>23,488</i>
Stine	Stine 3012-4	3.0	PI 88788	3.3	28	8.5	37.3	1.8	51.5	24	2,875
Asgrow	AG3101	3.1	PI 88788	2.9	29	8.9	41.0	1.5	57.0	3	2,125
Asgrow	AG2801	2.8	PI 88788	3.0	30	8.5	35.3	1.8	55.3	8	3,525
Midwest Seed Genetics	GRX31-01-5	3.1	PI 88788	3.8	32	8.1	36.5	2.0	45.0	34	2,175
FS HiSOY	HS 3236	3.2	PI 88788	3.1	33	9.6	38.0	1.8	54.4	12	3,175
FOUR STAR SEED CO.	2314RR	3.1	PI 88788	3.5	34	8.8	38.5	2.0	53.7	16	2,750
	Trial Average	2.8	---	2.9	23	8.5	36.3	1.6	51.6	---	5,515
	LSD <sup>2</sup>	---	---	---	---	1.6	3.5	0.6	6.5	---	7,930

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the C location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 9.

**Location** Cambridge (C Iowa) **Planting date** 5/17/2005 **Initial SCN (eggs/100cc soil)** 1,197  
**Herbicide Treatment** Conventional **Harvest date** 10/11/2005 **SCN HG Type / Race** 2.5.7 / 1

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	None (S)	2.7	16	9.8	44.3	3.1	55.5	9	4,538
Public	Loda	2.1	PI 88788	3.2	18	8.7	40.0	3.3	61.6	3	225
Public	IA2068	2.5	PI 88788	2.3	18	8.6	38.5	4.0	57.7	4	200
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	None (S)	3.4	20	7.8	38.9	3.9	54.2	10	6,025
<i>Asgrow</i>	<i>AG2703</i>	2.7	None (S)	2.1	20	9.3	43.6	3.1	53.5	11	6,138
Public	Turner	2.3	PI 88788	2.0	21	7.8	48.8	4.0	55.6	8	250
Public	Dwight	2.9	PI 88788	3.4	26	8.9	39.8	3.0	57.6	5	400
<i>Pioneer Hi-Bred</i>	<i>93B09</i>	3.0	None (S)	1.9	27	8.8	39.9	3.0	55.9	6	3,663
Public	Jack	2.9	PI 88788	3.3	29	7.6	52.5	4.0	55.9	6	75
LATHAM	Latham E2980	2.9	PI 88788	2.8	32	8.3	43.8	2.8	65.0	1	300
Kruger Seed Company	K-2918SCN	2.9	PI 88788	3.1	33	8.7	43.5	3.0	62.0	2	225
	Trial Average	2.7	---	2.8	24	8.9	42.6	3.3	57.5	---	2,123
	LSD <sup>2</sup>	---	---	---	---	NS	5.3	0.4	5.3	---	2,978

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the C location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05).

Table 10.

**Location** Cambridge (C Iowa) **Planting date** 5/17/2005 **Initial SCN (eggs/100cc soil)** 1,815  
**Herbicide Treatment** Roundup® **Harvest date** 10/11/2005 **SCN HG Type / Race** 2.5.7 / 1

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Pioneer Hi-Bred</i>	92B38	2.3	None (S)	2.7	16	9.8	44.3	3.1	55.5	19	4,538
PRAIRIE BRAND	PB-2385NRR	2.3	PI 88788	3.0	17	8.5	45.3	3.0	57.1	15	450
EXCEL Brand	8236NRR	2.3	PI 88788	3.1	17	8.2	38.8	3.5	53.4	27	3,500
Merschman	Merschman Mohegan 624R	2.4	PI 88788	2.8	18	9.0	46.3	3.0	56.1	17	250
LATHAM	Latham E2522RX	2.5	CystX	3.6	18	7.3	43.8	3.0	52.4	32	375
PRAIRIE BRAND	PB-2494NRR	2.4	PI 88788	3.4	19	9.6	43.5	2.3	64.4	1	525
Wilson Seeds	2801RR	2.8	PI 88788	2.3	19	7.2	47.0	3.0	58.7	8	775
Crow's	C2617R	2.7	PI 88788	2.9	19	7.8	40.5	2.8	56.2	16	1,450
Kruger Seed Company	K-277+RR/SCN	2.7	PI 88788	3.4	19	8.0	39.3	3.0	55.0	20	1,225
Midwest Seed Genetics	GR2633	2.6	PI 88788	3.4	19	8.5	42.3	3.0	54.2	22	925
Kruger Seed Company	K-284RR/CX	2.8	CystX	3.5	19	8.4	46.0	3.3	53.8	24	1,375
Merschman	Merschman Apache 626RR	2.6	PI 88788	2.8	19	9.5	42.5	3.3	52.8	30	5,050
Kruger Seed Company	K-266RR/SCN	2.6	PI 88788	2.6	19	7.8	40.8	4.0	51.6	36	6,275
FOUR STAR SEED CO.	2281RR	2.8	PI 88788	2.1	20	8.4	47.3	3.3	61.7	4	400
Kruger Seed Company	K-287RR/SCN	2.8	PI 88788	1.7	20	7.8	45.5	3.5	57.2	14	550
<i>Pioneer Hi-Bred</i>	92B74	2.7	None (S)	3.4	20	7.8	38.9	3.9	54.2	22	6,025
<i>Asgrow</i>	AG2703	2.7	None (S)	2.1	20	9.3	43.6	3.1	53.5	26	6,138
LATHAM	Latham E2922RX	2.9	CystX	2.9	20	7.5	45.5	3.3	52.9	29	375
FS HISOY	HS 2846	2.8	PI 88788	2.4	21	8.1	46.3	3.3	58.6	9	600
PRAIRIE BRAND	PB-2794NRR	2.7	PI 88788	1.7	21	8.3	45.8	3.5	57.8	11	275
Crow's	C2815R	2.8	PI 88788	1.8	21	8.4	45.0	3.3	57.3	13	325
EXCEL Brand	8291NNRR	2.9	PI 88788	2.6	23	7.8	47.8	3.3	57.4	12	350
Dairyland	DSR-2850/RRHP	2.9	Hartwig/Peking	1.8	23	8.6	48.5	3.8	52.5	31	350
Kruger Seed Company	K-294RR/SCN	2.9	Peking/Hartwig	2.0	23	7.7	45.8	3.5	51.1	38	1,075

