Evaluation of Soybean Varieties Resistant to Soybean Cyst Nematode in Iowa - 2007

Aerial view of SCN-resistant soybean variety trial in central Iowa

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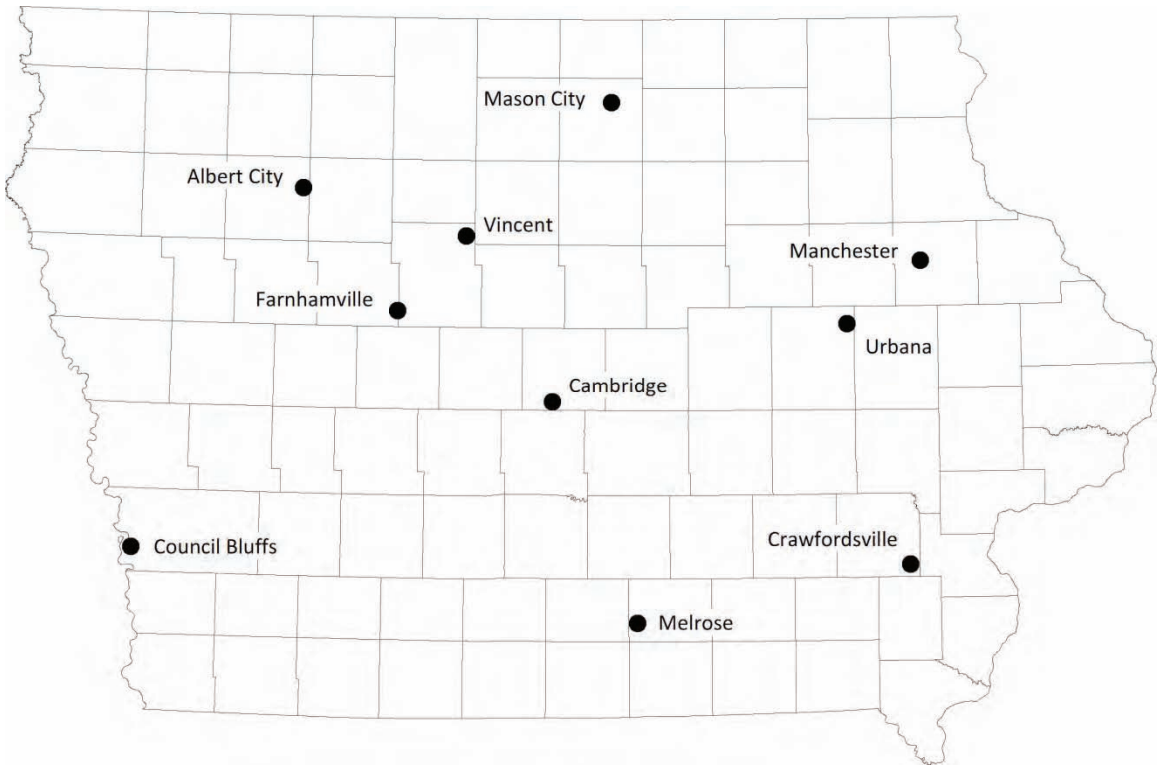
Introduction

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, 45 Roundup Ready®, SCN-resistant soybean varieties were evaluated in SCN-infested fields near Albert City (northwest Iowa), Vincent (north central Iowa), Mason City (north central Iowa), and Manchester (northeast Iowa). In the central Iowa district, 34 Roundup Ready®, SCN-resistant soybean varieties were evaluated in SCN-infested fields near Farnhamville (west central Iowa), Cambridge (central Iowa), and Urbana (east central Iowa). In the southern Iowa district, 27 Roundup Ready®, SCN-resistant soybean varieties were evaluated in SCN-infested fields near Council Bluffs (southwest Iowa), Melrose (south central Iowa), and Crawfordsville (southeast Iowa).



At all locations, 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 10 seeds per foot, with four replications per variety. Preplant herbicide was applied to each location. Roundup® herbicide was applied for post-emergence weed control. Seed used in the experiments was free of insecticide and fungicide treatments. All of the locations were in fields which had been planted with corn the previous year. The Manchester,

Cambridge, and Council Bluffs locations were planted using "no-till" or "minimal till" methods; at all other locations, the seed bed was tilled prior to planting.

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 31st 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. Resistant varieties and susceptible check varieties are grouped separately and are listed in the report in order of descending 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.

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. Both fields were located near Ames (central Iowa). Prior to planting the experiments, the soybeans growing at each location were removed. The hill plots were planted at one location on June 28th and at the second location on June 29th. 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 1.0 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.

Location-specific details.

Location	Initial SCN Population (eggs / 100 cc soil)	HG Type[1]	Planting Date	Harvest Date
Albert City (NW)	3,353	7	May 21	September 28
Vincent (NC)	4,001	2.5.7	May 18	October 10
Mason City (NC)	3,887	7	May 11	September 24
Manchester (NE)	301	7	May 9	October 5
Farnhamville (WC)	5,461	2.5.7	May 21	September 28
Cambridge (C)	3,156	2.5.7	May 10	September 30
Urbana (EC)	5,369	7	May 16	October 6
Council Bluffs (SW)	515	5.7	May 14	October 23
Melrose (SC)	5,242	0	May 22	October 12
Crawfordsville (SE)	810	2.5.7	May 17	October 9

[1] In the HG type test results, the number "0" indicates < 10% reproduction on all of the HG Type indicator lines, the number "2" indicates ≥ 10% reproduction on PI88788, "5" indicates ≥ 10% reproduction on PI209332, and "7" indicates ≥ 10% reproduction on PI548316.

Data Presentation for 2007

In the report this year, soybean yield and SCN reproductive trends are displayed graphically in addition to the traditional tables. In the graphs, yield is shown by the bar lengths and corresponds to the scale at the bottom of the graph. The least significant difference value (P=0.05) for yield among the SCN-resistant soybean varieties is indicated below each yield graph. SCN reproduction is shown by the color and pattern of the bars, and is arrived at using arbitrary threshold values of a calculated reproductive factor (RF). RF values are calculated by dividing the final SCN population by the initial SCN population for each plot. The RF values shown in the graphs and tables are an average of the RF values from the four replications at each location. What this means is that if a variety has an RF value of 5.0, the SCN population for those plots is five times greater at harvest than it was at planting. Conversely, an RF value of 0.5 means the SCN population for those plots at harvest is one-half the population at planting. It is important to remember that this number is location specific, and may be quite different under different environmental conditions, soil types, and nematode populations. Arbitrary values were used in recognition of the variability of nematode counts from soil. Our thresholds were: RF 0 – RF 0.7 (green; SCN numbers reduced), RF 0.8 – RF 1.2 (yellow; no change from spring to fall), RF > 1.2 (red; SCN numbers increased).

Summary

The results of most of the experiments 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. At most locations, 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**.

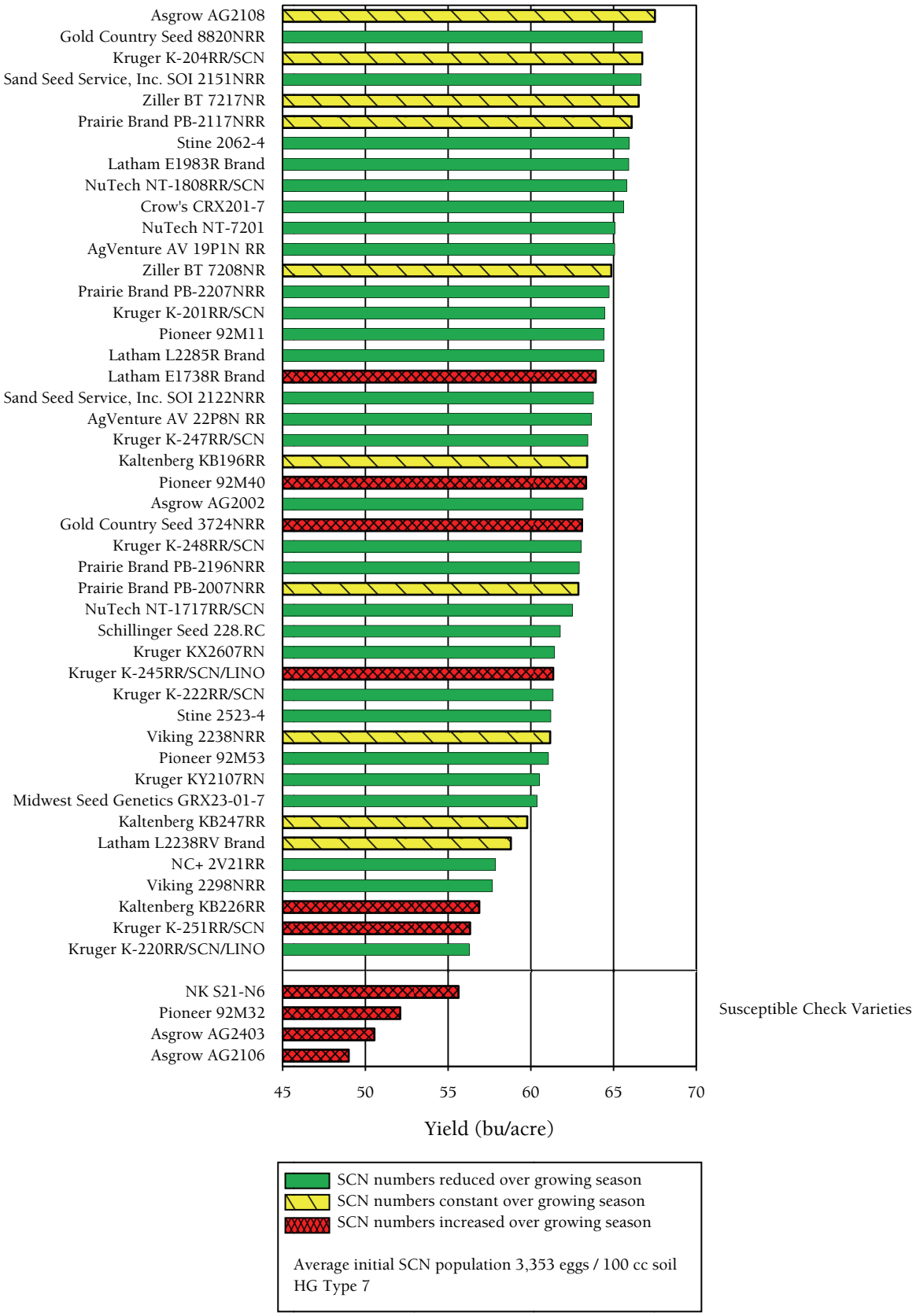
The results of these experiments illustrate that SCN-resistant varieties can suppress SCN reproduction and provide increased soybean yields relative to growing susceptible varieties. Currently, there are three main genetic sources for SCN resistance genes in commercial soybean varieties, namely PI88788, 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. 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 to Kevin VanDee and Kent Berns, superintendent of the Central Research Farms. Gratitude also is expressed to Mick Sundblad of Albert City, Jim Legvold of Vincent, Randy and Jess Lutz of Mason City, Dennis Lindsay of Masonville, John Nelson of Gowrie, Mark and Wayne Longnecker of Cambridge, Ed McKinley of Urbana, Larry Anderson of Council Bluffs, Mike Ryan of Melrose, and Randy Finke of Crawfordsville for use of land for some of the experiments.

Figure 1. Albert City (NW Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 4.3 bu/acre

