Evaluation of Soybean Varieties Resistant to Soybean Cyst Nematode in Iowa—2009

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

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IPM 52 Revised January 2010

Funded, in part, by the Iowa Soybean Association and the Iowa Agriculture and Home Economics Experiment Station.

FileCode: Pest Management 5-2

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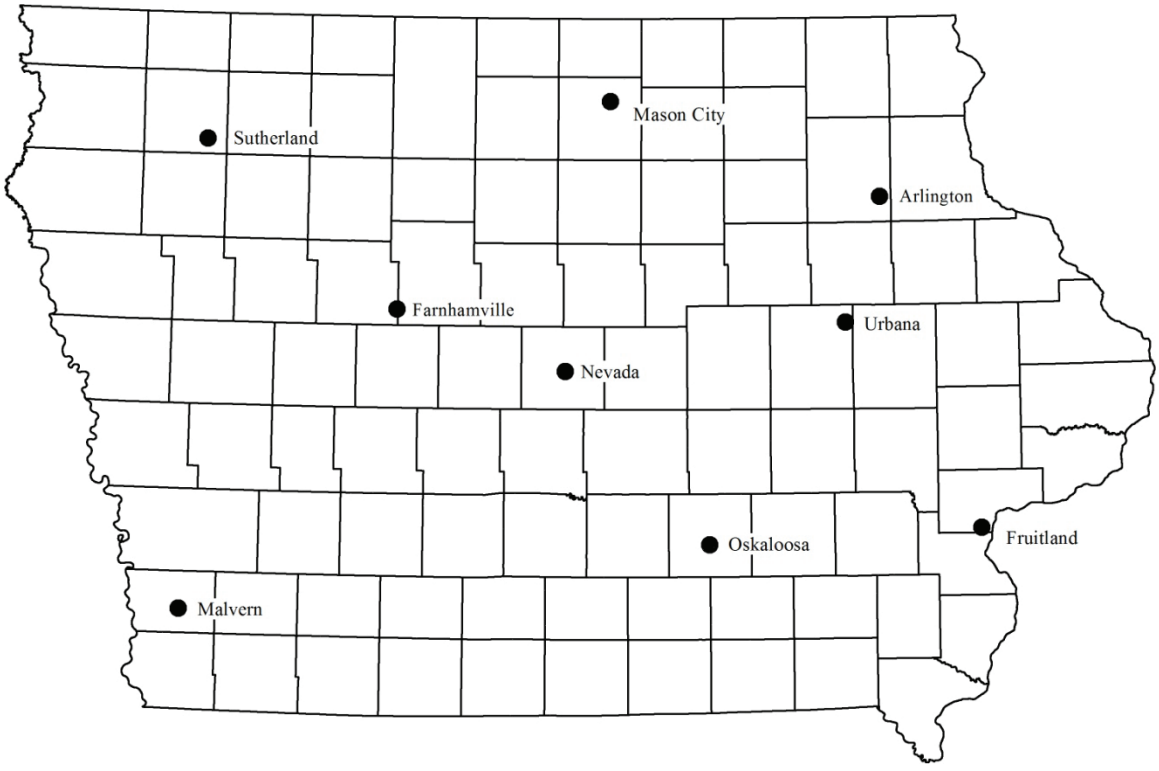
Introduction

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, 38 Roundup Ready®, SCN-resistant soybean varieties were evaluated using Roundup® herbicide. The northern Iowa experiments were conducted near Sutherland (northwest Iowa), Mason City (north central Iowa), and Arlington (northeast Iowa). In the central Iowa district, 24 Roundup Ready®, SCN-resistant soybean varieties were evaluated using Roundup® herbicide and six, SCN-resistant soybean varieties were evaluated using conventional herbicides (two Roundup Ready®, two LibertyLink ®, and two conventional varieties). The central Iowa experiments were conducted near Farnhamville (west central Iowa), Nevada (central Iowa), and Urbana (east central Iowa). In the southern Iowa district, 23 Roundup Ready®, SCN-resistant soybean varieties were evaluated using Roundup® herbicide and seven, SCN-resistant soybean varieties were evaluated using conventional herbicides (two Roundup Ready®, three LibertyLink ®, and two conventional varieties). The southern Iowa experiments were conducted near Malvern (southwest Iowa), Oskaloosa (south central Iowa), and Fruitland (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. Seed companies were encourage to treat their seed with fungicide and insecticide. Seeds that were received untreated were treated with CruiserMaxx® by Iowa State University personnel, unless the seed company preferred that their seed be planted without a seed treatment. A complete treatment list is included in Table 16. Preplant herbicide was applied to each location. The Malvern and Oskaloosa locations were planted using "no-till" or "minimal till" methods; at all other locations, the seed bed was tilled prior to 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 maturity dates 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 bulk soybeans growing at each location were removed. The first location was planted on July 15th and the second location was planted on July 23rd. 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 1.5 and the highly susceptible variety scored an average of 2.7. 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
Sutherland (NW)	3,155	7	May 14th	October 19th
Mason City (NC)	921	7	May 8th	October 10th
Arlington (NE)	658	2.5.7	May 12th	October 20th
Farnhamville (WC)	570	7	May 18th	September 30th
Nevada (C)	925	2.5.7	May 20th	October 13th
Urbana (EC)	1,322	2.7	May 19th	November 2nd
Malvern (SW)	440	2.5.7	May 11th	October 27th
Oskaloosa (SC)	1,060	2.5.7	May 7th	October 7th
Fruitland (SE)	1,109	5.7	May 4th	October 18th