Table 10 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Stand (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Midwest Seed Genetics	GRX29-01-5	2.9	PI 88788	2.8	24	8.1	45.8	3.3	51.9	34	650
Kruger Seed Company	K-292RR/SCN	2.9	PI 88788	3.1	25	8.3	44.0	3.5	53.1	28	275
Merschman	Merschman Jefferson 630RR	3.0	PI 88788	2.9	25	7.5	44.8	3.0	52.4	32	450
PRAIRIE BRAND	PB-2994NRR	2.9	PI 88788	3.2	25	8.3	44.5	3.3	51.2	37	900
EXCEL Brand	8260NNRR	2.6	PI 88788	3.5	26	8.3	45.0	3.3	58.6	9	425
Crow's	C3015R	3.0	PI 88788	3.8	26	9.0	46.8	3.3	54.7	21	550
FOUR STAR SEED CO.	2282RR	2.8	PI 88788	3.0	26	7.9	42.8	3.0	51.8	35	575
<i>Pioneer Hi-Bred</i>	<i>93B09</i>	<i>3.0</i>	<i>None (S)</i>	<i>1.9</i>	<i>27</i>	<i>8.8</i>	<i>39.9</i>	<i>3.0</i>	<i>55.9</i>	<i>18</i>	<i>3,663</i>
Renk Seed	RS295NRR	2.9	PI 88788	3.4	27	9.1	44.8	3.0	53.8	24	1,225
Stine	Stine 3012-4	3.0	PI 88788	3.3	28	8.3	45.3	3.3	50.3	39	450
Asgrow	AG3101	3.1	PI 88788	2.9	29	8.8	50.5	2.0	60.7	5	900
Asgrow	AG2801	2.8	PI 88788	3.0	30	8.9	43.5	3.0	62.4	2	575
Midwest Seed Genetics	GRX31-01-5	3.1	PI 88788	3.8	32	8.8	47.8	3.0	61.8	3	700
FS HiSOY	HS 3236	3.2	PI 88788	3.1	33	9.9	43.0	3.0	59.9	6	1,100
FOUR STAR SEED CO.	2314RR	3.1	PI 88788	3.5	34	8.6	48.8	2.5	59.9	6	1,000
	Trial Average	2.8	---	2.9	23	8.3	44.7	3.2	55.8	---	1,418
	LSD <sup>2</sup>	---	---	---	---	1.3	3.1	0.6	4.1	---	2,167

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the C location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05).

Table 11.

**Location** Shellsburg (EC Iowa) **Planting date** 5/5/2005 **Initial SCN (eggs/100cc soil)** 2,370  
**Herbicide Treatment** Conventional **Harvest date** 9/23/2005 **SCN HG Type / Race** 2.7 / 1

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Pioneer Hi-Bred</i>	<i>92B38</i>	2.3	None (S)	2.7	16	9.0	33.5	1.4	40.0	10	16,250
Public	IA2068	2.5	PI 88788	2.3	18	7.2	33.0	1.8	50.8	1	425
Public	Loda	2.1	PI 88788	3.2	18	8.1	32.5	2.0	48.5	5	900
<i>Pioneer Hi-Bred</i>	<i>92B74</i>	2.7	None (S)	3.4	20	9.1	30.4	1.1	40.3	9	12,825
<i>Asgrow</i>	<i>AG2703</i>	2.7	None (S)	2.1	20	8.9	33.4	1.1	38.0	11	7,650
Public	Turner	2.3	PI 88788	2.0	21	8.8	38.5	2.3	44.6	6	4,075
Public	Dwight	2.9	PI 88788	3.4	26	8.7	33.0	1.3	48.8	4	600
<i>Pioneer Hi-Bred</i>	<i>93B09</i>	3.0	None (S)	1.9	27	9.0	31.1	1.1	43.6	8	12,013
Public	Jack	2.9	PI 88788	3.3	29	8.3	43.8	3.0	44.6	6	675
LATHAM	Latham E2980	2.9	PI 88788	2.8	32	9.6	34.5	1.8	49.7	2	1,500
Kruger Seed Company	K-2918SCN	2.9	PI 88788	3.1	33	7.9	34.0	1.8	49.7	2	425
	Trial Average	2.7	---	2.8	24	8.6	34.2	1.6	45.3	---	6,050
	LSD <sup>2</sup>	---	---	---	---	NS	2.6	0.5	5.6	---	5,304

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the C location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 12.