Table 1. Albert City (NW Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Asgrow	AG2108	2.1	PI 88788	2.5	13	7.6	31.3	1.5	67.5	1	925	0.9
Gold Country Seed	8820NRR	2.0	PI 88788	2.5	14	9.2	30.5	1.6	66.7	2	1,075	0.4
Kruger	K-204RR/SCN	2.0	PI 88788	3.1	13	8.9	30.8	1.5	66.7	2	1,275	1.0
Sand Seed Service, Inc.	SOI 2151NRR	2.1	PI 88788	2.8	12	7.0	30.0	1.6	66.7	2	1,100	0.7
Ziller	BT 7217NR	2.1	PI 88788	3.4	14	8.3	30.3	1.8	66.5	5	750	0.9
Prairie Brand	PB-2117NRR	2.1	PI 88788	2.8	12	8.4	29.3	1.3	66.1	6	1,200	1.1
Stine	2062-4	2.0	PI 88788	3.1	13	10.1	31.0	1.8	65.9	7	2,825	0.5
Latham	E1983R Brand	1.9	PI 88788	2.4	13	9.3	28.0	1.5	65.9	7	800	0.3
NuTech	NT-1808RR/SCN	1.8	PI 88788	2.8	10	9.2	30.0	1.8	65.8	9	1,300	0.6
Crow's	CRX201-7	2.0	PI 88788	2.5	14	10.3	32.3	1.6	65.6	10	725	0.3
NuTech	NT-7201	2.0	PI 88788	2.5	13	8.8	29.5	1.5	65.1	11	850	0.7
AgVenture	AV 19P1N RR	2.0	PI 88788	2.3	13	9.3	29.3	1.5	65.1	11	2,000	0.4
Ziller	BT 7208NR	2.0	PI 88788	2.8	14	8.3	29.0	1.5	64.9	13	3,225	1.1
Prairie Brand	PB-2207NRR	2.2	PI 88788	2.5	13	10.5	29.3	1.6	64.7	14	1,200	0.5
Kruger	K-201RR/SCN	2.0	PI 88788	2.4	10	10.3	29.8	1.6	64.5	15	875	0.5
Pioneer	92M11	2.1	Peking	2.9	14	8.9	32.5	2.0	64.4	16	1,050	0.2
Latham	L2285R Brand	2.2	PI 88788	2.8	14	9.8	31.0	1.6	64.4	16	1,700	0.6
Latham	E1738R Brand	1.7	PI 88788	3.1	14	10.1	31.0	2.1	63.9	18	3,275	1.9
Sand Seed Service, Inc.	SOI 2122NRR	2.1	PI 88788	3.3	14	10.2	29.3	1.5	63.8	19	750	0.3
AgVenture	AV 22P8N RR	2.2	PI 88788	2.8	12	10.0	29.8	1.8	63.7	20	2,500	0.5
Kruger	K-247RR/SCN	2.4	Peking	2.4	12	10.1	33.0	1.5	63.4	21	1,375	0.5
Kaltenberg	KB196RR	1.9	PI 88788	3.4	14	10.2	29.3	1.6	63.4	21	1,125	0.8
Pioneer	92M40	2.4	PI 88788	3.0	14	7.8	29.8	1.1	63.3	23	1,425	2.1
Asgrow	AG2002	2.0	PI 88788	2.8	11	9.4	31.8	1.8	63.2	24	1,350	0.4
Gold Country Seed	3724NRR	2.4	PI 88788	3.3	15	9.0	31.5	1.8	63.1	25	2,350	2.1
Kruger	K-248RR/SCN	2.5	PI 88788	3.3	15	8.1	31.3	1.6	63.1	25	2,975	0.5
Prairie Brand	PB-2196NRR	2.1	PI 88788	3.4	15	9.3	29.0	1.6	62.9	27	1,800	0.6
Prairie Brand	PB-2007NRR	2.0	PI 88788	2.8	12	9.5	28.8	1.4	62.9	27	3,050	0.8
NuTech	NT-1717RR/SCN	1.7	PI 88788	3.1	9	9.4	27.3	1.4	62.5	29	1,575	0.5
Schillinger Seed	228.RC	2.2	PI 88788	2.3	11	8.9	28.0	1.5	61.8	30	1,125	0.4
Kruger	KX2607RN	2.6	PI 88788	3.0	16	11.1	30.5	1.9	61.4	31	2,325	0.5
Kruger	K-245RR/SCN/LINO	2.4	PI 88788	3.3	14	8.9	31.3	1.5	61.4	31	1,425	2.1
Kruger	K-222RR/SCN	2.2	PI 88788	2.2	14	8.6	27.5	1.5	61.3	33	3,375	0.7
Stine	2523-4	2.5	PI 88788	2.0	15	9.6	32.0	1.6	61.2	34	1,300	0.6
Viking	2238NRR	2.2	PI 88788	2.4	13	10.1	27.0	1.4	61.2	34	1,950	0.8
Pioneer	92M53	2.5	Peking	2.5	16	7.4	35.5	2.0	61.1	36	2,000	0.3
Kruger	KY2107RN	2.2	PI 88788	3.2	13	9.9	25.8	1.6	60.5	37	2,550	0.3
Midwest Seed Genetics	GRX23-01-7	2.3	PI 88788	3.1	14	7.3	29.0	2.0	60.4	38	1,625	0.5
Kaltenberg	KB247RR	2.4	PI 88788	3.2	15	8.5	30.8	1.6	59.8	39	4,250	1.2
Latham	L2238RV Brand	2.2	PI 88788	2.1	15	8.9	28.5	1.5	58.8	39	2,200	1.2
NC+	2V21RR	2.2	PI 88788	2.3	14	7.8	29.0	1.4	57.9	41	1,125	0.7
Viking	2298NRR	2.2	PI 88788	2.9	14	9.8	28.3	1.6	57.7	42	1,600	0.7
Kaltenberg	KB226RR	2.2	PI 88788	2.9	13	10.1	28.0	1.5	56.9	43	11,225	6.2
Kruger	K-251RR/SCN	2.5	PI 88788	2.3	15	8.7	32.5	1.9	56.3	44	3,525	1.3
Kruger	K-220RR/SCN/LINO	2.2	PI 88788	2.5	15	8.8	28.0	1.4	56.3	44	2,150	0.7
	Average	2.2	---	2.8	13	9.1	29.9	1.6	63.0	---	1,993	0.9
	LSD[3]	---	---	---	---	NS	2.3	0.3	4.3	---	2,780	1.5
NK	*S21-N6*	*2.1*	*None*	*2.9*	*12*	*9.3*	*27.5*	*1.5*	*55.6*	*46*	*14,950*	*5.4*
Pioneer	*92M32*	*2.3*	*None*	*2.8*	*15*	*9.7*	*23.8*	*1.3*	*52.1*	*47*	*12,375*	*3.9*
Asgrow	*AG2403*	*2.4*	*None*	*2.4*	*14*	*10.6*	*24.0*	*1.5*	*50.5*	*48*	*15,075*	*11.3*
Asgrow	*AG2106*	*2.1*	*None*	*2.9*	*10*	*8.6*	*28.8*	*1.5*	*49.0*	*49*	*18,350*	*11.6*
	Average	2.2	---	2.8	13	9.5	26.0	1.4	51.8	---	15,187	8.0
	LSD[3]	---	---	---	---	NS	2.7	NS	NS	---	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.

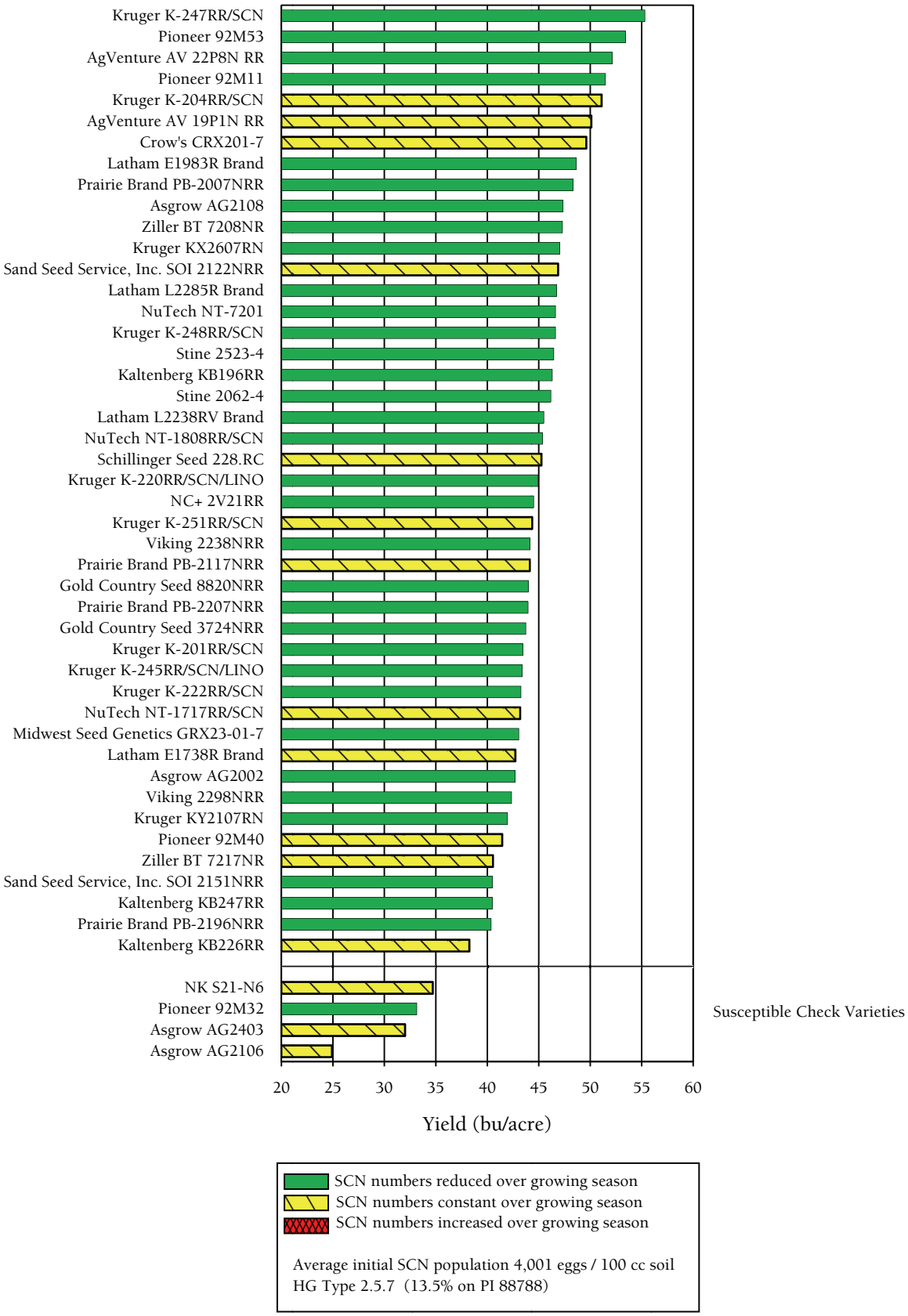
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 3,353 eggs per 100 cc soil; HG type 7.

[2] Final SCN egg population density / initial SCN egg population density.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 2. Vincent (NC Iowa) – This location displayed some symptoms of IDC.



Least significant difference (P=0.05) value for yield of resistant varieties = 5.9 bu/acre

Table 2. Vincent (NC Iowa) – This location displayed some symptoms of IDC.

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Kruger	K-247RR/SCN	2.4	Peking	2.4	12	9.6	35.0	1.9	55.3	1	1,025	0.3
Pioneer	92M53	2.5	Peking	2.5	16	9.0	35.5	1.8	53.4	2	525	0.1
AgVenture	AV 22P8N RR	2.2	PI 88788	2.8	12	10.3	32.8	1.8	52.1	3	2,275	0.5
Pioneer	92M11	2.1	Peking	2.9	14	8.9	31.8	1.9	51.5	4	1,350	0.4
Kruger	K-204RR/SCN	2.0	PI 88788	3.1	13	9.5	29.8	1.5	51.1	5	2,575	0.9
AgVenture	AV 19P1N RR	2.0	PI 88788	2.3	13	7.3	31.3	1.5	50.1	6	2,700	1.1
Crow's	CRX201-7	2.0	PI 88788	2.5	14	8.6	31.0	1.5	49.6	7	2,800	1.2
Latham	E1983R Brand	1.9	PI 88788	2.4	13	8.3	30.0	1.1	48.6	8	1,000	0.3
Prairie Brand	PB-2007NRR	2.0	PI 88788	2.8	12	8.2	31.0	1.1	48.3	9	2,050	0.4
Asgrow	AG2108	2.1	PI 88788	2.5	13	9.3	30.8	1.4	47.4	10	1,275	0.6
Ziller	BT 7208NR	2.0	PI 88788	2.8	14	9.4	29.0	1.4	47.3	11	1,325	0.4
Kruger	KX2607RN	2.6	PI 88788	3.0	16	9.8	31.0	1.9	47.0	12	1,450	0.2
Sand Seed Service, Inc.	SOI 2122NRR	2.1	PI 88788	3.3	14	10.3	29.8	1.5	46.9	13	3,025	1.0
Latham	L2285R Brand	2.2	PI 88788	2.8	14	9.3	30.3	1.6	46.7	14	2,075	0.5
NuTech	NT-7201	2.0	PI 88788	2.5	13	9.5	28.8	1.1	46.6	15	1,825	0.4
Kruger	K-248RR/SCN	2.5	PI 88788	3.3	15	9.1	32.3	1.6	46.6	15	1,425	0.4
Stine	2523-4	2.5	PI 88788	2.0	15	10.0	32.0	1.5	46.5	17	1,950	0.6
Kaltenberg	KB196RR	1.9	PI 88788	3.4	14	9.0	29.5	1.3	46.3	18	1,950	0.6
Stine	2062-4	2.0	PI 88788	3.1	13	10.7	31.0	1.5	46.2	19	2,225	0.5
Latham	L2238RV Brand	2.2	PI 88788	2.1	15	8.8	30.0	1.5	45.5	20	1,975	0.7
NuTech	NT-1808RR/SCN	1.8	PI 88788	2.8	10	8.8	29.8	1.6	45.4	21	2,275	0.5
Schillinger Seed	228.RC	2.2	PI 88788	2.3	11	8.4	27.5	1.5	45.3	22	1,750	0.8
Kruger	K-220RR/SCN/LINO	2.2	PI 88788	2.5	15	9.2	29.0	1.3	44.9	23	3,200	0.7
NC+	2V21RR	2.2	PI 88788	2.3	14	8.6	28.8	1.4	44.5	24	1,950	0.6
Kruger	K-251RR/SCN	2.5	PI 88788	2.3	15	9.6	32.0	1.5	44.4	25	3,425	0.9
Viking	2238NRR	2.2	PI 88788	2.4	13	10.3	26.8	1.3	44.1	26	450	0.1
Prairie Brand	PB-2117NRR	2.1	PI 88788	2.8	12	8.6	27.8	1.0	44.1	26	3,125	1.0
Gold Country Seed	8820NRR	2.0	PI 88788	2.5	14	9.6	28.0	1.3	44.0	28	1,175	0.2
Prairie Brand	PB-2207NRR	2.2	PI 88788	2.5	13	8.8	29.8	1.4	44.0	28	1,950	0.6
Gold Country Seed	3724NRR	2.4	PI 88788	3.3	15	8.2	32.3	1.5	43.7	30	1,700	0.5
Kruger	K-201RR/SCN	2.0	PI 88788	2.4	10	9.5	29.3	1.4	43.5	31	2,300	0.7
Kruger	K-245RR/SCN/LINO	2.4	PI 88788	3.3	14	8.7	30.0	1.5	43.4	32	2,400	0.6
Kruger	K-222RR/SCN	2.2	PI 88788	2.2	14	9.6	27.0	1.3	43.3	33	1,800	0.5
NuTech	NT-1717RR/SCN	1.7	PI 88788	3.1	9	9.7	26.8	1.5	43.2	34	3,675	1.1
Midwest Seed Genetics	GRX23-01-7	2.3	PI 88788	3.1	14	7.4	28.8	1.4	43.1	35	1,700	0.4
Latham	E1738R Brand	1.7	PI 88788	3.1	14	9.3	31.5	2.0	42.7	36	2,675	0.8
Asgrow	AG2002	2.0	PI 88788	2.8	11	9.4	29.5	1.3	42.7	36	2,125	0.6
Viking	2298NRR	2.2	PI 88788	2.9	14	9.4	29.3	1.4	42.4	38	1,300	0.4
Kruger	KY2107RN	2.2	PI 88788	3.2	13	8.7	27.5	1.3	42.0	39	2,625	0.6
Pioneer	92M40	2.4	PI 88788	3.0	14	11.1	29.5	1.0	41.4	40	4,200	1.0
Ziller	BT 7217NR	2.1	PI 88788	3.4	14	8.3	28.0	1.4	40.6	41	2,800	0.8
Sand Seed Service, Inc.	SOI 2151NRR	2.1	PI 88788	2.8	12	7.8	27.3	1.4	40.5	42	1,350	0.6
Kaltenberg	KB247RR	2.4	PI 88788	3.2	15	10.0	29.5	1.5	40.5	42	2,025	0.6
Prairie Brand	PB-2196NRR	2.1	PI 88788	3.4	15	9.3	27.0	1.5	40.4	44	2,675	0.7
Kaltenberg	KB226RR	2.2	PI 88788	2.9	13	9.4	27.0	1.1	38.3	45	4,475	1.0
	Average	2.2	---	2.8	13	9.1	29.8	1.4	45.4	---	2,138	0.6
	LSD[3]	---	---	---	---	1.8	2.2	0.3	5.9	---	1,919	NS
NK	*S21-N6*	*2.1*	*None*	*2.9*	*12*	*8.5*	*25.8*	*1.5*	*34.7*	*46*	*3,125*	*0.8*
Pioneer	*92M32*	*2.3*	*None*	*2.8*	*15*	*8.6*	*24.5*	*1.1*	*33.2*	*47*	*1,700*	*0.5*
Asgrow	*AG2403*	*2.4*	*None*	*2.4*	*14*	*9.5*	*24.8*	*1.0*	*32.0*	*48*	*2,050*	*0.8*
Asgrow	*AG2106*	*2.1*	*None*	*2.9*	*10*	*10.9*	*26.8*	*1.1*	*24.9*	*49*	*4,075*	*1.0*
	Average	2.2	---	2.8	13	9.4	25.4	1.2	31.2	---	2,738	0.8
	LSD[3]	---	---	---	---	1.8	NS	0.3	NS	---	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.