[1] In the HG type test results, "2" indicates ≥ 10% reproduction on PI 88788, "5" indicates ≥ 10% reproduction on PI 209332 and "7" indicates ≥ 10% reproduction on PI 548316.

Data Presentation

In the report, 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. 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 is calculated by dividing the average final SCN population density by the initial SCN population density for each plot. What this means is that if a variety has an RF value of 5.0, the SCN population for those plots was 5 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 was ½ 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 decreased), RF 0.8 – RF 1.2 = yellow (no change from spring to fall), RF > 1.2 = red (SCN numbers increased).

Summary

The results 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 using susceptible varieties. Currently, there are three main genetic sources for SCN resistance genes in commercial soybean varieties, namely PI 88788, Peking, and PI 437654 (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 soybean checkoff funds administered through the Iowa Soybean Association. Additionally, the individual seed companies paid a fee to enter varieties into these experiments. Appreciation is expressed to the staff of the Iowa State University Muscatine Island Research and Demonstration Farm, especially Vince Lawson. Gratitude also is expressed to Josh Moermond of Sutherland, Randy and Jess Lutz of Mason City, Mike Recker of Arlington, John Nelson of Gowrie, Steve Henry of Nevada, Ed McKinley of Urbana, Ryan Goy of Malvern, Mark Groenendyk of Oskaloosa and Ron Shepard of Fruitland for use of land for some of the experiments.