**Location** Shellsburg (EC Iowa) **Planting date** 5/5/2005 **Initial SCN (eggs/100cc soil)** 2,248  
**Herbicide Treatment** Roundup® **Harvest date** 9/23/2005 **SCN HG Type / Race** 2.7 / 1

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
<i>Pioneer Hi-Bred</i>	92B38	2.3	None (S)	2.7	16	9.0	33.5	1.4	40.0	37	16,250
PRAIRIE BRAND	PB-2385NRR	2.3	PI 88788	3.0	17	8.7	37.5	1.8	48.5	19	275
EXCEL Brand	8236NRR	2.3	PI 88788	3.1	17	8.3	29.5	1.0	38.8	38	7,825
Merschman	Merschman Mohegan 624R	2.4	PI 88788	2.8	18	8.5	38.0	2.0	47.1	25	475
LATHAM	Latham E2522RX	2.5	CystX	3.6	18	8.4	37.8	1.5	46.0	31	2,350
Wilson Seeds	2801RR	2.8	PI 88788	2.3	19	8.0	39.8	2.3	50.4	3	450
Midwest Seed Genetics	GR2633	2.6	PI 88788	3.4	19	9.0	33.0	2.0	47.7	22	1,575
Kruger Seed Company	K-284RR/CX	2.8	CystX	3.5	19	7.3	36.5	1.3	47.4	23	3,100
PRAIRIE BRAND	PB-2494NRR	2.4	PI 88788	3.4	19	8.8	33.5	2.0	46.7	27	875
Kruger Seed Company	K-277+RR/SCN	2.7	PI 88788	3.4	19	7.8	33.3	1.8	46.6	28	1,600
Crow's	C2617R	2.7	PI 88788	2.9	19	7.8	33.3	2.0	46.4	29	825
Kruger Seed Company	K-266RR/SCN	2.6	PI 88788	2.6	19	8.5	33.8	1.3	44.8	32	11,500
Merschman	Merschman Apache 626RR	2.6	PI 88788	2.8	19	7.8	32.5	1.3	41.4	35	9,150
Kruger Seed Company	K-287RR/SCN	2.8	PI 88788	1.7	20	6.9	39.8	2.5	49.7	10	1,100
FOUR STAR SEED CO.	2281RR	2.8	PI 88788	2.1	20	8.2	37.3	2.5	48.4	21	1,275
LATHAM	Latham E2922RX	2.9	CystX	2.9	20	7.7	36.0	1.3	43.2	34	4,325
<i>Pioneer Hi-Bred</i>	92B74	2.7	None (S)	3.4	20	9.1	30.4	1.1	40.3	36	12,825
<i>Asgrow</i>	AG2703	2.7	None (S)	2.1	20	8.9	33.4	1.1	38.0	39	7,650
Crow's	C2815R	2.8	PI 88788	1.8	21	6.8	38.5	2.5	52.0	1	500
FS HiSOY	HS 2846	2.8	PI 88788	2.4	21	9.2	38.0	2.5	50.4	3	600
PRAIRIE BRAND	PB-2794NRR	2.7	PI 88788	1.7	21	7.8	39.5	2.3	50.2	6	625
EXCEL Brand	8291NNRR	2.9	PI 88788	2.6	23	8.9	37.8	2.3	49.2	14	675
Kruger Seed Company	K-294RR/SCN	2.9	Peking/Hartwig	2.0	23	8.4	40.8	2.3	48.7	15	650
Dairyland	DSR-2850/RRHP	2.9	Hartwig/Peking	1.8	23	8.6	39.5	1.8	47.3	24	250

Table 12 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Stand (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Midwest Seed Genetics	GRX29-01-5	2.9	PI 88788	2.8	24	8.3	38.8	1.8	50.3	5	575
PRAIRIE BRAND	PB-2994NRR	2.9	PI 88788	3.2	25	8.9	37.8	1.3	49.8	9	725
Kruger Seed Company	K-292RR/SCN	2.9	PI 88788	3.1	25	8.3	37.5	1.8	49.7	10	1,000
Merschman	Merschman Jefferson 630R	3.0	PI 88788	2.9	25	8.7	36.5	2.3	48.5	19	675
FOUR STAR SEED CO.	2282RR	2.8	PI 88788	3.0	26	7.4	37.0	2.0	48.7	15	1,175
EXCEL Brand	8260NRR	2.6	PI 88788	3.5	26	7.8	37.0	1.8	48.6	18	750
Crow's	C3015R	3.0	PI 88788	3.8	26	8.2	38.0	2.0	46.1	30	825
Renk Seed	RS295NRR	2.9	PI 88788	3.4	27	7.7	36.8	2.0	46.8	26	800
<i>Pioneer Hi-Bred</i>	<i>93B09</i>	<i>3.0</i>	<i>None (S)</i>	<i>1.9</i>	<i>27</i>	<i>9.0</i>	<i>31.1</i>	<i>1.1</i>	<i>43.6</i>	<i>33</i>	<i>12,013</i>
Stine	Stine 3012-4	3.0	PI 88788	3.3	28	10.4	38.5	2.0	48.7	15	925
Asgrow	AG3101	3.1	PI 88788	2.9	29	9.3	37.0	1.3	50.0	8	425
Asgrow	AG2801	2.8	PI 88788	3.0	30	8.4	33.0	1.5	50.8	2	1,225
Midwest Seed Genetics	GRX31-01-5	3.1	PI 88788	3.8	32	8.6	36.0	2.0	49.6	12	725
FS HiSOY	HS 3236	3.2	PI 88788	3.1	33	7.7	36.8	2.0	49.6	12	925
FOUR STAR SEED CO.	2314RR	3.1	PI 88788	3.5	34	9.3	40.5	2.0	50.2	6	1,600
	Trial Average	2.8	---	2.9	23	8.4	36.3	1.8	47.2	---	2,612
	LSD <sup>2</sup>	---	---	---	---	NS	3.0	0.5	2.0	---	3,610

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the C location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 13.