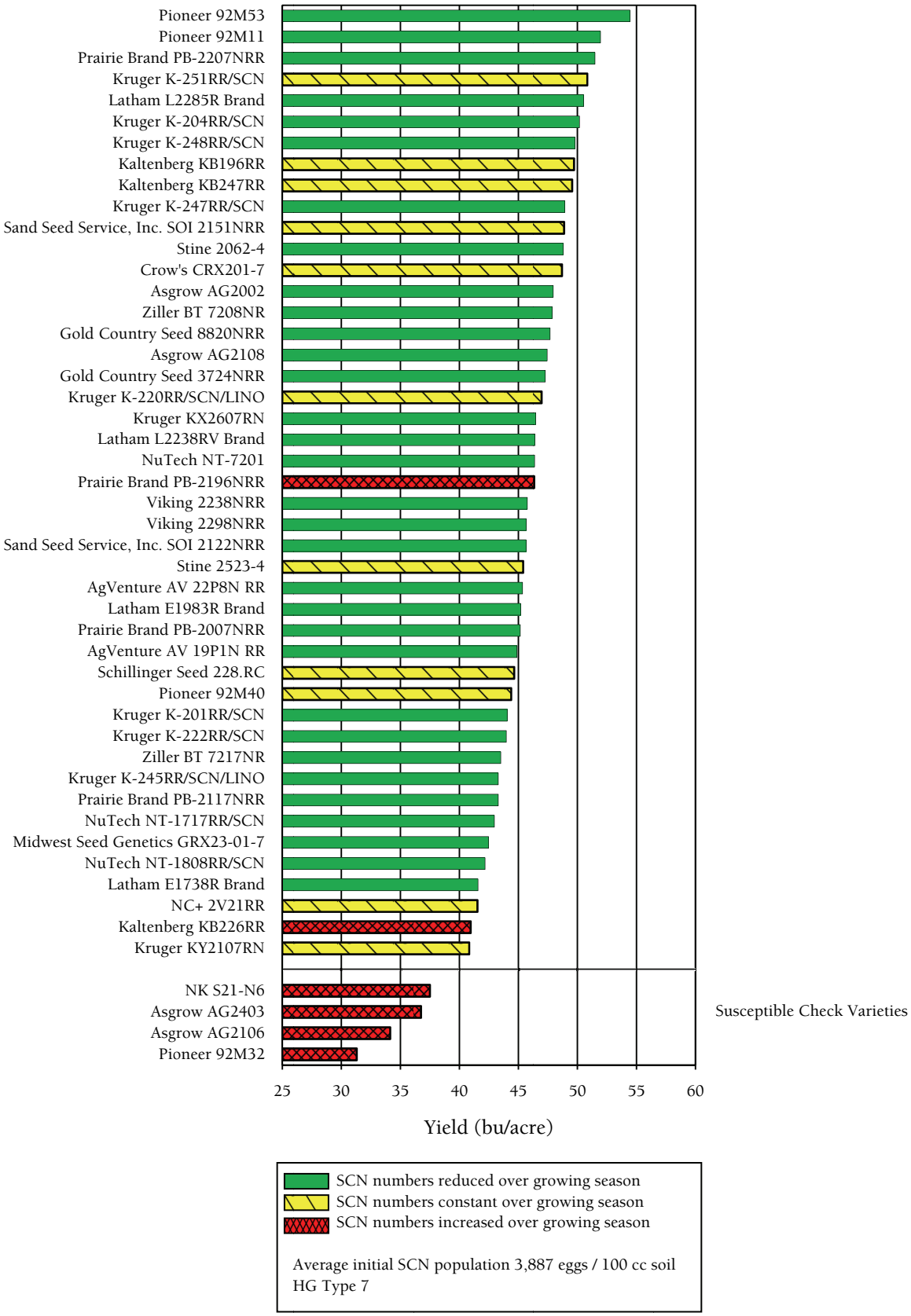
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 4,001 eggs per 100 cc soil; HG type 2.5.7 (13.5% on PI 88788).

[2] Final SCN egg population density / initial SCN egg population density.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 3. Mason City (NC Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 5.6 bu/acre

Table 3. Mason City (NC Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Pioneer	92M53	2.5	Peking	2.5	16	9.2	27.0	1.9	54.5	1	1,400	0.4
Pioneer	92M11	2.1	Peking	2.9	14	8.4	26.5	1.9	52.0	2	2,000	0.6
Prairie Brand	PB-2207NRR	2.2	PI 88788	2.5	13	8.2	25.5	1.5	51.5	3	2,675	0.5
Kruger	K-251RR/SCN	2.5	PI 88788	2.3	15	9.1	25.8	1.3	50.8	4	2,850	0.8
Latham	L2285R Brand	2.2	PI 88788	2.8	14	10.3	25.3	1.5	50.5	5	2,700	0.5
Kruger	K-204RR/SCN	2.0	PI 88788	3.1	13	8.7	26.0	1.1	50.2	6	1,575	0.5
Kruger	K-248RR/SCN	2.5	PI 88788	3.3	15	9.3	26.3	1.3	49.8	7	1,375	0.6
Kaltenberg	KB196RR	1.9	PI 88788	3.4	14	9.1	25.3	1.4	49.7	8	2,525	0.8
Kaltenberg	KB247RR	2.4	PI 88788	3.2	15	8.1	26.5	1.4	49.6	9	2,475	1.0
Kruger	K-247RR/SCN	2.4	Peking	2.4	12	9.2	22.5	1.1	48.9	10	1,525	0.3
Sand Seed Service, Inc.	SOI 2151NRR	2.1	PI 88788	2.8	12	7.8	26.3	1.5	48.9	10	2,475	0.9
Stine	2062-4	2.0	PI 88788	3.1	13	9.4	25.0	1.4	48.8	12	2,025	0.7
Crow's	CRX201-7	2.0	PI 88788	2.5	14	8.3	25.0	1.4	48.7	13	2,075	0.9
Asgrow	AG2002	2.0	PI 88788	2.8	11	8.1	26.0	1.5	48.0	14	1,825	0.5
Ziller	BT 7208NR	2.0	PI 88788	2.8	14	8.0	24.5	1.3	47.9	15	2,200	0.6
Gold Country Seed	8820NRR	2.0	PI 88788	2.5	14	9.1	24.8	1.1	47.7	16	1,800	0.5
Asgrow	AG2108	2.1	PI 88788	2.5	13	7.8	27.0	1.4	47.4	17	1,950	0.6
Gold Country Seed	3724NRR	2.4	PI 88788	3.3	15	9.1	26.0	1.4	47.3	18	1,875	0.4
Kruger	K-220RR/SCN/LINO	2.2	PI 88788	2.5	15	8.5	23.3	1.5	47.0	19	3,000	0.8
Kruger	KX2607RN	2.6	PI 88788	3.0	16	10.2	24.8	1.5	46.5	20	2,600	0.6
Latham	L2238RV Brand	2.2	PI 88788	2.1	15	8.5	23.5	1.1	46.4	21	2,050	0.4
NuTech	NT-7201	2.0	PI 88788	2.5	13	9.4	23.3	1.3	46.4	21	1,825	0.4
Prairie Brand	PB-2196NRR	2.1	PI 88788	3.4	15	9.3	22.8	1.4	46.3	23	2,925	1.3
Viking	2238NRR	2.2	PI 88788	2.4	13	10.4	21.8	1.0	45.8	24	1,300	0.4
Viking	2298NRR	2.2	PI 88788	2.9	14	9.8	24.0	1.6	45.7	25	2,000	0.6
Sand Seed Service, Inc.	SOI 2122NRR	2.1	PI 88788	3.3	14	9.6	23.0	1.4	45.7	25	1,350	0.4
Stine	2523-4	2.5	PI 88788	2.0	15	9.1	24.3	1.4	45.4	27	2,400	0.8
AgVenture	AV 22P8N RR	2.2	PI 88788	2.8	12	9.1	24.3	1.3	45.3	28	2,375	0.6
Latham	E1983R Brand	1.9	PI 88788	2.4	13	8.2	23.0	1.4	45.2	29	2,350	0.5
Prairie Brand	PB-2007NRR	2.0	PI 88788	2.8	12	8.8	23.3	1.3	45.2	29	2,425	0.6
AgVenture	AV 19P1N RR	2.0	PI 88788	2.3	13	8.2	23.0	1.3	44.9	31	2,100	0.5
Schillinger Seed	228.RC	2.2	PI 88788	2.3	11	7.9	22.0	1.4	44.6	32	2,575	0.9
Pioneer	92M40	2.4	PI 88788	3.0	14	9.3	23.0	1.1	44.4	33	2,875	0.8
Kruger	K-201RR/SCN	2.0	PI 88788	2.4	10	9.6	24.3	1.3	44.0	34	2,025	0.5
Kruger	K-222RR/SCN	2.2	PI 88788	2.2	14	8.8	22.0	1.3	44.0	34	2,200	0.5
Ziller	BT 7217NR	2.1	PI 88788	3.4	14	7.7	23.0	1.5	43.5	36	1,625	0.5
Kruger	K-245RR/SCN/LINO	2.4	PI 88788	3.3	14	8.0	23.3	1.4	43.3	37	2,450	0.5
Prairie Brand	PB-2117NRR	2.1	PI 88788	2.8	12	9.7	22.8	1.0	43.3	37	2,250	0.7
NuTech	NT-1717RR/SCN	1.7	PI 88788	3.1	9	8.4	23.8	1.4	43.0	39	1,950	0.5
Midwest Seed Genetics	GRX23-01-7	2.3	PI 88788	3.1	14	7.0	23.5	1.4	42.5	40	2,200	0.6
NuTech	NT-1808RR/SCN	1.8	PI 88788	2.8	10	8.2	24.5	1.5	42.2	41	1,325	0.4
Latham	E1738R Brand	1.7	PI 88788	3.1	14	9.0	24.5	1.8	41.6	42	1,925	0.6
NC+	2V21RR	2.2	PI 88788	2.3	14	9.2	23.5	1.3	41.5	43	2,675	0.9
Kaltenberg	KB226RR	2.2	PI 88788	2.9	13	9.7	23.5	1.3	41.0	44	6,475	1.9
Kruger	KY2107RN	2.2	PI 88788	3.2	13	9.0	21.3	1.4	40.8	45	2,500	0.8
	Average	2.2	---	2.8	13	8.8	24.3	1.4	46.5	---	2,231	0.6
	LSD[3]	---	---	---	---	1.6	2.6	0.3	5.6	---	1,428	0.6
NK	*S21-N6*	*2.1*	*None*	*2.9*	*12*	*8.4*	*22.0*	*1.3*	*37.5*	*46*	*4,700*	*1.4*
Asgrow	*AG2403*	*2.4*	*None*	*2.4*	*14*	*9.5*	*21.0*	*1.1*	*36.7*	*47*	*5,675*	*1.9*
Asgrow	*AG2106*	*2.1*	*None*	*2.9*	*10*	*9.7*	*21.8*	*1.3*	*34.1*	*48*	*5,925*	*1.4*
Pioneer	*92M32*	*2.3*	*None*	*2.8*	*15*	*9.3*	*19.5*	*1.1*	*31.3*	*49*	*7,000*	*1.4*
	Average	2.2	---	2.8	13	9.2	21.1	1.2	34.9	---	5,825	1.5
	LSD[3]	---	---	---	---	NS	NS	NS	NS	---	5,564	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.