Figure 1. Sutherland (NW Iowa) Roundup ®

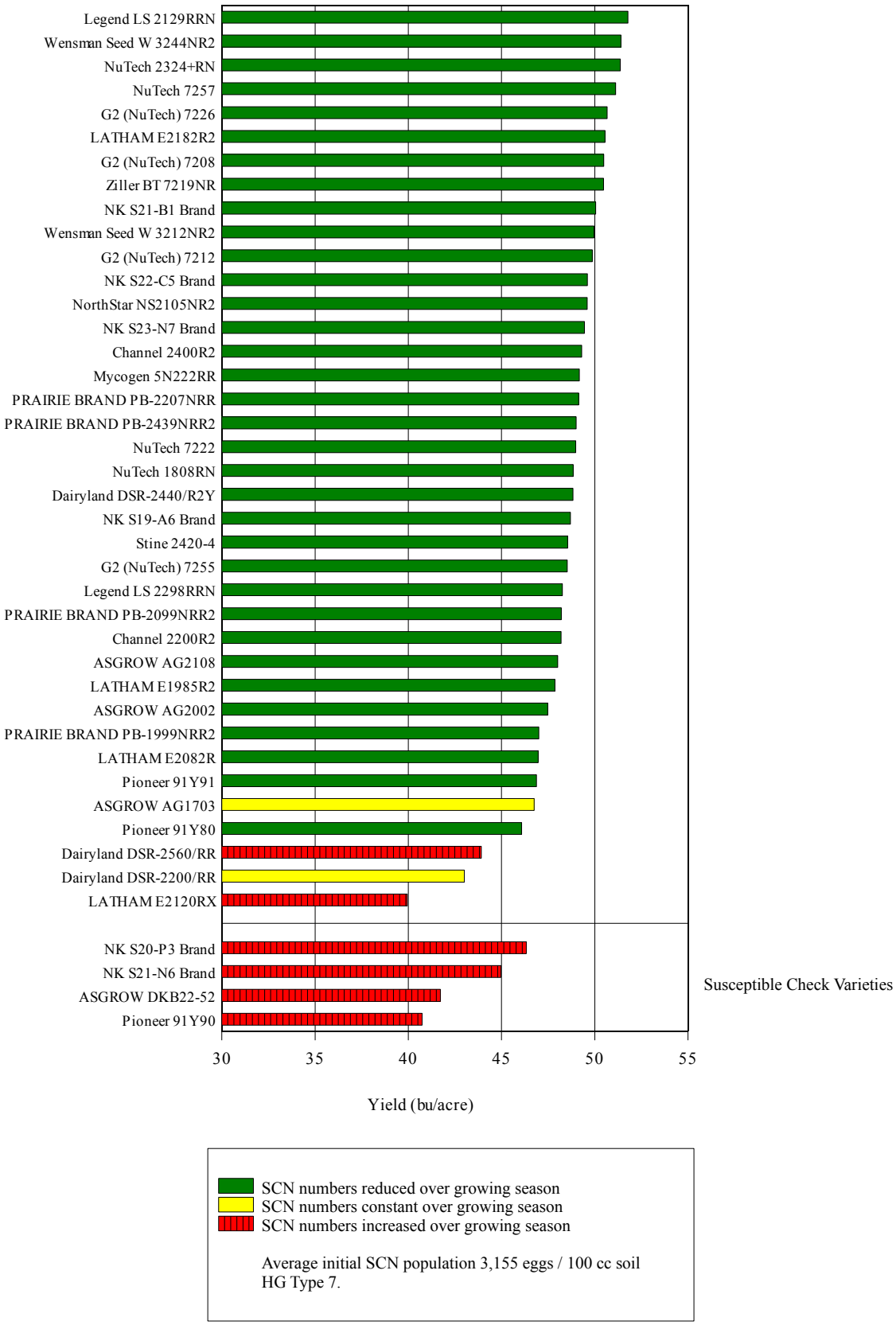


Table 1. Sutherland (NW Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Legend	LS 2129RRN	2.1	PI 88788	3.0	26	33.3	1.8	51.8	1	350	0.2
Wensman Seed	W 3244NR2	2.4	PI 88788	2.2	27	31.8	1.5	51.4	2	675	0.2
NuTech	2324+RN	2.3	PI 88788	3.4	27	30.8	1.5	51.4	2	500	0.2
NuTech	7257	2.5	PI 88788	2.9	28	31.5	1.3	51.1	4	1,025	0.2
G2 (NuTech)	7226	2.2	Peking	2.5	27	31.0	1.5	50.7	5	275	0.1
LATHAM	E2182R2	2.1	PI 88788	2.6	25	29.5	1.5	50.6	6	1,125	0.6
G2 (NuTech)	7208	2.0	PI 88788	3.3	26	32.5	1.5	50.5	7	625	0.2
Ziller	BT 7219NR	2.1	PI 88788	3.1	27	33.0	1.6	50.5	7	850	0.2
NK	S21-B1 Brand	2.1	PI 88788	3.0	26	30.8	1.5	50.1	8	850	0.3
Wensman Seed	W 3212NR2	2.1	PI 88788	2.6	26	29.0	1.5	50.0	10	1,225	0.4
G2 (NuTech)	7212	2.1	PI 88788	3.2	26	30.0	1.4	49.9	11	1,250	0.3
NK	S22-C5 Brand	2.2	PI 88788	1.9	23	24.8	1.5	49.6	12	475	0.2
NorthStar	NS2105NR2	2.1	PI 88788	1.9	27	29.8	1.5	49.6	12	525	0.1
NK	S23-N7 Brand	2.3	PI 88788	3.4	27	33.8	1.9	49.4	14	1,150	0.5
Channel	2400R2	2.4	PI 88788	2.2	27	32.3	1.5	49.3	15	1,125	0.4
Mycogen	5N222RR	2.2	PI 88788	3.0	24	28.8	1.4	49.2	16	825	0.4
PRAIRIE BRAND	PB-2207NRR	2.2	PI 88788	2.4	27	32.0	1.5	49.1	17	600	0.2
PRAIRIE BRAND	PB-2439NRR2	2.4	PI 88788	2.3	27	31.0	1.5	49.0	18	600	0.1
NuTech	7222	2.2	PI 88788	3.3	26	31.3	1.4	49.0	18	650	0.3
NuTech	1808RN	2.0	PI 88788	3.2	26	31.5	1.3	48.8	20	500	0.4
Dairyland	DSR-2440/R2Y	2.4	PI 88788	2.6	28	30.5	1.5	48.8	20	1,250	0.4
NK	S19-A6 Brand	1.9	PI 88788	3.3	26	32.0	1.5	48.7	22	325	0.2
Stine	2420-4	2.4	PI 88788	3.6	29	30.5	1.5	48.5	23	900	0.2
G2 (NuTech)	7255	2.5	PI 88788	3.5	31	36.8	1.4	48.5	23	325	0.3