**Location** Lenox (SW Iowa) **Planting date** 5/6/2005 **Initial SCN (eggs/100cc soil)** 11,727  
**Herbicide Treatment** Roundup® **Harvest date** 9/30/2005 **SCN HG Type / Race** 7 / 3

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
FOUR STAR SEED CO.	2282RR	2.8	PI 88788	3.0	12	8.3	37.0	2.0	65.5	23	1,325
Lewis	2909	2.9	PI 88788	2.9	12	6.2	36.5	2.0	63.3	31	1,300
Wilcross Seed	RR 2296NX1	2.9	PI 88788	3.1	12	8.8	37.5	2.8	60.7	40	1,500
LATHAM	Latham E2922RX	2.9	CystX	2.9	12	7.9	35.8	1.3	59.3	43	1,550
Wilken	Wilken W-3467NRR	3.6	PI 88788	3.4	14	7.6	38.3	1.5	66.1	20	1,350
PRAIRIE BRAND	PB-3383NRR	3.3	PI 88788	2.9	14	7.6	36.3	2.0	64.7	25	1,150
Kruger Seed Company	K-311RR/SCN	3.1	PI 88788	3.7	15	8.7	38.0	2.8	61.5	38	1,500
Kruger Seed Company	K-341RR/SCN	3.4	PI 88788	3.4	16	7.0	36.0	2.0	69.1	10	2,100
Asgrow	AG3305	3.3	PI 88788	2.8	16	8.8	36.3	2.0	68.0	11	1,925
PRAIRIE BRAND	PB-3585NRR	3.5	PI 88788	2.8	16	7.5	35.3	1.8	67.5	13	1,375
LATHAM	Latham E3478R	3.4	PI 88788	2.9	16	7.1	36.0	2.0	67.2	15	2,650
FS HiSOY	HS 3536	3.5	PI 88788	3.3	16	6.8	36.3	2.0	65.5	23	1,175
Kruger Seed Company	K-333RR/SCN	3.3	PI 88788	2.8	16	7.9	35.3	2.5	63.6	29	1,850
Stine	Stine 3532-4	3.4	PI 88788	3.4	16	8.8	35.8	2.0	61.2	39	1,525
Lewis	3515	3.5	PI 88788	3.5	17	6.9	34.8	2.0	66.8	16	2,700
Asgrow	AG3005	3.0	None (S)	3.3	17	7.9	36.0	2.0	66.4	17	4,575
Crow's	C3318R	3.3	PI 88788	3.6	17	8.3	39.8	2.5	66.1	20	1,700
Merschman	Merschman Grant IIIR	3.3	PI 88788	2.4	17	8.3	36.0	2.3	64.3	26	1,975
Crow's	C3518R	3.5	PI 88788	2.9	17	9.3	36.0	2.3	63.2	32	2,525
Asgrow	AG3302	3.3	None (S)	3.3	17	8.6	38.5	2.5	62.7	33	6,675
Kruger Seed Company	K-355RR/SCN	3.5	PI 88788	3.0	17	7.3	35.3	2.3	62.5	35	1,925
Wilson Seeds	3562RR	3.5	PI 88788	2.8	17	7.9	36.0	2.3	61.9	37	1,675
FOUR STAR SEED CO.	2314RR	3.1	PI 88788	3.5	18	7.8	40.0	2.3	70.1	5	1,675
Wilcross Seed	RR 2335N	3.3	PI 88788	3.7	18	8.8	38.3	2.5	67.3	14	1,900
Midwest Seed Genetics	GR3333	3.3	PI 88788	3.6	18	6.0	39.5	2.3	66.3	18	2,100