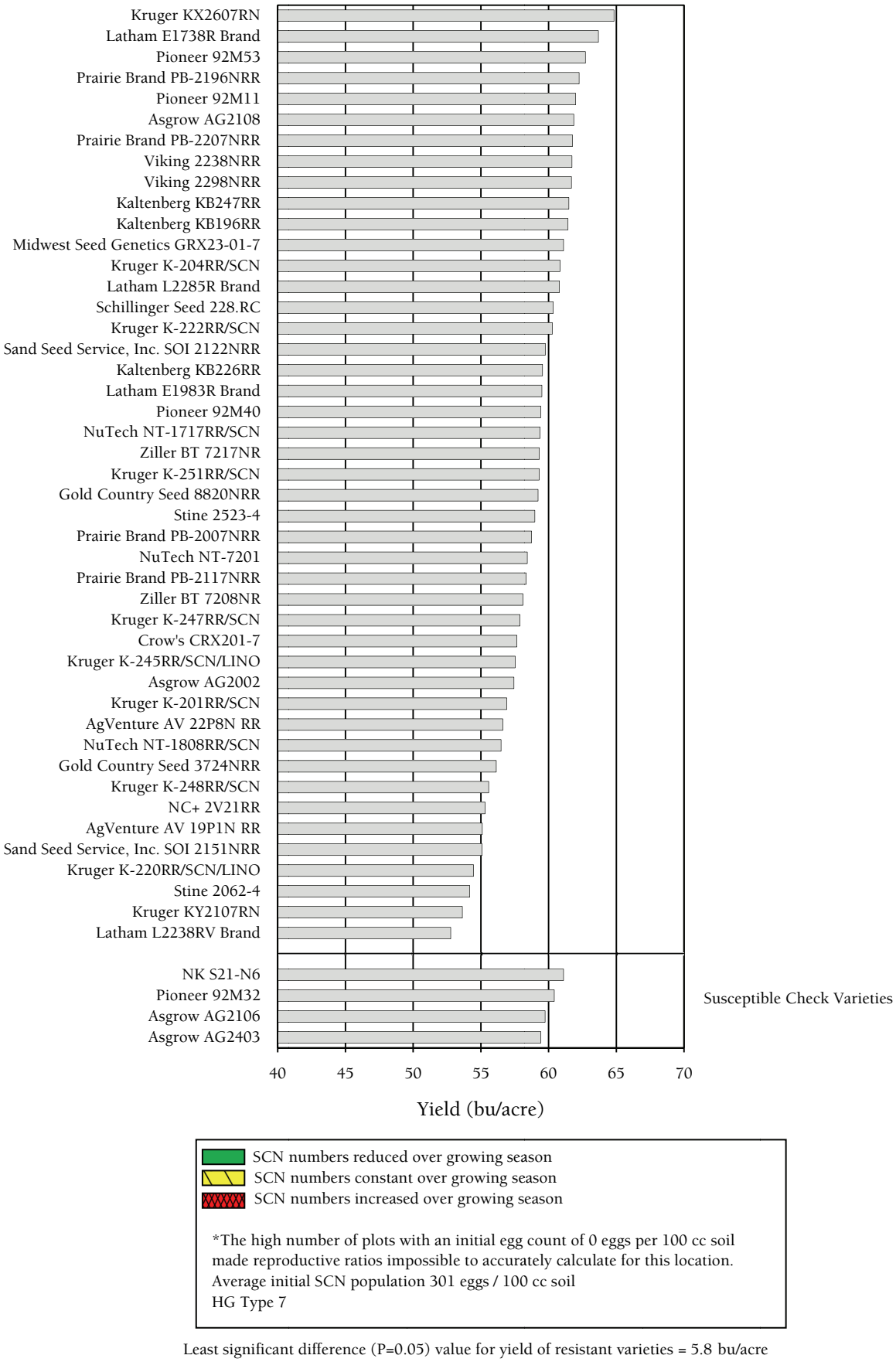
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 3,887 eggs per 100 cc soil; HG type 7.

[2] Final SCN egg population density / initial SCN egg population density.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 4. Manchester (NE Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 5.8 bu/acre

Table 4. Manchester (NE Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF
Kruger	KX2607RN	2.6	PI 88788	3.0	16	8.3	32.3	1.9	64.8	1	100	-
Latham	E1738R Brand	1.7	PI 88788	3.1	14	8.3	32.8	2.1	63.7	2	475	-
Pioneer	92M53	2.5	Peking	2.5	16	9.8	38.3	2.0	62.7	3	50	-
Prairie Brand	PB-2196NRR	2.1	PI 88788	3.4	15	7.5	35.0	1.6	62.3	4	50	-
Pioneer	92M11	2.1	Peking	2.9	14	7.7	36.0	2.3	62.0	5	25	-
Asgrow	AG2108	2.1	PI 88788	2.5	13	7.3	33.3	1.8	61.9	6	300	-
Prairie Brand	PB-2207NRR	2.2	PI 88788	2.5	13	9.0	34.7	1.8	61.8	7	200	-
Viking	2238NRR	2.2	PI 88788	2.4	13	9.2	29.5	1.6	61.7	8	75	-
Viking	2298NRR	2.2	PI 88788	2.9	14	9.2	31.0	1.6	61.7	8	125	-
Kaltenberg	KB247RR	2.4	PI 88788	3.2	15	7.8	33.0	1.8	61.5	10	175	-
Kaltenberg	KB196RR	1.9	PI 88788	3.4	14	8.2	34.3	1.6	61.4	11	50	-
Midwest Seed Genetics	GRX23-01-7	2.3	PI 88788	3.1	14	8.1	31.3	1.8	61.1	12	450	-
Kruger	K-204RR/SCN	2.0	PI 88788	3.1	13	8.3	33.5	1.6	60.8	14	275	-
Latham	L2285R Brand	2.2	PI 88788	2.8	14	8.3	35.0	2.1	60.8	14	150	-
Schillinger Seed	228.RC	2.2	PI 88788	2.3	11	7.4	30.0	1.5	60.3	17	75	-
Kruger	K-222RR/SCN	2.2	PI 88788	2.2	14	9.7	28.8	1.6	60.3	17	250	-
Sand Seed Service, Inc.	SOI 2122NRR	2.1	PI 88788	3.3	14	9.4	34.0	1.9	59.8	19	25	-
Kaltenberg	KB226RR	2.2	PI 88788	2.9	13	8.8	32.0	1.5	59.6	21	1,100	-
Latham	E1983R Brand	1.9	PI 88788	2.4	13	8.1	31.5	1.5	59.5	22	150	-
Pioneer	92M40	2.4	PI 88788	3.0	14	10.0	34.3	1.5	59.4	23	175	-
NuTech	NT-1717RR/SCN	1.7	PI 88788	3.1	9	9.3	30.8	1.8	59.4	23	200	-
Ziller	BT 7217NR	2.1	PI 88788	3.4	14	8.1	33.8	1.9	59.3	27	225	-
Kruger	K-251RR/SCN	2.5	PI 88788	2.3	15	8.5	34.5	1.9	59.3	27	50	-
Gold Country Seed	8820NRR	2.0	PI 88788	2.5	14	8.1	32.8	1.6	59.2	29	50	-
Stine	2523-4	2.5	PI 88788	2.0	15	9.1	34.0	1.6	59.0	30	425	-
Prairie Brand	PB-2007NRR	2.0	PI 88788	2.8	12	9.0	31.8	1.6	58.8	31	200	-
NuTech	NT-7201	2.0	PI 88788	2.5	13	9.7	32.0	1.8	58.4	32	100	-
Prairie Brand	PB-2117NRR	2.1	PI 88788	2.8	12	7.6	29.3	1.5	58.3	33	125	-
Ziller	BT 7208NR	2.0	PI 88788	2.8	14	8.1	31.3	1.7	58.1	34	0	-
Kruger	K-247RR/SCN	2.4	Peking	2.4	12	7.9	33.3	1.9	57.9	35	125	-
Crow's	CRX201-7	2.0	PI 88788	2.5	14	7.9	32.0	1.9	57.7	36	200	-
Kruger	K-245RR/SCN/LINO	2.4	PI 88788	3.3	14	7.0	32.5	1.6	57.5	37	175	-
Asgrow	AG2002	2.0	PI 88788	2.8	11	9.8	36.0	1.9	57.4	38	100	-
Kruger	K-201RR/SCN	2.0	PI 88788	2.4	10	8.5	34.3	1.9	56.9	39	250	-
AgVenture	AV 22P8N RR	2.2	PI 88788	2.8	12	8.4	34.5	1.6	56.6	40	150	-
NuTech	NT-1808RR/SCN	1.8	PI 88788	2.8	10	9.1	35.5	1.6	56.5	41	375	-
Gold Country Seed	3724NRR	2.4	PI 88788	3.3	15	8.5	36.8	1.6	56.1	42	425	-
Kruger	K-248RR/SCN	2.5	PI 88788	3.3	15	9.7	33.8	2.0	55.6	43	275	-
NC+	2V21RR	2.2	PI 88788	2.3	14	8.2	31.8	1.6	55.3	44	500	-
AgVenture	AV 19P1N RR	2.0	PI 88788	2.3	13	6.9	29.8	1.5	55.1	45	200	-
Sand Seed Service, Inc.	SOI 2151NRR	2.1	PI 88788	2.8	12	9.4	33.0	1.8	55.1	45	250	-
Kruger	K-220RR/SCN/LINO	2.2	PI 88788	2.5	15	7.8	33.8	1.6	54.5	46	50	-
Stine	2062-4	2.0	PI 88788	3.1	13	8.7	33.5	2.0	54.2	47	225	-
Kruger	KY2107RN	2.2	PI 88788	3.2	13	7.8	28.3	1.5	53.6	48	250	-
Latham	L2238RV Brand	2.2	PI 88788	2.1	15	8.5	31.8	1.6	52.8	49	200	-
	Average	2.2	---	2.8	13	8.5	32.9	1.7	58.9	---	205	-
	LSD[3]	---	---	---	---	NS	3.7	NS	5.8	---	NS	-
NK	*S21-N6*	*2.1*	*None*	*2.9*	*12*	*8.4*	*29.5*	*1.9*	*61.1*	*12*	*1,225*	-
Pioneer	*92M32*	*2.3*	*None*	*2.8*	*15*	*8.5*	*27.5*	*1.6*	*60.4*	*16*	*750*	-
Asgrow	*AG2106*	*2.1*	*None*	*2.9*	*10*	*7.9*	*33.8*	*1.9*	*59.7*	*20*	*2,075*	-
Asgrow	*AG2403*	*2.4*	*None*	*2.4*	*14*	*7.2*	*29.0*	*1.5*	*59.4*	*23*	*1,575*	-
	Average	2.2	---	2.8	13	8.1	30.1	1.8	60.3	---	1,521	-
	LSD[3]	---	---	---	---	NS	3.4	NS	NS	---	NS	-

Values presented in tables are means. Entries are listed in decreasing order of yield.