Legend	LS 2298RRN	2.2	PI 88788	2.6	23	28.8	1.3	48.3	25	1,175	0.3
PRAIRIE BRAND	PB-2099NRR2	2.0	PI 88788	2.1	26	29.0	1.4	48.2	26	550	0.3
Channel	2200R2	2.2	PI 88788	2.3	26	29.8	1.5	48.2	26	675	0.5
ASGROW	AG2108	2.1	PI 88788	2.9	26	31.0	1.3	48.0	28	625	0.4
LATHAM	E1985R2	1.9	PI 88788	2.1	22	30.0	1.4	47.9	29	700	0.3
ASGROW	AG2002	2.0	PI 88788	2.7	27	32.8	1.5	47.5	30	575	0.4
PRAIRIE BRAND	PB-1999NRR2	1.9	PI 88788	2.2	24	31.0	1.5	47.0	31	850	0.3
LATHAM	E2082R	2.0	PI 88788	2.3	26	30.0	1.5	47.0	31	400	0.2
Pioneer	91Y91	1.9	Peking	3.0	22	28.5	1.8	46.9	33	675	0.6
ASGROW	AG1703	1.7	PI 88788	2.9	23	27.8	1.5	46.8	34	1,050	0.8
Pioneer	91Y80	1.8	PI 88788	2.1	25	29.0	1.3	46.1	36	475	0.3
Dairyland	DSR-2560/RR	2.5	NG[4]	2.6	30	35.5	1.6	43.9	38	7,425	1.7
Dairyland	DSR-2200/RR	2.2	NG[4]	2.5	30	34.5	1.5	43.0	39	3,650	1.2
LATHAM	E2120RX	2.1	PUSCN-14	2.8	30	31.0	1.5	39.9	42	6,825	1.8
	Average	2.2	-	2.7	26	31.0	1.5	48.5	-	1,149	0.4
	LSD[3] (P = 0.05)	-	-	-	-	2.0	0.3	3.4	-	1,454	0.5
	LSD[3] (P = 0.10)	-	-	-	-	1.7	0.2	2.9	-	1,217	0.4
NK	*S20-P3 Brand*	*2.0*	*None*	*3.9*	*27*	*33.5*	*2.0*	*46.3*	*35*	*8,650*	*7.1*
NK	*S21-N6 Brand*	*2.1*	*None*	*3.3*	*26*	*29.5*	*1.5*	*45.0*	*37*	*6,100*	*2.6*
ASGROW	*DKB22-52*	*2.2*	*None*	*3.1*	*23*	*25.8*	*1.3*	*41.7*	*40*	*4,250*	*2.1*
Pioneer	*91Y90*	*1.9*	*None*	*2.7*	*25*	*31.3*	*1.4*	*40.7*	*41*	*7,925*	*2.3*
	Average	2.1	-	3.3	25	30.0	1.5	43.4	-	6,731	3.5

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 3,155 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, NS = no significant differences among the varieties.
[4] NG = not given; no genetic source of resistance given; described as possessing "field resistance".