Table 13 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Wilson Seeds	3790RR	3.7	PI 88788	3.1	19	7.8	37.5	2.0	71.4	2	1,900
Midwest Seed Genetics	GR3633	3.6	PI 88788	3.8	19	7.6	40.5	1.5	71.0	3	2,000
PRAIRIE BRAND	PB-3785NRR	3.7	PI 88788	2.9	19	9.2	41.0	2.0	69.6	6	1,450
Asgrow	AG3602	3.6	PI 88788	3.1	19	9.5	39.3	2.5	69.2	9	1,150
Kruger Seed Company	K-399RR/SCN	3.9	PI 88788	3.5	19	8.9	39.8	2.5	63.7	28	1,775
Kruger Seed Company	K-373RR/SCN	3.7	PI 88788	2.4	19	8.3	42.5	2.3	62.6	34	1,800
Wilcross Seed	RR 2355N	3.5	PI 88788	3.3	20	8.3	40.5	2.0	69.4	7	2,175
Wilcross Seed	RR 2385NSTS	3.8	PI 88788	3.5	20	7.9	35.0	2.0	68.0	11	1,075
Wilcross Seed	RR 2386	3.8	PI 88788	2.6	20	8.5	36.3	1.8	66.2	19	3,050
Wilcross Seed	RR 2386NX2	3.8	PI 88788	3.2	20	8.9	46.5	2.0	64.0	27	2,500
Stine	Stine 3832-4	3.8	PI 88788	3.0	20	7.9	37.0	2.5	63.5	30	2,900
Stine	Stine 3942-4	3.8	PI 88788	2.7	20	8.2	35.5	1.3	62.0	36	1,200
<i>Pioneer Hi-Bred</i>	<i>93B68</i>	3.6	<i>None (S)</i>	3.2	20	7.4	36.3	2.0	60.3	41	8,350
<i>Pioneer Hi-Bred</i>	<i>93M92</i>	3.9	<i>None (S)</i>	2.9	20	9.9	39.3	2.0	59.4	42	5,275
PRAIRIE BRAND	PB-3894NRR	3.8	PI 88788	3.8	21	6.8	38.5	1.8	71.5	1	2,400
FS HiSOY	HS 3846	3.8	PI 88788	3.5	21	7.0	37.0	1.8	70.3	4	2,700
Kruger Seed Company	K-389RR/SCN	3.8	PI 88788	3.4	21	7.9	37.3	1.8	69.4	7	1,325
Merschman	Merschman Kennedy 538RR	3.8	PI 88788	2.8	22	8.5	36.3	1.5	66.1	20	2,075
	Trial Average	3.5	---	3.2	18	8.0	37.6	2.1	65.5	---	2,251
	LSD <sup>2</sup>	---	---	---	---	1.6	2.4	0.6	4.7	---	1,617

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the SE location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 14.

**Location** Melrose (SC Iowa) **Planting date** 5/6/2005 **Initial SCN (eggs/100cc soil)** 9,206  
**Herbicide Treatment** Roundup® **Harvest date** 10/5/2005 **SCN HG Type / Race** 0 / 3

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Lewis	2909	2.9	PI 88788	2.9	12	6.3	31.0	1.5	55.0	18	2,075
FOUR STAR SEED CO.	2282RR	2.8	PI 88788	3.0	12	5.8	31.5	1.3	52.8	27	1,225
Wilcross Seed	RR 2296NX1	2.9	PI 88788	3.1	12	7.8	35.0	2.0	52.6	29	775
LATHAM	Latham E2922RX	2.9	CystX	2.9	12	6.3	30.8	1.3	50.2	38	3,250
Wilken	Wilken W-3467NRR	3.6	PI 88788	3.4	14	6.9	33.8	1.0	58.0	2	1,150
PRAIRIE BRAND	PB-3383NRR	3.3	PI 88788	2.9	14	6.5	30.8	1.3	53.2	26	1,375
Kruger Seed Company	K-311RR/SCN	3.1	PI 88788	3.7	15	6.1	34.8	1.8	52.2	32	875
LATHAM	Latham E3478R	3.4	PI 88788	2.9	16	5.6	28.8	1.8	57.2	4	1,850
Stine	Stine 3532-4	3.4	PI 88788	3.4	16	6.3	32.8	1.8	55.6	13	2,725
Asgrow	AG3305	3.3	PI 88788	2.8	16	7.8	27.8	1.0	55.0	18	1,975
Kruger Seed Company	K-341RR/SCN	3.4	PI 88788	3.4	16	5.0	30.3	1.8	53.7	23	2,150
FS HiSOY	HS 3536	3.5	PI 88788	3.3	16	4.7	32.3	2.0	53.4	24	3,075
PRAIRIE BRAND	PB-3585NRR	3.5	PI 88788	2.8	16	5.6	28.0	1.5	52.4	31	3,325
Kruger Seed Company	K-333RR/SCN	3.3	PI 88788	2.8	16	8.3	31.5	1.8	50.5	37	4,925
Crow's	C3318R	3.3	PI 88788	3.6	17	7.3	35.3	2.0	57.4	3	2,250
Merschman	Merschman Grant IIIR	3.3	PI 88788	2.4	17	7.0	31.5	1.5	55.9	10	3,350
Crow's	C3518R	3.5	PI 88788	2.9	17	5.8	31.8	1.8	54.3	20	2,875
Kruger Seed Company	K-355RR/SCN	3.5	PI 88788	3.0	17	5.5	32.0	2.0	52.8	27	3,375
Lewis	3515	3.5	PI 88788	3.5	17	5.0	29.0	2.0	51.1	35	1,775
Wilson Seeds	3562RR	3.5	PI 88788	2.8	17	7.2	32.3	1.8	50.6	36	4,000
Asgrow	AG3005	3.0	None (S)	3.3	17	7.6	30.3	1.3	49.1	39	10,475
Asgrow	AG3302	3.3	None (S)	3.3	17	8.0	32.8	1.5	45.6	41	8,350
Midwest Seed Genetics	GR3333	3.3	PI 88788	3.6	18	7.5	34.5	2.0	56.0	9	2,500
Wilcross Seed	RR 2335N	3.3	PI 88788	3.7	18	7.5	34.5	2.0	55.9	10	1,825
FOUR STAR SEED CO.	2314RR	3.1	PI 88788	3.5	18	6.7	33.5	1.8	53.9	22	1,975