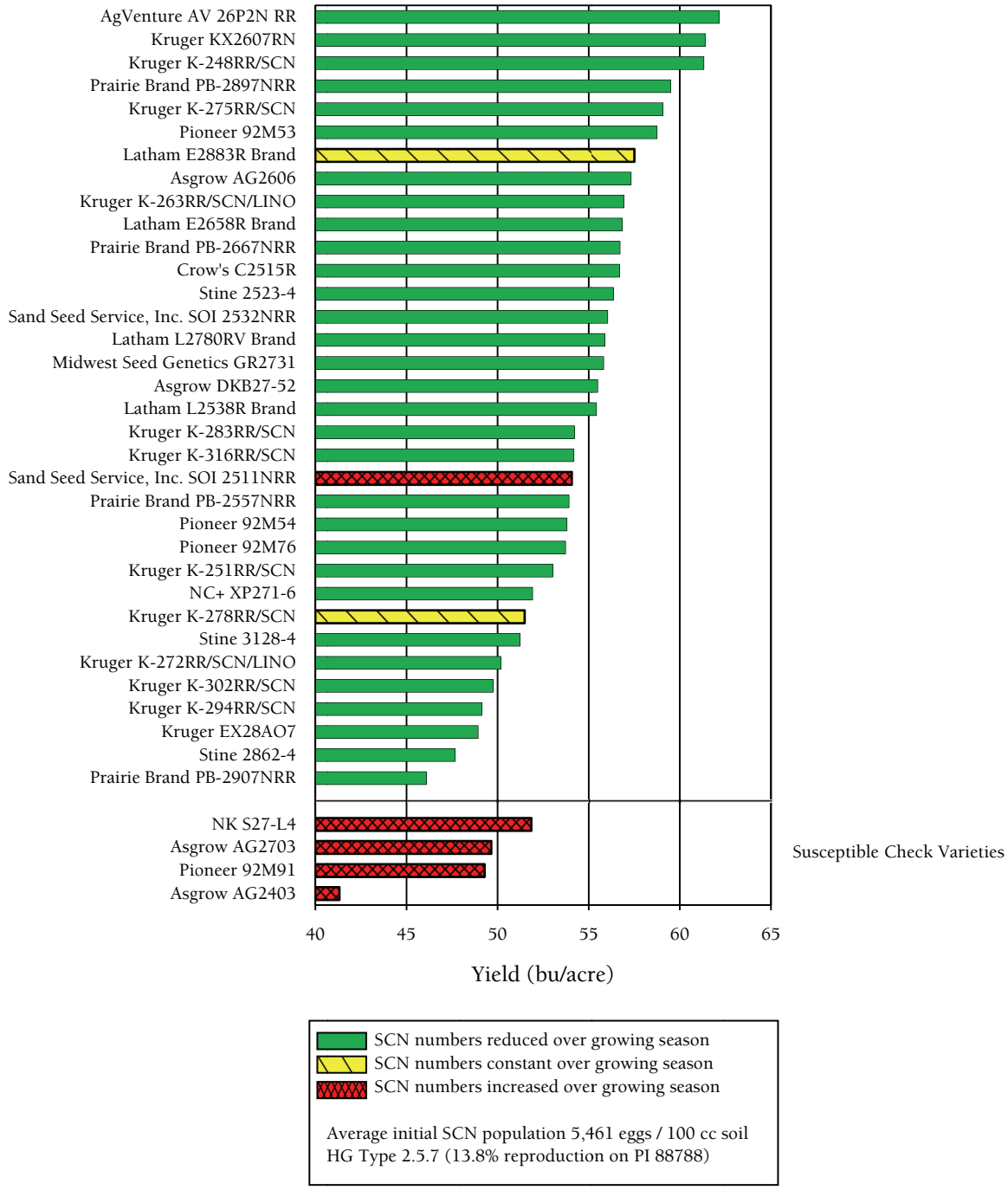
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 301 eggs per 100 cc soil; HG type 7.

[2] Final SCN egg population density / initial SCN egg population density; the high number of plots with an initial egg count of 0 eggs / 100 cc soil made reproductive ratios impossible to accurately calculate for this location.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 5. Farnhamville (WC Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 5.9 bu/acre

Table 5. Farnhamville (WC Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
AgVenture	AV 26P2N RR	2.6	PI 88788	3.0	20	9.9	34.0	2.0	62.2	1	675	0.3
Kruger	KX2607RN	2.6	PI 88788	3.0	19	9.1	34.0	1.9	61.4	2	625	0.2
Kruger	K-248RR/SCN	2.5	PI 88788	3.3	17	9.8	32.5	2.3	61.3	3	975	0.5
Prairie Brand	PB-2897NRR	2.8	PI 88788	3.4	22	8.8	32.3	2.0	59.5	4	825	0.2
Kruger	K-275RR/SCN	2.8	PI 88788	2.8	20	8.7	35.0	1.8	59.1	5	1,825	0.5
Pioneer	92M53	2.5	Peking	2.5	16	8.4	35.3	1.9	58.8	6	900	0.1
Latham	E2883R Brand	2.8	PI 88788	3.1	22	9.5	33.8	2.1	57.5	7	1,950	0.9
Asgrow	AG2606	2.6	PI 88788	2.8	19	9.8	33.5	1.5	57.3	8	975	0.3
Kruger	K-263RR/SCN/LINO	2.7	PI 88788	2.9	20	9.1	34.5	2.1	56.9	9	900	0.4
Latham	E2658R Brand	2.6	PI 88788	2.6	18	10.1	31.3	1.6	56.8	10	1,375	0.2
Prairie Brand	PB-2667NRR	2.6	PI 88788	2.8	17	9.2	31.8	1.8	56.7	11	1,325	0.2
Crow's	C2515R	2.5	PI 88788	2.5	18	8.7	34.3	2.1	56.7	11	1,150	0.7
Stine	2523-4	2.5	PI 88788	2.0	18	9.8	34.0	1.9	56.4	13	475	0.4
Sand Seed Service, Inc.	SOI 2532NRR	2.5	PI 88788	2.4	19	8.2	32.5	1.9	56.1	14	1,000	0.4
Latham	L2780RV Brand	2.7	PI 88788	3.6	20	10.2	31.3	1.4	55.9	15	750	0.2
Midwest Seed Genetics	GR2731	2.7	PI 88788	2.5	20	8.3	33.8	1.6	55.8	16	3,550	0.7
Asgrow	DKB27-52	2.7	PI 88788	3.1	18	8.6	32.3	1.6	55.5	17	1,175	0.3
Latham	L2538R Brand	2.5	PI 88788	2.7	18	9.8	31.3	1.6	55.4	18	800	0.4
Kruger	K-283RR/SCN	2.8	PI 88788	3.1	21	8.0	33.8	1.6	54.2	19	1,375	0.5
Kruger	K-316RR/SCN	3.1	PI 88788	3.1	21	8.7	34.0	1.5	54.2	19	1,200	0.3
Sand Seed Service, Inc.	SOI 2511NRR	2.5	PI 88788	2.7	17	9.1	35.3	2.0	54.1	21	1,425	1.3
Prairie Brand	PB-2557NRR	2.5	PI 88788	2.9	17	8.4	31.8	1.6	53.9	22	1,000	0.2
Pioneer	92M54	2.5	PI 88788	3.3	17	8.8	31.0	1.9	53.8	23	1,575	0.5
Pioneer	92M76	2.7	PI 88788	2.4	21	9.1	33.0	1.6	53.7	24	700	0.2
Kruger	K-251RR/SCN	2.5	PI 88788	2.3	18	9.7	31.8	1.6	53.0	25	1,350	0.2
NC+	XP271-6	2.7	PI 88788	2.1	19	8.8	30.3	1.5	51.9	26	2,025	0.3
Kruger	K-278RR/SCN	2.7	PI 88788	3.5	19	8.8	34.3	2.1	51.5	28	4,150	1.1
Stine	3128-4	3.1	PI 88788	2.9	22	8.3	31.3	1.3	51.2	29	1,975	0.3
Kruger	K-272RR/SCN/LINO	2.7	PI 88788	3.5	21	8.9	30.0	1.4	50.2	30	2,325	0.4
Kruger	K-302RR/SCN	3.0	PI 88788	3.0	24	9.5	35.8	1.8	49.8	31	1,750	0.2
Kruger	K-294RR/SCN	2.9	PI 88788	2.1	19	8.3	38.5	2.4	49.1	34	225	0.1
Kruger	EX28AO7	2.9	PI 88788	2.5	20	8.9	30.8	1.5	48.9	35	1,575	0.3
Stine	2862-4	2.8	PI 88788	1.8	24	9.4	32.5	1.8	47.7	36	2,800	0.5
Prairie Brand	PB-2907NRR	2.9	PI 88788	2.2	23	7.3	32.3	1.6	46.1	37	2,000	0.4
	Average	2.7	-	2.8	19	9.0	33.0	1.8	54.8	-	1,432	0.4
	LSD[3]	-	-	-	-	NS	3.6	0.3	5.9	-	1,826	NS
NK	*S27-L4*	*2.7*	*None*	*3.2*	*18*	*9.7*	*30.5*	*1.3*	*51.9*	*26*	*3,225*	*2.0*
Asgrow	*AG2703*	*2.7*	*None*	*2.4*	*18*	*8.3*	*34.0*	*1.8*	*49.7*	*32*	*4,750*	*2.4*
Pioneer	*92M91*	*2.9*	*None*	*3.3*	*21*	*7.5*	*35.0*	*1.5*	*49.3*	*33*	*2,625*	*2.2*
Asgrow	*AG2403*	*2.4*	*None*	*2.4*	*14*	*8.4*	*23.0*	*1.3*	*41.3*	*38*	*4,475*	*5.4*
	Average	2.7	-	2.8	17	8.5	30.6	1.4	48.0	-	3,769	3.0
	LSD[3]	-	-	-	-	1.4	5.5	0.4	NS	-	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.

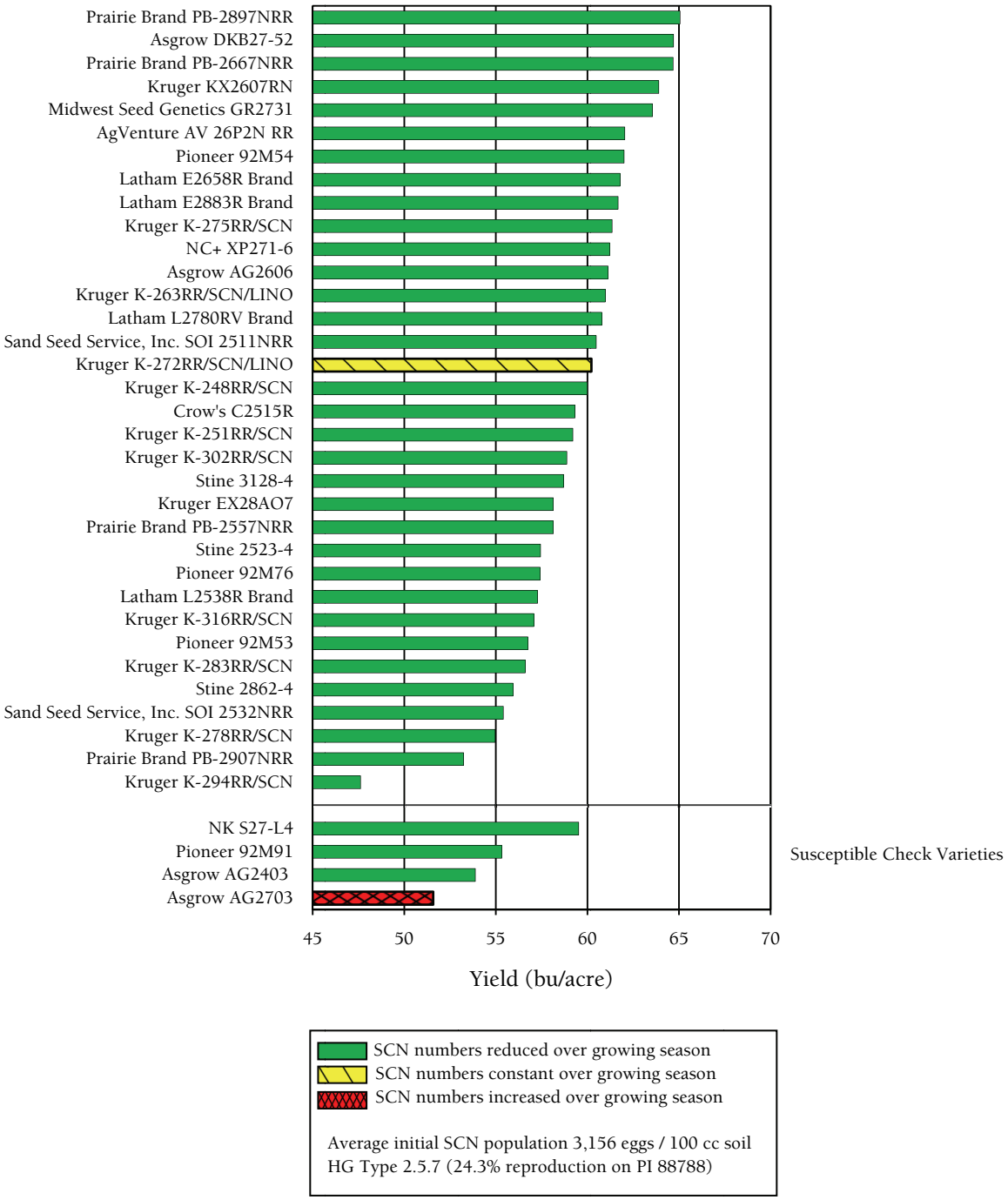
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 5,461 eggs per 100 cc soil; HG type 2.5.7 (13.8% reproduction on PI 88788).