Figure 2. Mason City (NC Iowa) Roundup ®

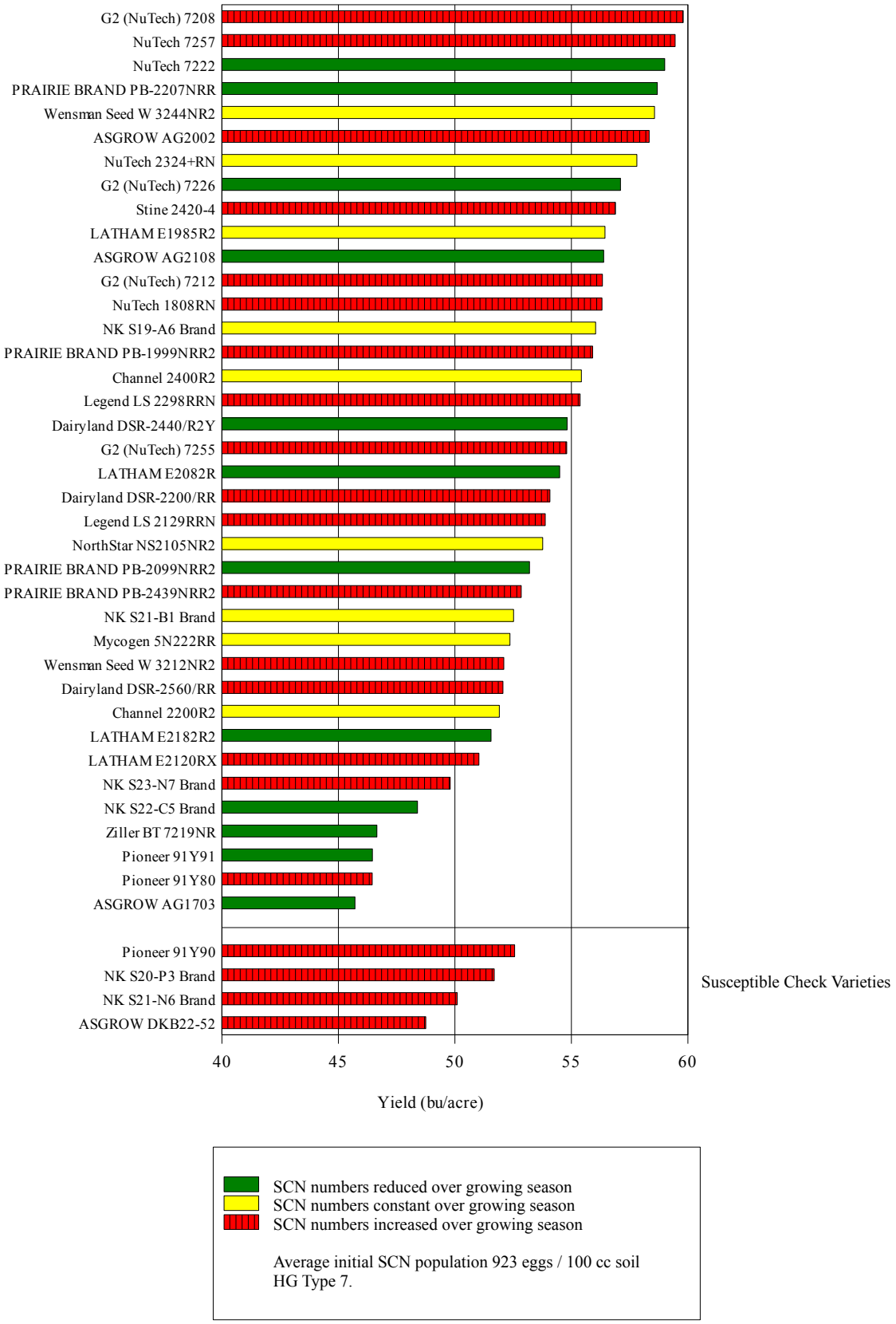


Table 2. Mason City (NC Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
G2 (NuTech)	7208	2.0	PI 88788	3.3	26	32.8	1.6	59.8	1	1,200	1.3
NuTech	7257	2.5	PI 88788	2.9	28	31.0	1.6	59.5	2	750	5.2
NuTech	7222	2.2	PI 88788	3.3	26	30.8	1.8	59.0	3	175	0.4
PRAIRIE BRAND	PB-2207NRR	2.2	PI 88788	2.4	27	30.0	1.6	58.7	4	225	0.3
Wensman Seed	W 3244NR2	2.4	PI 88788	2.2	27	29.0	1.8	58.6	5	750	1.2
ASGROW	AG2002	2.0	PI 88788	2.7	27	31.0	1.8	58.3	6	350	1.3
NuTech	2324+RN	2.3	PI 88788	3.4	27	28.8	1.6	57.8	7	300	0.8
G2 (NuTech)	7226	2.2	Peking	2.5	27	30.5	1.8	57.1	8	250	0.2
Stine	2420-4	2.4	PI 88788	3.6	29	30.3	1.8	56.9	9	900	1.6
LATHAM	E1985R2	1.9	PI 88788	2.1	22	28.8	1.6	56.4	10	425	0.9
ASGROW	AG2108	2.1	PI 88788	2.9	26	27.8	1.6	56.4	10	525	0.6
G2 (NuTech)	7212	2.1	PI 88788	3.2	26	29.8	1.5	56.3	12	425	1.8
NuTech	1808RN	2.0	PI 88788	3.2	26	31.0	1.4	56.3	12	575	1.3
NK	S19-A6 Brand	1.9	PI 88788	3.3	26	29.0	1.6	56.0	14	475	0.9
PRAIRIE BRAND	PB-1999NRR2	1.9	PI 88788	2.2	24	30.5	1.6	55.9	15	625	1.8
Channel	2400R2	2.4	PI 88788	2.2	27	30.5	1.8	55.4	16	1,050	1.1
Legend	LS 2298RRN	2.2	PI 88788	2.6	23	26.3	1.5	55.4	16	575	1.7
Dairyland	DSR-2440/R2Y	2.4	PI 88788	2.6	28	32.8	1.8	54.8	18	800	0.7
G2 (NuTech)	7255	2.5	PI 88788	3.5	31	36.0	1.8	54.8	18	325	2.3
LATHAM	E2082R	2.0	PI 88788	2.3	26	28.8	1.5	54.5	20	525	0.7
Dairyland	DSR-2200/RR	2.2	NG[4]	2.5	30	30.5	1.6	54.1	21	2,025	1.9
Legend	LS 2129RRN	2.1	PI 88788	3.0	26	32.3	1.9	53.9	22	625	1.9
NorthStar	NS2105NR2	2.1	PI 88788	1.9	27	26.0	1.8	53.8	23	950	0.9
PRAIRIE BRAND	PB-2099NRR2	2.0	PI 88788	2.1	26	26.8	1.6	53.2	24	475	0.6