Table 14 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Wilson Seeds	3790RR	3.7	PI 88788	3.1	19	5.8	32.3	2.0	57.1	5	3,375
Midwest Seed Genetics	GR3633	3.6	PI 88788	3.8	19	7.8	35.0	1.3	56.7	7	800
Kruger Seed Company	K-373RR/SCN	3.7	PI 88788	2.4	19	7.1	35.5	2.0	55.8	12	1,625
PRAIRIE BRAND	PB-3785NRR	3.7	PI 88788	2.9	19	7.2	33.3	1.0	55.4	14	2,650
Asgrow	AG3602	3.6	PI 88788	3.1	19	7.7	31.3	2.0	52.2	32	3,850
Kruger Seed Company	K-399RR/SCN	3.9	PI 88788	3.5	19	8.3	35.8	2.8	52.0	34	1,050
Wilcross Seed	RR 2385NSTS	3.8	PI 88788	3.5	20	5.9	29.5	1.5	55.2	15	1,800
Stine	Stine 3942-4	3.8	PI 88788	2.7	20	7.0	29.8	1.0	55.2	15	2,875
Wilcross Seed	RR 2386NX2	3.8	PI 88788	3.2	20	6.3	37.3	1.5	55.2	15	1,300
Wilcross Seed	RR 2355N	3.5	PI 88788	3.3	20	7.6	31.5	1.0	54.3	20	3,475
Stine	Stine 3832-4	3.8	PI 88788	3.0	20	8.6	33.0	2.0	52.5	30	2,825
Wilcross Seed	RR 2386	3.8	PI 88788	2.6	20	6.7	29.5	1.3	48.7	40	6,600
<i>Pioneer Hi-Bred</i>	<i>93B68</i>	3.6	<i>None (S)</i>	3.2	20	6.4	29.8	1.3	45.3	42	7,800
<i>Pioneer Hi-Bred</i>	<i>93M92</i>	3.9	<i>None (S)</i>	2.9	20	8.7	32.0	1.0	43.6	43	13,750
PRAIRIE BRAND	PB-3894NRR	3.8	PI 88788	3.8	21	6.2	30.5	1.3	58.5	1	925
Kruger Seed Company	K-389RR/SCN	3.8	PI 88788	3.4	21	7.0	30.0	1.5	57.0	6	1,375
FS HiSOY	HS 3846	3.8	PI 88788	3.5	21	6.6	30.3	1.3	56.6	8	1,950
Merschman	Merschman Kennedy 538RR	3.8	PI 88788	2.8	22	7.6	29.3	1.0	53.3	25	3,150
	Trial Average	3.5	---	3.2	18	6.8	31.9	1.6	53.5	---	3,132
	LSD <sup>2</sup>	---	---	---	---	1.5	2.5	0.6	4.5	---	3,002

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the SE location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 15.

**Location** Crawfordsville (SE Iowa) **Planting date** 5/2/2005 **Initial SCN (eggs/100cc soil)** 2,624  
**Herbicide Treatment** Roundup® **Harvest date** 10/4/2005 **SCN HG Type / Race** 2.7 / 1

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
LATHAM	Latham E2922RX	2.9	CystX	2.9	12	7.3	35.5	1.5	52.6	26	1,550
Lewis	2909	2.9	PI 88788	2.9	12	7.7	39.8	2.0	50.9	32	1,000
FOUR STAR SEED CO.	2282RR	2.8	PI 88788	3.0	12	7.0	38.0	2.0	50.2	34	1,400
Wilcross Seed	RR 2296NX1	2.9	PI 88788	3.1	12	8.8	36.5	2.3	48.6	36	725
PRAIRIE BRAND	PB-3383NRR	3.3	PI 88788	2.9	14	8.3	37.8	2.0	53.0	23	1,800
Kruger Seed Company	K-311RR/SCN	3.1	PI 88788	3.7	15	6.7	37.3	2.5	47.8	39	1,125
Kruger Seed Company	K-341RR/SCN	3.4	PI 88788	3.4	16	7.5	35.3	1.8	54.1	13	1,150
Kruger Seed Company	K-333RR/SCN	3.3	PI 88788	2.8	16	7.3	36.0	2.0	53.9	16	2,350
PRAIRIE BRAND	PB-3585NRR	3.5	PI 88788	2.8	16	7.1	35.3	2.0	53.4	18	2,175
FS HiSOY	HS 3536	3.5	PI 88788	3.3	16	7.4	37.0	2.0	52.8	24	2,200
Stine	Stine 3532-4	3.4	PI 88788	3.4	16	7.6	38.3	2.0	52.5	27	1,375
Asgrow	AG3305	3.3	PI 88788	2.8	16	7.7	34.5	1.5	51.1	31	1,275
LATHAM	Latham E3478R	3.4	PI 88788	2.9	16	7.3	34.8	1.8	48.7	35	1,475
Crow's	C3318R	3.3	PI 88788	3.6	17	8.2	42.5	2.0	56.8	4	800
Merschman	Merschman Grant IIIR	3.3	PI 88788	2.4	17	8.2	37.5	2.0	54.6	8	2,125
<i>Asgrow</i>	<i>AG3005</i>	<i>3.0</i>	<i>None (S)</i>	<i>3.3</i>	<i>17</i>	<i>8.0</i>	<i>36.3</i>	<i>2.0</i>	<i>54.3</i>	<i>10</i>	<i>2,975</i>
Wilson Seeds	3562RR	3.5	PI 88788	2.8	17	9.4	36.3	1.8	54.1	13	2,700
Lewis	3515	3.5	PI 88788	3.5	17	7.9	33.8	1.5	53.7	17	1,200
Crow's	C3518R	3.5	PI 88788	2.9	17	7.2	35.8	2.0	52.7	25	1,725
Kruger Seed Company	K-355RR/SCN	3.5	PI 88788	3.0	17	9.9	36.3	2.0	52.0	28	2,225
<i>Asgrow</i>	<i>AG3302</i>	<i>3.3</i>	<i>None (S)</i>	<i>3.3</i>	<i>17</i>	<i>9.4</i>	<i>40.8</i>	<i>2.3</i>	<i>46.7</i>	<i>42</i>	<i>5,575</i>
Midwest Seed Genetics	GR3333	3.3	PI 88788	3.6	18	8.5	41.8	2.0	56.2	6	1,225
FOUR STAR SEED CO.	2314RR	3.1	PI 88788	3.5	18	8.0	41.5	2.0	54.5	9	1,650
Wilcross Seed	RR 2335N	3.3	PI 88788	3.7	18	8.7	40.8	2.0	54.3	10	1,550
Midwest Seed Genetics	GR3633	3.6	PI 88788	3.8	19	8.9	42.5	2.0	58.1	1	1,800