[2] Final SCN egg population density / initial SCN egg population density.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 6. Cambridge (C Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 4.4 bu/acre

Table 6. Cambridge (C Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Prairie Brand	PB-2897NRR	2.8	PI 88788	3.4	22	9.0	39.0	2.4	65.1	1	575	0.3
Asgrow	DKB27-52	2.7	PI 88788	3.1	18	7.2	37.5	1.9	64.7	2	650	0.3
Prairie Brand	PB-2667NRR	2.6	PI 88788	2.8	17	8.0	36.5	1.9	64.7	2	575	0.4
Kruger	KX2607RN	2.6	PI 88788	3.0	19	8.2	37.8	2.1	63.9	4	575	0.5
Midwest Seed Genetics	GR2731	2.7	PI 88788	2.5	20	9.6	43.8	2.1	63.6	5	1,175	0.5
AgVenture	AV 26P2N RR	2.6	PI 88788	3.0	20	8.1	38.8	2.3	62.0	6	400	0.2
Pioneer	92M54	2.5	PI 88788	3.3	17	7.7	37.3	1.8	62.0	6	425	0.3
Latham	E2658R Brand	2.6	PI 88788	2.6	18	8.6	37.3	2.4	61.8	8	500	0.3
Latham	E2883R Brand	2.8	PI 88788	3.1	22	8.8	40.8	2.3	61.7	9	200	0.1
Kruger	K-275RR/SCN	2.8	PI 88788	2.8	20	7.5	45.8	2.4	61.4	10	600	0.6
NC+	XP271-6	2.7	PI 88788	2.1	19	8.5	39.0	2.1	61.2	11	850	0.3
Asgrow	AG2606	2.6	PI 88788	2.8	19	7.9	40.3	2.1	61.1	12	350	0.2
Kruger	K-263RR/SCN/LINO	2.7	PI 88788	2.9	20	8.8	41.5	2.5	61.0	13	1,100	0.4
Latham	L2780RV Brand	2.7	PI 88788	3.6	20	8.2	35.3	2.1	60.8	14	1,000	0.4
Sand Seed Service, Inc.	SOI 2511NRR	2.5	PI 88788	2.7	17	8.4	43.3	2.4	60.5	15	400	0.6
Kruger	K-272RR/SCN/LINO	2.7	PI 88788	3.5	21	7.8	36.8	2.1	60.2	16	700	0.8
Kruger	K-248RR/SCN	2.5	PI 88788	3.3	17	8.5	37.8	1.9	60.0	17	550	0.2
Crow's	C2515R	2.5	PI 88788	2.5	18	9.1	37.5	2.3	59.3	19	775	0.5
Kruger	K-251RR/SCN	2.5	PI 88788	2.3	18	8.3	37.5	2.0	59.2	20	625	0.3
Kruger	K-302RR/SCN	3.0	PI 88788	3.0	24	9.8	44.5	1.5	58.9	21	775	0.7
Stine	3128-4	3.1	PI 88788	2.9	22	7.3	38.8	1.6	58.7	22	375	0.3
Kruger	EX28AO7	2.9	PI 88788	2.5	20	7.0	37.5	1.8	58.1	23	525	0.3
Prairie Brand	PB-2557NRR	2.5	PI 88788	2.9	17	8.7	37.5	1.9	58.1	23	1,375	0.6
Stine	2523-4	2.5	PI 88788	2.0	18	8.4	37.0	2.0	57.4	25	1,075	0.2
Pioneer	92M76	2.7	PI 88788	2.4	21	8.8	36.8	2.4	57.4	25	550	0.2
Latham	L2538R Brand	2.5	PI 88788	2.7	18	8.5	37.8	1.9	57.3	27	325	0.5
Kruger	K-316RR/SCN	3.1	PI 88788	3.1	21	8.3	34.5	1.3	57.1	28	825	0.6
Pioneer	92M53	2.5	Peking	2.5	16	8.2	39.3	2.5	56.8	29	1,200	0.6
Kruger	K-283RR/SCN	2.8	PI 88788	3.1	21	7.8	39.5	2.1	56.6	30	700	0.4
Stine	2862-4	2.8	PI 88788	1.8	24	7.8	41.5	2.0	55.9	31	375	0.4
Sand Seed Service, Inc.	SOI 2532NRR	2.5	PI 88788	2.4	19	7.8	38.0	1.9	55.4	32	375	0.2
Kruger	K-278RR/SCN	2.7	PI 88788	3.5	19	8.2	45.3	2.3	55.0	34	300	0.4
Prairie Brand	PB-2907NRR	2.9	PI 88788	2.2	23	9.7	43.5	2.0	53.2	36	525	0.3
Kruger	K-294RR/SCN	2.9	PI 88788	2.1	19	9.3	41.8	2.6	47.6	38	500	0.1
	Average	2.7	-	2.8	19	8.3	39.3	2.1	59.3	-	642	0.4
	LSD[3]	-	-	-	-	NS	2.7	0.5	4.4	-	632	NS
NK	*S27-L4*	*2.7*	*None*	*3.2*	*18*	*8.7*	*37.8*	*1.8*	*59.5*	*18*	*1,375*	*0.4*
Pioneer	*92M91*	*2.9*	*None*	*3.3*	*21*	*9.3*	*41.3*	*2.4*	*55.3*	*33*	*1,525*	*0.7*
Asgrow	*AG2403*	*2.4*	*None*	*2.4*	*14*	*7.9*	*30.8*	*1.5*	*53.9*	*35*	*2,375*	*0.6*
Asgrow	*AG2703*	*2.7*	*None*	*2.4*	*18*	*7.7*	*43.0*	*2.1*	*51.6*	*37*	*3,200*	*2.1*
	Average	2.7	-	2.8	17	8.4	38.2	1.9	55.1	-	2,119	0.9
	LSD[3]	-	-	-	-	NS	3.6	0.5	4.7	-	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.

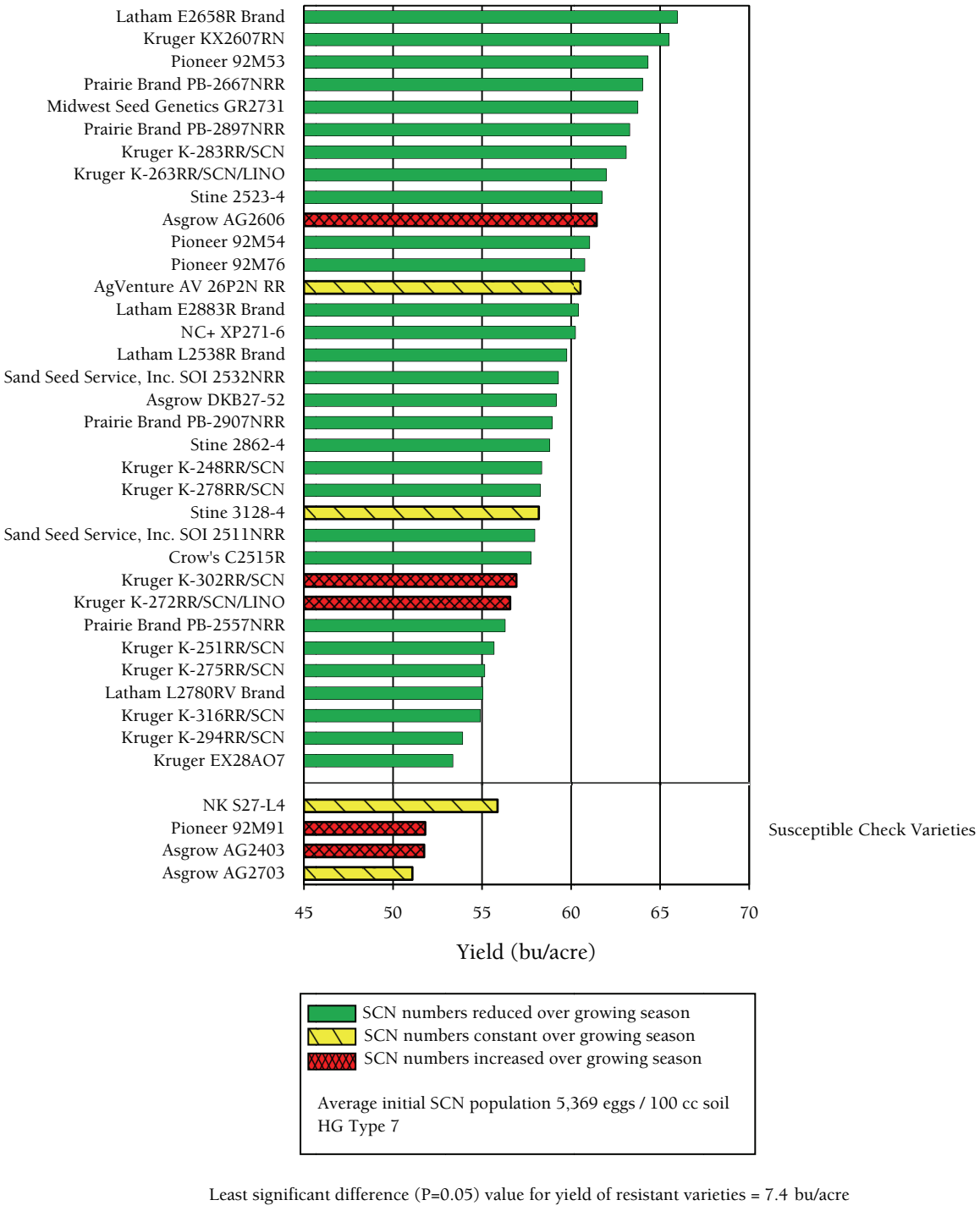
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 3,156 eggs per 100 cc soil; HG type 2.5.7 (24.3% reproduction on PI 88788).

[2] Final SCN egg population density / initial SCN egg population density.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 7. Urbana (EC Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 7.4 bu/acre

Table 7. Urbana (EC Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Latham	E2658R Brand	2.6	PI 88788	2.6	18	9.8	35.3	1.9	66.0	1	875	0.3
Kruger	KX2607RN	2.6	PI 88788	3.0	19	8.4	36.0	2.0	65.5	2	825	0.1
Pioneer	92M53	2.5	Peking	2.5	16	8.0	41.3	2.4	64.3	3	750	0.4
Prairie Brand	PB-2667NRR	2.6	PI 88788	2.8	17	8.3	34.5	1.6	64.0	4	1,800	0.4
Midwest Seed Genetics	GR2731	2.7	PI 88788	2.5	20	8.7	42.8	2.4	63.8	5	1,625	0.4
Prairie Brand	PB-2897NRR	2.8	PI 88788	3.4	22	9.7	38.5	2.3	63.3	6	725	0.2
Kruger	K-283RR/SCN	2.8	PI 88788	3.1	21	8.9	40.3	1.6	63.1	7	1,150	0.2
Kruger	K-263RR/SCN/LINO	2.7	PI 88788	2.9	20	10.1	40.0	2.1	62.0	8	1,125	0.3
Stine	2523-4	2.5	PI 88788	2.0	18	9.3	34.3	1.8	61.7	9	1,100	0.2
Asgrow	AG2606	2.6	PI 88788	2.8	19	9.4	37.3	2.0	61.4	10	1,000	1.5
Pioneer	92M54	2.5	PI 88788	3.3	17	8.6	36.0	1.6	61.0	11	875	0.3
Pioneer	92M76	2.7	PI 88788	2.4	21	9.5	33.8	1.8	60.8	12	775	0.5
AgVenture	AV 26P2N RR	2.6	PI 88788	3.0	20	8.3	35.5	1.8	60.5	13	975	0.8
Latham	E2883R Brand	2.8	PI 88788	3.1	22	8.7	37.5	2.0	60.4	14	850	0.4
NC+	XP271-6	2.7	PI 88788	2.1	19	8.3	38.3	2.3	60.2	15	925	0.1
Latham	L2538R Brand	2.5	PI 88788	2.7	18	10.6	35.3	2.1	59.8	16	975	0.3
Sand Seed Service, Inc.	SOI 2532NRR	2.5	PI 88788	2.4	19	8.7	30.8	1.8	59.3	17	1,100	0.3
Asgrow	DKB27-52	2.7	PI 88788	3.1	18	7.9	33.3	1.6	59.2	18	1,325	0.3
Prairie Brand	PB-2907NRR	2.9	PI 88788	2.2	23	8.0	36.8	1.8	58.9	19	1,225	0.2
Stine	2862-4	2.8	PI 88788	1.8	24	8.8	39.0	2.4	58.8	20	850	0.3
Kruger	K-248RR/SCN	2.5	PI 88788	3.3	17	9.6	35.5	1.6	58.4	21	1,000	0.5
Kruger	K-278RR/SCN	2.7	PI 88788	3.5	19	8.5	39.0	2.0	58.3	22	1,100	0.3
Stine	3128-4	3.1	PI 88788	2.9	22	8.8	37.3	1.6	58.2	23	1,525	0.9
Sand Seed Service, Inc.	SOI 2511NRR	2.5	PI 88788	2.7	17	9.3	43.5	2.4	58.0	24	575	0.2
Crow's	C2515R	2.5	PI 88788	2.5	18	8.5	34.0	1.9	57.8	25	1,300	0.4
Kruger	K-302RR/SCN	3.0	PI 88788	3.0	24	8.5	38.0	1.5	56.9	26	2,300	2.8
Kruger	K-272RR/SCN/LINO	2.7	PI 88788	3.5	21	8.8	34.5	1.9	56.6	27	1,375	1.7
Prairie Brand	PB-2557NRR	2.5	PI 88788	2.9	17	8.3	34.8	1.9	56.3	28	550	0.2
Kruger	K-251RR/SCN	2.5	PI 88788	2.3	18	8.8	33.5	1.8	55.7	30	1,050	0.6
Kruger	K-275RR/SCN	2.8	PI 88788	2.8	20	8.6	39.8	2.4	55.2	31	1,250	0.3
Latham	L2780RV Brand	2.7	PI 88788	3.6	20	9.6	31.8	1.6	55.0	32	1,575	0.7
Kruger	K-316RR/SCN	3.1	PI 88788	3.1	21	7.7	41.0	1.9	54.9	33	1,025	0.6
Kruger	K-294RR/SCN	2.9	PI 88788	2.1	19	9.0	41.8	2.5	53.9	34	925	0.2
Kruger	EX28AO7	2.9	PI 88788	2.5	20	8.0	37.0	1.9	53.4	35	1,900	0.4
	Average	2.7	-	2.8	19	8.8	37.0	1.9	59.5	-	1,126	0.5
	LSD[3]	-	-	-	-	1.5	3.8	0.4	7.4	-	NS	NS
NK	*S27-L4*	*2.7*	*None*	*3.2*	*18*	*9.3*	*34.0*	*1.5*	*55.9*	*29*	*4,500*	*0.8*
Pioneer	*92M91*	*2.9*	*None*	*3.3*	*21*	*9.0*	*35.0*	*1.5*	*51.8*	*36*	*5,225*	*3.5*
Asgrow	*AG2403*	*2.4*	*None*	*2.4*	*14*	*8.0*	*29.0*	*1.5*	*51.7*	*37*	*5,325*	*14.2*
Asgrow	*AG2703*	*2.7*	*None*	*2.4*	*18*	*8.3*	*39.0*	*2.0*	*51.1*	*38*	*4,075*	*0.7*
	Average	2.7	-	2.8	17	8.6	34.3	1.6	52.6	-	4,781	4.8
	LSD[3]	-	-	-	-	NS	3.6	0.3	NS	-	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.

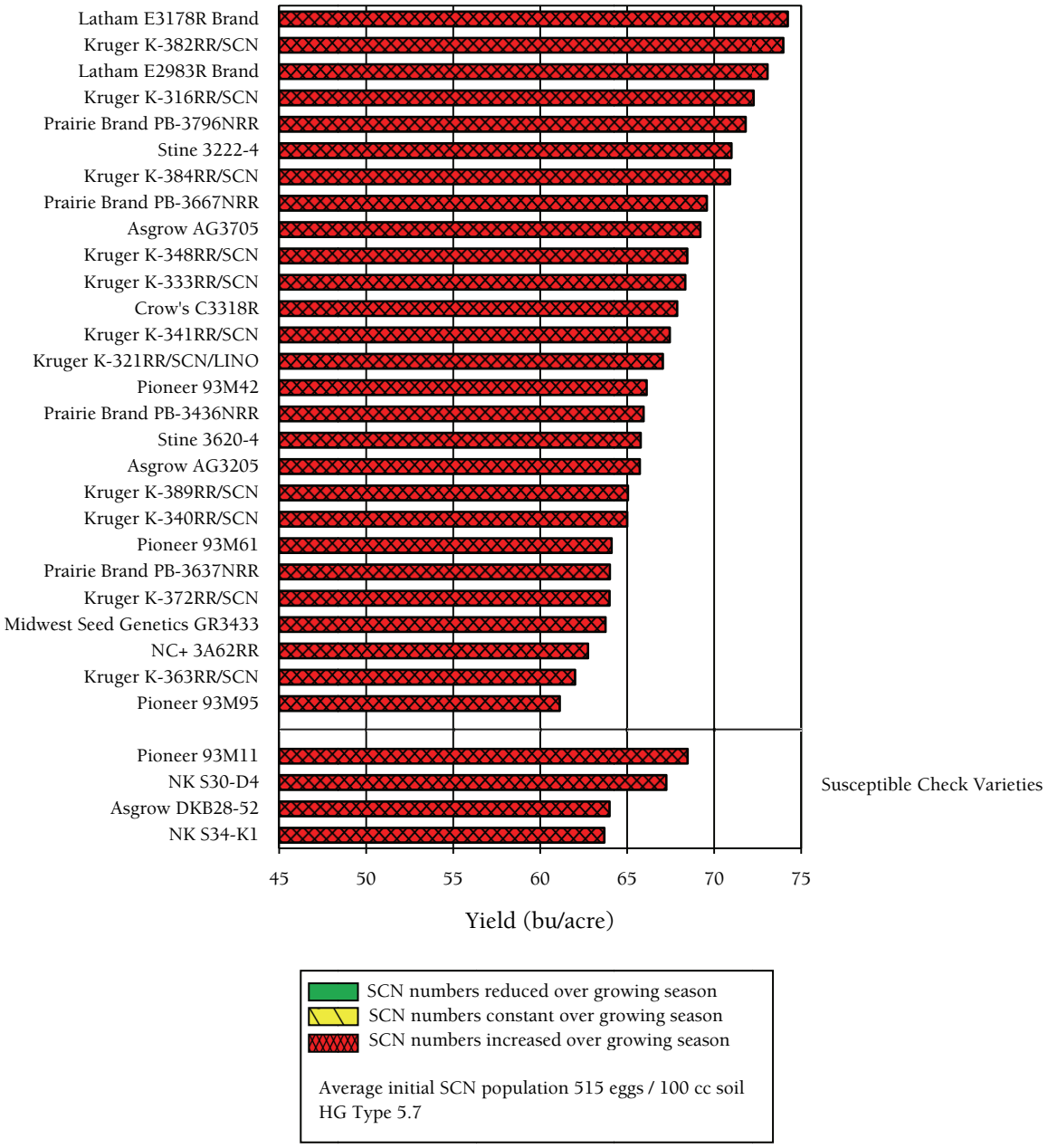
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 5,369 eggs per 100 cc soil; HG type 7.

[2] Final SCN egg population density / initial SCN egg population density.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 8. Council Bluffs (SW Iowa)



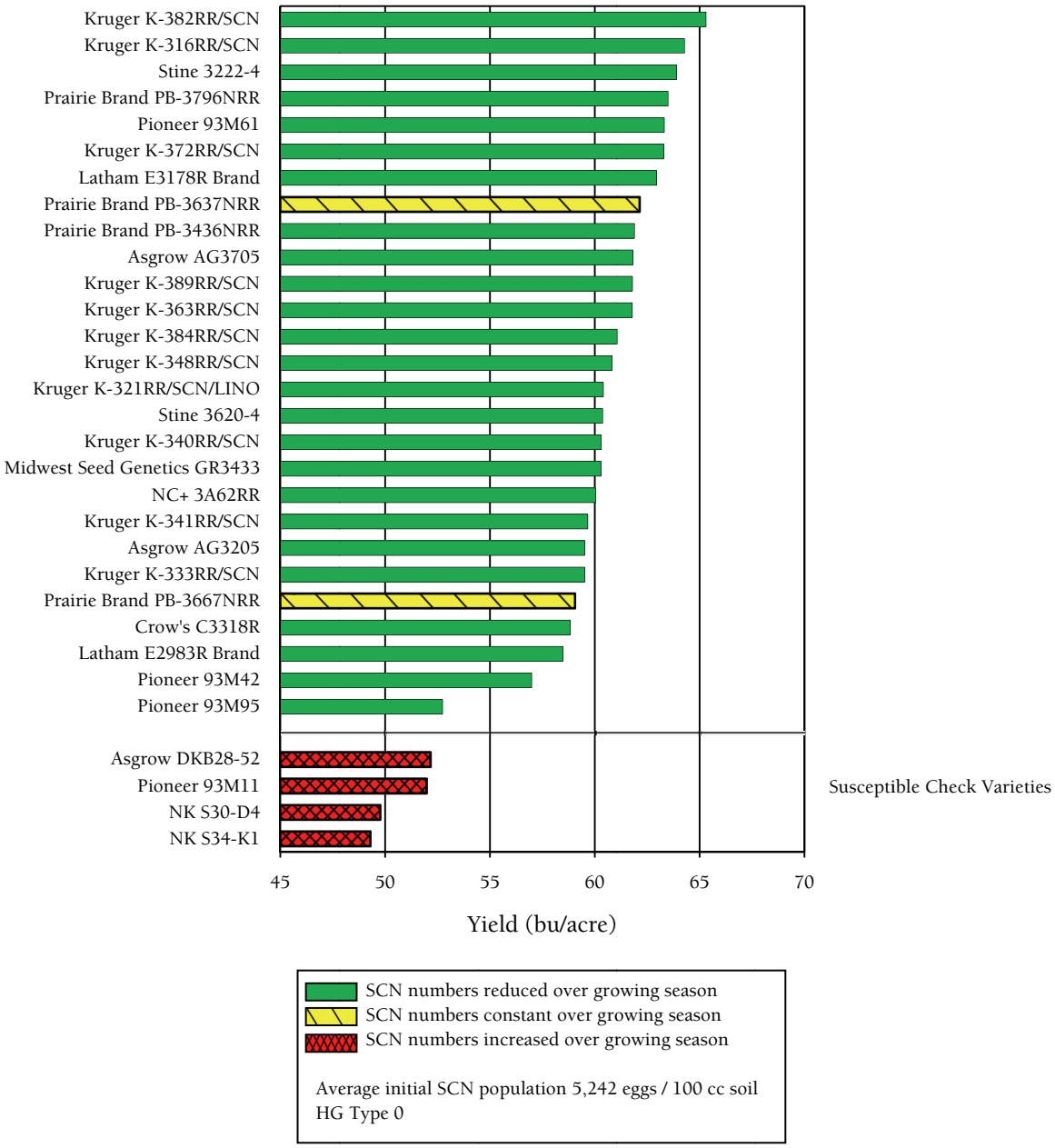
Least significant difference (P=0.05) value for yield of resistant varieties = 4.8 bu/acre

Table 8. Council Bluffs (SW Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Latham	E3178R Brand	3.1	PI 88788	2.9	24	6.8	39.0	2.0	74.2	1	1,300	13.9
Kruger	K-382RR/SCN	3.8	PI 88788	2.9	31	6.5	43.5	2.3	74.0	2	1,250	4.3
Latham	E2983R Brand	2.9	PI 88788	2.6	24	6.8	41.0	3.0	73.1	3	2,750	6.9
Kruger	K-316RR/SCN	3.1	PI 88788	3.1	24	6.8	39.5	1.9	72.3	4	1,475	8.7
Prairie Brand	PB-3796NRR	3.7	PI 88788	2.8	31	7.3	43.3	2.1	71.8	5	1,375	5.0
Stine	3222-4	3.2	PI 88788	3.7	28	7.2	38.8	2.3	71.0	6	1,200	10.1
Kruger	K-384RR/SCN	3.8	PI 88788	2.8	33	8.0	44.8	2.1	70.9	7	1,000	4.4
Prairie Brand	PB-3667NRR	3.6	PI 88788	2.8	30	7.3	43.3	2.1	69.6	8	1,225	8.5
Asgrow	AG3705	3.7	PI 88788	3.6	33	7.5	44.3	2.0	69.2	9	1,500	3.7
Kruger	K-348RR/SCN	3.4	PI 88788	3.6	27	7.3	42.0	2.3	68.5	10	1,850	10.6
Kruger	K-333RR/SCN	3.3	PI 88788	3.1	30	6.9	38.5	2.9	68.3	12	1,000	1.7
Crow's	C3318R	3.3	PI 88788	3.6	30	7.8	43.5	2.8	67.9	13	3,000	6.8
Kruger	K-341RR/SCN	3.4	PI 88788	3.0	29	7.7	41.8	2.3	67.4	14	2,175	8.7
Kruger	K-321RR/SCN/LINO	3.2	PI 88788	3.2	27	8.8	38.5	3.3	67.1	16	1,300	6.1
Pioneer	93M42	3.4	PI 88788	3.6	27	6.7	47.5	2.0	66.1	17	625	1.8
Prairie Brand	PB-3436NRR	3.4	PI 88788	3.2	29	7.2	37.0	2.9	65.9	18	1,925	5.1
Stine	3620-4	3.6	PI 88788	3.8	30	6.7	44.3	2.3	65.8	19	1,325	4.9
Asgrow	AG3205	3.2	PI 88788	3.6	30	8.8	44.8	2.8	65.7	20	3,500	3.6
Kruger	K-389RR/SCN	3.9	PI 88788	3.5	33	7.7	42.0	2.0	65.0	21	3,000	2.8
Kruger	K-340RR/SCN	3.4	PI 88788	2.9	28	6.8	36.8	2.8	65.0	21	3,700	4.4
Pioneer	93M61	3.6	PI 88788	3.4	26	6.8	42.8	2.1	64.1	23	2,525	8.2
Prairie Brand	PB-3637NRR	3.6	PI 88788	3.8	30	6.0	44.3	2.0	64.0	24	750	3.1
Kruger	K-372RR/SCN	3.7	PI 88788	3.6	32	5.6	45.3	2.0	64.0	24	1,300	6.7
Midwest Seed Genetics	GR3433	3.4	PI 88788	3.3	31	7.4	43.8	2.4	63.8	27	2,475	8.4
NC+	3A62RR	3.6	PI 88788	3.2	31	7.3	44.8	2.3	62.7	29	1,200	4.4
Kruger	K-363RR/SCN	3.7	PI 88788	3.1	32	8.3	46.0	2.4	62.0	30	2,675	4.8
Pioneer	93M95	3.9	PI 88788	3.5	32	6.5	44.5	2.9	61.1	31	725	4.6
	Average	3.5	-	3.3	29	7.2	42.4	2.4	67.4	-	1,782	5.9
	LSD[3]	-	-	-	-	NS	2.5	0.4	4.8	-	1,887	NS
Pioneer	*93M11*	*3.1*	*None*	*3.1*	*23*	*6.1*	*39.0*	*2.4*	*68.5*	*10*	*2,800*	*4.1*
NK	*S30-D4*	*3.4*	*None*	*3.6*	*22*	*8.2*	*40.8*	*2.0*	*67.3*	*15*	*4,825*	*42.0*
Asgrow	*DKB28-52*	*2.8*	*None*	*3.2*	*23*	*7.6*	*39.5*	*3.0*	*64.0*	*24*	*8,675*	*13.7*
NK	*S34-K1*	*3.1*	*None*	*3.2*	*24*	*6.7*	*43.5*	*3.1*	*63.7*	*28*	*8,075*	*9.4*
	Average	3.1	-	3.3	23	7.1	40.7	2.6	65.8	-	6,094	17.3
	LSD[3]	-	-	-	-	NS	3.3	0.8	NS	-	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.
[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 515 eggs per 100 cc soil; HG type 5.7.
[2] Final SCN egg population density / initial SCN egg population density.
[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 9. Melrose (SC Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 4.1 bu/acre