Table 15 continued.

Brand	Variety	Relative maturity	Resistance source	ISU field data							
				IDC (1-5)	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # <sup>1</sup> (/100 cc)
Wilson Seeds	3790RR	3.7	PI 88788	3.1	19	8.8	38.0	2.0	54.3	10	2,500
PRAIRIE BRAND	PB-3785NRR	3.7	PI 88788	2.9	19	9.3	40.5	2.0	53.4	18	600
Asgrow	AG3602	3.6	PI 88788	3.1	19	9.0	39.8	2.3	50.6	33	1,900
Kruger Seed Company	K-373RR/SCN	3.7	PI 88788	2.4	19	8.2	42.0	2.5	48.5	38	900
Kruger Seed Company	K-399RR/SCN	3.9	PI 88788	3.5	19	8.8	41.5	3.0	47.5	40	1,050
Wilcross Seed	RR 2355N	3.5	PI 88788	3.3	20	8.6	40.5	1.8	57.8	2	1,775
Wilcross Seed	RR 2385NSTS	3.8	PI 88788	3.5	20	7.0	35.8	2.0	54.0	15	1,625
Stine	Stine 3942-4	3.8	PI 88788	2.7	20	8.3	36.5	1.3	53.4	18	1,925
Wilcross Seed	RR 2386	3.8	PI 88788	2.6	20	9.2	37.8	1.0	53.2	22	4,575
<i>Pioneer Hi-Bred</i>	<i>93B68</i>	<i>3.6</i>	<i>None (S)</i>	<i>3.2</i>	<i>20</i>	<i>7.8</i>	<i>38.5</i>	<i>1.3</i>	<i>52.0</i>	<i>28</i>	<i>7,500</i>
Wilcross Seed	RR 2386NX2	3.8	PI 88788	3.2	20	6.6	45.8	2.0	51.3	30	1,475
<i>Pioneer Hi-Bred</i>	<i>93M92</i>	<i>3.9</i>	<i>None (S)</i>	<i>2.9</i>	<i>20</i>	<i>8.9</i>	<i>39.3</i>	<i>1.5</i>	<i>48.6</i>	<i>36</i>	<i>6,950</i>
Stine	Stine 3832-4	3.8	PI 88788	3.0	20	9.9	40.0	2.0	46.8	41	1,775
Kruger Seed Company	K-389RR/SCN	3.8	PI 88788	3.4	21	8.4	37.8	2.0	57.8	2	1,550
FS HiSOY	HS 3846	3.8	PI 88788	3.5	21	8.0	36.8	2.0	56.7	5	875
PRAIRIE BRAND	PB-3894NRR	3.8	PI 88788	3.8	21	6.9	36.5	2.0	55.4	7	1,375
Merschman	Merschman Kennedy 538RR	3.8	PI 88788	2.8	22	7.8	37.0	1.3	53.4	18	2,350
	Trial Average	3.5	---	3.2	18	8.1	38.3	1.9	52.6	---	2,057
	LSD <sup>2</sup>	---	---	---	---	1.7	2.7	0.4	4.8	---	1,813

Values presented in table are means. Entries are listed in order of maturity date (days after August 31 at the SE location), then by decreasing order of yield.

Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

Seed of Wilken W-3467NRR was not available at time of planting.

<sup>1</sup> Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities.

<sup>2</sup> Least significant difference: values are from Fisher's least-significant difference test (P=0.05), NS = no significant differences among the varieties.

Table 16 – 2005 Test Participants.

Albert Lea Seed House (Viking brand)

Brian White  
1414 W. Main  
P.O. Box 127  
Albert Lea, MN 56007  
phone number: 800-352-5247  
e-mail address: brian@alseed.com  
web site: www.alseed.com

Crow's Hybrid Corn Co.

Wayne Hoener  
612 E. Dunlap St.  
Kentland, IN 47951  
phone number: 800-331-7201  
e-mail address: wayne.hoener@channelbio.com  
web site: www.crowshybrid.com

Dairyland Seed Co., Inc.