Table 9. Melrose (SC Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Kruger	K-382RR/SCN	3.8	PI 88788	2.9	31	8.7	32.0	1.4	65.3	1	725	0.7
Kruger	K-316RR/SCN	3.1	PI 88788	3.1	24	8.9	27.0	1.0	64.3	2	1,250	0.3
Stine	3222-4	3.2	PI 88788	3.7	28	8.7	28.8	1.6	63.9	3	1,225	0.3
Prairie Brand	PB-3796NRR	3.7	PI 88788	2.8	31	7.5	32.8	1.5	63.5	4	850	0.1
Pioneer	93M61	3.6	PI 88788	3.4	26	7.6	32.5	1.3	63.3	5	1,225	0.6
Kruger	K-372RR/SCN	3.7	PI 88788	3.6	32	6.4	33.8	1.8	63.3	5	1,075	0.3
Latham	E3178R Brand	3.1	PI 88788	2.9	24	10.2	26.3	1.0	63.0	7	725	0.2
Prairie Brand	PB-3637NRR	3.6	PI 88788	3.8	30	8.1	34.0	2.0	62.1	8	625	1.2
Prairie Brand	PB-3436NRR	3.4	PI 88788	3.2	29	9.6	28.0	1.6	61.9	9	2,050	0.3
Asgrow	AG3705	3.7	PI 88788	3.6	33	9.4	33.5	1.9	61.8	10	750	0.2
Kruger	K-389RR/SCN	3.9	PI 88788	3.5	33	9.3	32.0	1.6	61.8	10	800	0.2
Kruger	K-363RR/SCN	3.7	PI 88788	3.1	32	9.6	34.5	1.8	61.8	10	850	0.2
Kruger	K-384RR/SCN	3.8	PI 88788	2.8	33	8.4	33.3	1.9	61.1	13	1,575	0.2
Kruger	K-348RR/SCN	3.4	PI 88788	3.6	27	8.6	30.3	2.0	60.8	14	725	0.3
Kruger	K-321RR/SCN/LINO	3.2	PI 88788	3.2	27	8.7	31.3	1.8	60.4	15	775	0.3
Stine	3620-4	3.6	PI 88788	3.8	30	8.8	32.5	1.3	60.4	15	1,275	0.5
Kruger	K-340RR/SCN	3.4	PI 88788	2.9	28	8.1	29.0	1.9	60.3	17	1,950	0.4
Midwest Seed Genetics	GR3433	3.4	PI 88788	3.3	31	8.7	33.0	1.9	60.3	17	750	0.2
NC+	3A62RR	3.6	PI 88788	3.2	31	8.2	33.5	1.5	60.0	19	975	0.3
Kruger	K-341RR/SCN	3.4	PI 88788	3.0	29	9.1	29.0	1.5	59.7	20	1,625	0.4
Asgrow	AG3205	3.2	PI 88788	3.6	30	7.2	32.0	1.6	59.5	21	1,325	0.1
Kruger	K-333RR/SCN	3.3	PI 88788	3.1	30	7.8	29.3	2.0	59.5	21	2,925	0.6
Prairie Brand	PB-3667NRR	3.6	PI 88788	2.8	30	8.6	31.5	1.9	59.1	23	2,075	0.9
Crow's	C3318R	3.3	PI 88788	3.6	30	7.8	32.5	2.3	58.8	24	2,275	0.2
Latham	E2983R Brand	2.9	PI 88788	2.6	24	9.5	26.5	1.6	58.5	25	725	0.2
Pioneer	93M42	3.4	PI 88788	3.6	27	7.3	33.5	1.6	57.0	26	900	0.3
Pioneer	93M95	3.9	PI 88788	3.5	32	9.5	33.5	3.0	52.7	27	350	0.2
	Average	3.5	-	3.3	29	8.5	31.3	1.7	60.9	-	1,199	0.4
	LSD[3]	-	-	-	-	1.7	1.8	0.4	4.1	-	NS	NS
Asgrow	*DKB28-52*	*2.8*	*None*	*3.2*	*23*	*8.5*	*28.5*	*1.5*	*52.2*	*28*	*8,425*	*3.1*
Pioneer	*93M11*	*3.1*	*None*	*3.1*	*23*	*9.3*	*28.3*	*1.1*	*52.0*	*29*	*8,725*	*4.7*
NK	*S30-D4*	*3.4*	*None*	*3.6*	*22*	*9.1*	*27.5*	*1.1*	*49.8*	*30*	*15,550*	*8.0*
NK	*S34-K1*	*3.1*	*None*	*3.2*	*24*	*10.1*	*28.3*	*2.0*	*49.3*	*31*	*8,475*	*2.5*
	Average	3.1	-	3.3	23	9.3	28.1	1.4	50.8	-	10,294	4.6
	LSD[3]	-	-	-	-	NS	NS	0.5	NS	-	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.

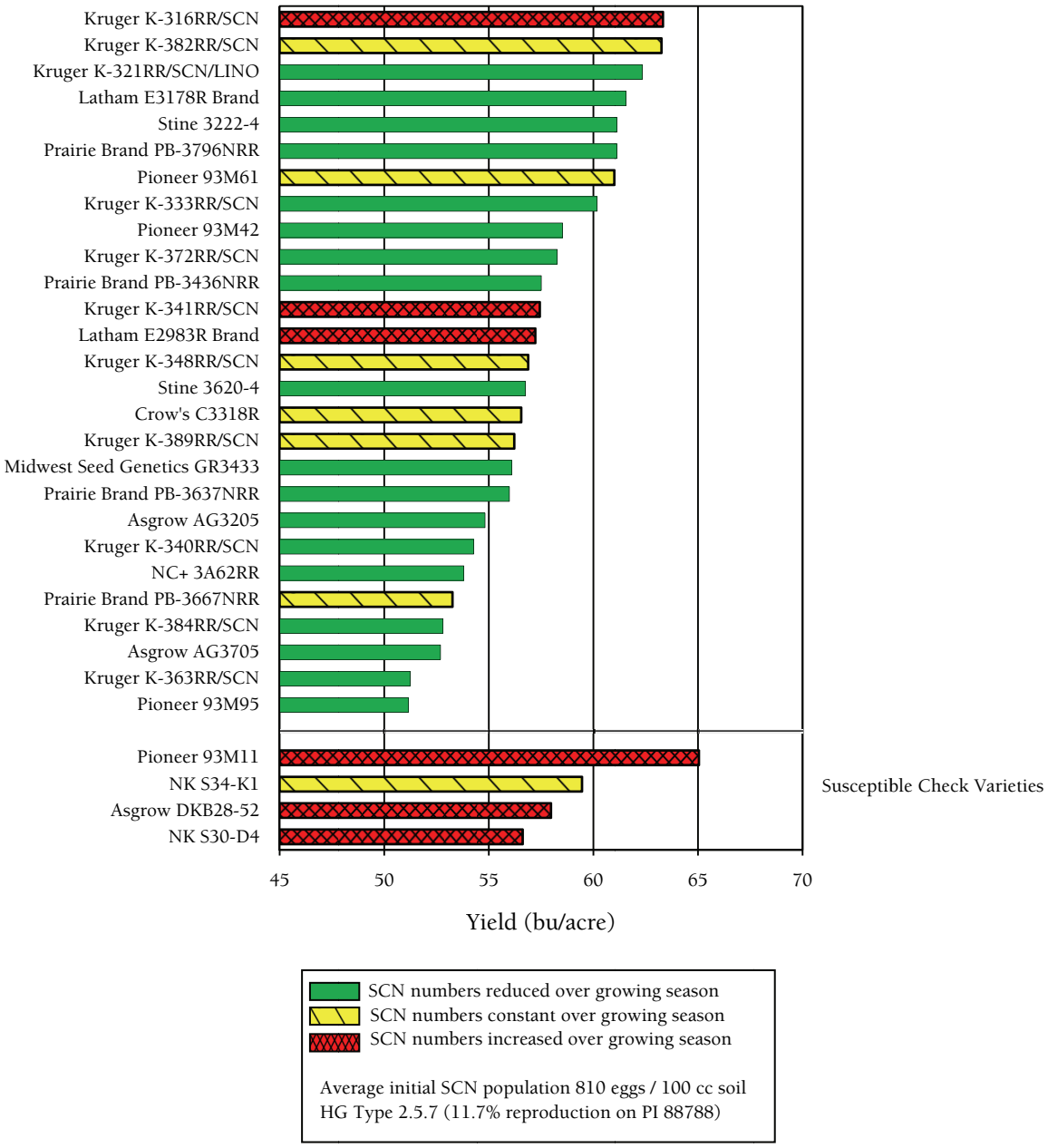
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.

[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 5,242 eggs per 100 cc soil; HG type 0.

[2] Final SCN egg population density / initial SCN egg population density.

[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Figure 10. Crawfordsville (SE Iowa)



Least significant difference (P=0.05) value for yield of resistant varieties = 5.4 bu/acre

Table 10. Crawfordsville (SE Iowa)

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Emergence (plants/ft)	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Kruger	K-316RR/SCN	3.1	PI 88788	3.1	24	8.3	39.3	1.6	63.3	2	350	2.0
Kruger	K-382RR/SCN	3.8	PI 88788	2.9	31	9.9	40.5	2.3	63.3	2	250	0.8
Kruger	K-321RR/SCN/LINO	3.2	PI 88788	3.2	27	9.0	38.5	2.1	62.3	4	150	0.5
Latham	E3178R Brand	3.1	PI 88788	2.9	24	8.6	39.0	1.9	61.6	5	250	0.6
Stine	3222-4	3.2	PI 88788	3.7	28	8.7	38.3	1.6	61.1	6	275	0.6
Prairie Brand	PB-3796NRR	3.7	PI 88788	2.8	31	7.0	40.3	2.0	61.1	6	350	0.4
Pioneer	93M61	3.6	PI 88788	3.4	26	8.7	40.8	1.9	61.0	8	175	0.9
Kruger	K-333RR/SCN	3.3	PI 88788	3.1	30	9.0	37.3	2.1	60.2	9	225	0.3
Pioneer	93M42	3.4	PI 88788	3.6	27	7.3	43.8	2.0	58.5	11	125	0.1
Kruger	K-372RR/SCN	3.7	PI 88788	3.6	32	7.4	42.0	2.1	58.3	12	225	0.2
Prairie Brand	PB-3436NRR	3.4	PI 88788	3.2	29	7.9	36.3	2.1	57.5	14	175	0.2
Kruger	K-341RR/SCN	3.4	PI 88788	3.0	29	8.9	39.8	2.4	57.4	15	650	3.1
Latham	E2983R Brand	2.9	PI 88788	2.6	24	11.3	37.0	2.4	57.2	16	400	1.9
Kruger	K-348RR/SCN	3.4	PI 88788	3.6	27	8.8	40.0	2.1	56.9	17	275	1.1
Stine	3620-4	3.6	PI 88788	3.8	30	8.8	41.0	2.0	56.7	18	125	0.2
Crow's	C3318R	3.3	PI 88788	3.6	30	9.0	41.0	2.0	56.6	19	525	0.8
Kruger	K-389RR/SCN	3.9	PI 88788	3.5	33	8.9	41.8	2.0	56.2	21	525	0.9
Midwest Seed Genetics	GR3433	3.4	PI 88788	3.3	31	8.6	40.5	2.0	56.1	22	150	0.3
Prairie Brand	PB-3637NRR	3.6	PI 88788	3.8	30	8.9	40.8	2.0	56.0	23	275	0.4
Asgrow	AG3205	3.2	PI 88788	3.6	30	8.8	41.0	2.4	54.8	24	150	0.3
Kruger	K-340RR/SCN	3.4	PI 88788	2.9	28	8.4	36.5	2.6	54.3	25	175	0.4
NC+	3A62RR	3.6	PI 88788	3.2	31	9.2	41.3	2.3	53.8	26	400	0.5
Prairie Brand	PB-3667NRR	3.6	PI 88788	2.8	30	9.2	40.0	2.5	53.3	27	800	1.2
Kruger	K-384RR/SCN	3.8	PI 88788	2.8	33	9.9	39.8	2.6	52.8	28	375	0.4
Asgrow	AG3705	3.7	PI 88788	3.6	33	8.6	42.0	2.1	52.7	29	250	0.3
Kruger	K-363RR/SCN	3.7	PI 88788	3.1	32	8.7	41.0	2.3	51.2	30	200	0.5
Pioneer	93M95	3.9	PI 88788	3.5	32	9.2	44.5	2.0	51.2	30	200	0.3
	Average	3.5	-	3.3	29	8.8	40.1	2.1	57.2	-	297	0.7
	LSD[3]	-	-	-	-	1.8	2.0	0.4	5.4	-	315	NS
Pioneer	*93M11*	*3.1*	*None*	*3.1*	*23*	*8.2*	*38.8*	*1.8*	*65.0*	*1*	*825*	*1.7*
NK	*S34-K1*	*3.1*	*None*	*3.2*	*24*	*10.4*	*38.3*	*2.5*	*59.5*	*10*	*975*	*1.0*
Asgrow	*DKB28-52*	*2.8*	*None*	*3.2*	*23*	*7.9*	*37.0*	*2.6*	*58.0*	*13*	*625*	*1.7*
NK	*S30-D4*	*3.4*	*None*	*3.6*	*22*	*8.5*	*37.0*	*1.8*	*56.6*	*19*	*650*	*1.8*
	Average	3.1	-	3.3	23	8.8	37.8	2.2	59.8	-	769	1.6
	LSD[3]	-	-	-	-	1.6	NS	0.4	5.4	-	NS	NS

Values presented in tables are means. Entries are listed in decreasing order of yield.
Italicized entries are widely grown SCN-susceptible varieties entered by Iowa State University for comparison purposes.
[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 810 eggs per 100 cc soil; HG type 2.5.7 (11.7% reproduction on PI 88788).
[2] Final SCN egg population density / initial SCN egg population density.
[3] Least significant difference: values are from Fisher's least significant difference test (P = 0.05), NS = no significant differences among the varieties.

Table 11. 2007 Test Participants

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