Dr. Ron Secrist  
3570 Hwy. H  
West Bend, WI 53095  
phone number: 800-236-0163  
e-mail address: rsecrist@dairylandseed.com  
web site: www.dairylandseed.com

EXCEL Brand

Dr. Ron Secrist  
116 E. State  
Camp Point, IL 62320  
phone number: 800-593-7708  
e-mail address: rsecrist@dairylandseed.com

Farm Advantage

Jeff Meints  
1275 Hwy. 69  
Belmond, IA 50421  
phone number: 641-444-3344  
e-mail address: jmeints@kalnet.com  
web site: www.farmadvantage.com

Four Star Seed Company

Dennis Kenealy  
P.O. Box 88  
Parkersburg, IA 50665  
phone number: 712-644-1400  
e-mail address: dkenealy@logonet.net  
web site: www.4starseed.com

FS Seeds (GROWMARK)

Tom Hunsley  
1701 Towanda Ave.  
Bloomington, IL 61701  
phone number: 309-557-6399  
e-mail address: hisoy@growmark.com  
web site: www.growmark.com

Kaltenberg Seeds

Jack Kaltenberg  
P.O. Box 278  
5506 State Road 19  
Waunakee, WI 53597-0278  
phone number: 608-849-2311  
e-mail address: ksfseeds@chorus.net  
web site: kaltenbergseeds.com

Kruger Seed Company

Blair Fuessley  
Hwy. 20  
P.O. Box A  
Dike, IA 50624  
phone number: 800-772-2721  
e-mail address: blair@krugerseed.com  
web site: www.krugerseed.com

Latham Seed Company

Mark C. Grundmeir  
131 – 180th St.  
Alexander, IA 50420-8028  
phone number: 641-692-3258  
e-mail address: markg@lathamseeds.com  
web site: www.lathamseeds.com

Lewis Hybrids, Inc.

Scott Lewis  
P.O. Box 38  
530 W. Maple Ave.  
Ursa, IL 62376  
phone number: 217-964-2131  
e-mail address: scott@lewishybrids.com  
web site: www.lewishybrids.com

Merschman Seeds, Inc.

Joe Merschman  
103 Ave. D  
P.O. Box 67  
West Point, IA 52656  
phone number: 800-848-7333  
e-mail address: joem@merschmanseeds.com  
web site: www.merschmanseeds.com

Midwest Seed Genetics

Wayne Hoener  
23751 Hwy. 30 East  
Carroll, IA 51401  
phone number: 800-369-8218  
web site: www.midwestseed.com

Monsanto (Asgrow brand)  
800 N. Lindbergh Blvd.  
St. Louis, MO 63167  
800-335-2676  
web site: [www.monsanto.com](http://www.monsanto.com)

Prairie Brand Seed Co.  
Mike Carr  
15 X Ave.  
Story City, IA 50248  
phone number: 800-544-8751  
e-mail address: [mike@prairiebrandseed.com](mailto:mike@prairiebrandseed.com)  
web site: [www.prairiebrand.com](http://www.prairiebrand.com)

Renk Seed  
Alex Renk  
6800 Wilburn Rd.  
Sun Prairie, WI 53590  
phone number: 608-837-7351  
e-mail address: [arenk@renkseed.com](mailto:arenk@renkseed.com)  
web site: [www.renkseed.com](http://www.renkseed.com)

Royster-Clark, Inc. (Vigoro brand)  
Mick Schonauer  
717 Robinson Road SE  
Washington C.H., OH 43160  
phone number: 740-869-2181  
e-mail address: [mdschonauer@roysterclark.com](mailto:mdschonauer@roysterclark.com)  
web site: [www.roysterclark.com](http://www.roysterclark.com)

Sand Seed Service, Inc.  
Jeff Spieler  
4765 Hwy. 143  
P.O. Box 648  
Marcus, IA 51035  
phone number: 712-376-4135  
e-mail address: [jspieler@sandsofiowa.com](mailto:jspieler@sandsofiowa.com)  
web site: [www.sandsofiowa.com](http://www.sandsofiowa.com)

Stine Seed Company  
Paul D. Eby  
2225 Laredo Trail  
Adel, IA 50003  
phone number: 515-677-2605  
e-mail address: [pdeby@stineseed.com](mailto:pdeby@stineseed.com)  
web site: [www.stineseed.com](http://www.stineseed.com)

Wilken Seed Grains, Inc.  
Gene S. Swartz  
P.O. Box 770  
Pontiac, IL 61764  
phone number: 815-844-3458  
e-mail address: [dswartz@wilkenseeds.com](mailto:dswartz@wilkenseeds.com)  
web site: [www.wilkenseeds.com](http://www.wilkenseeds.com)

Willcross Seed/King City Seed  
Randall Hill  
P.O. Box 666  
4564 US Hwy. 169  
King City, MO 64463  
phone number: 660-535-4444  
e-mail address: [kcseed@jagtec.net](mailto:kcseed@jagtec.net)  
web site: [www.willcross.com](http://www.willcross.com)

Wilson Seeds  
Dave Stamp  
1112 Morningview Dr.  
Harlan, IA 51537  
phone number: 800-747-1200  
e-mail address: [dave.stamp@wilsonseeds.com](mailto:dave.stamp@wilsonseeds.com)  
web site: [www.wilsonseeds.com](http://www.wilsonseeds.com)

Varieties listed in the tables as brand "Public" were released by public breeding programs and were entered by Iowa State University. For additional information about public varieties, please contact Greg Gebhart at 515-294-5896 or e-mail [ggebhart@iastate.edu](mailto:ggebhart@iastate.edu).