PRAIRIE BRAND	PB-2439NRR2	2.4	PI 88788	2.3	27	29.0	1.9	52.9	25	1,050	1.7
NK	S21-B1 Brand	2.1	PI 88788	3.0	26	29.0	1.9	52.5	27	625	0.9
Mycogen	5N222RR	2.2	PI 88788	3.0	24	25.5	1.5	52.4	28	500	1.1
Wensman Seed	W 3212NR2	2.1	PI 88788	2.6	26	30.0	1.5	52.1	29	475	2.6
Dairyland	DSR-2560/RR	2.5	NG[4]	2.6	30	32.3	2.1	52.1	29	3,425	8.4
Channel	2200R2	2.2	PI 88788	2.3	26	28.0	1.6	51.9	31	800	1.1
LATHAM	E2182R2	2.1	PI 88788	2.6	25	25.8	1.5	51.6	33	350	0.5
LATHAM	E2120RX	2.1	PUSCN-14	2.8	30	29.8	1.6	51.0	34	1,900	2.8
NK	S23-N7 Brand	2.3	PI 88788	3.4	27	28.5	2.0	49.8	36	550	1.4
NK	S22-C5 Brand	2.2	PI 88788	1.9	23	24.5	1.6	48.4	38	575	0.6
Ziller	BT 7219NR	2.1	PI 88788	3.1	27	28.3	2.4	46.7	39	300	0.4
Pioneer	91Y91	1.9	Peking	3.0	22	27.5	2.3	46.5	40	425	0.5
Pioneer	91Y80	1.8	PI 88788	2.1	25	30.8	2.1	46.5	40	925	1.6
ASGROW	AG1703	1.7	PI 88788	2.9	23	25.0	1.8	45.7	42	500	0.5
	Average	2.2	-	2.7	26	29.3	1.7	54.0	-	729	1.5
	LSD[3] (P = 0.05)	-	-	-	-	3.4	0.4	5.1	-	1,144	NS
	LSD[3] (P = 0.10)	-	-	-	-	2.9	0.3	4.3	-	958	2.9
Pioneer	*91Y90*	*1.9*	*None*	*2.7*	*25*	*31.0*	*1.8*	*52.6*	*26*	*1,825*	*3.6*
NK	*S20-P3 Brand*	*2.0*	*None*	*3.9*	*27*	*30.5*	*2.1*	*51.7*	*32*	*1,750*	*3.6*
NK	*S21-N6 Brand*	*2.1*	*None*	*3.3*	*26*	*27.8*	*1.6*	*50.1*	*35*	*1,425*	*2.3*
ASGROW	*DKB22-52*	*2.2*	*None*	*3.1*	*23*	*27.0*	*1.8*	*48.8*	*37*	*1,200*	*1.9*
	Average	2.1	-	3.3	25	29.1	1.8	50.8	-	1,550	2.8

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 923 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, NS = no significant differences among the varieties.
[4] NG = not given; no genetic source of resistance given; described as possessing "field resistance".

Figure 3. Arlington (NE Iowa) Roundup ®

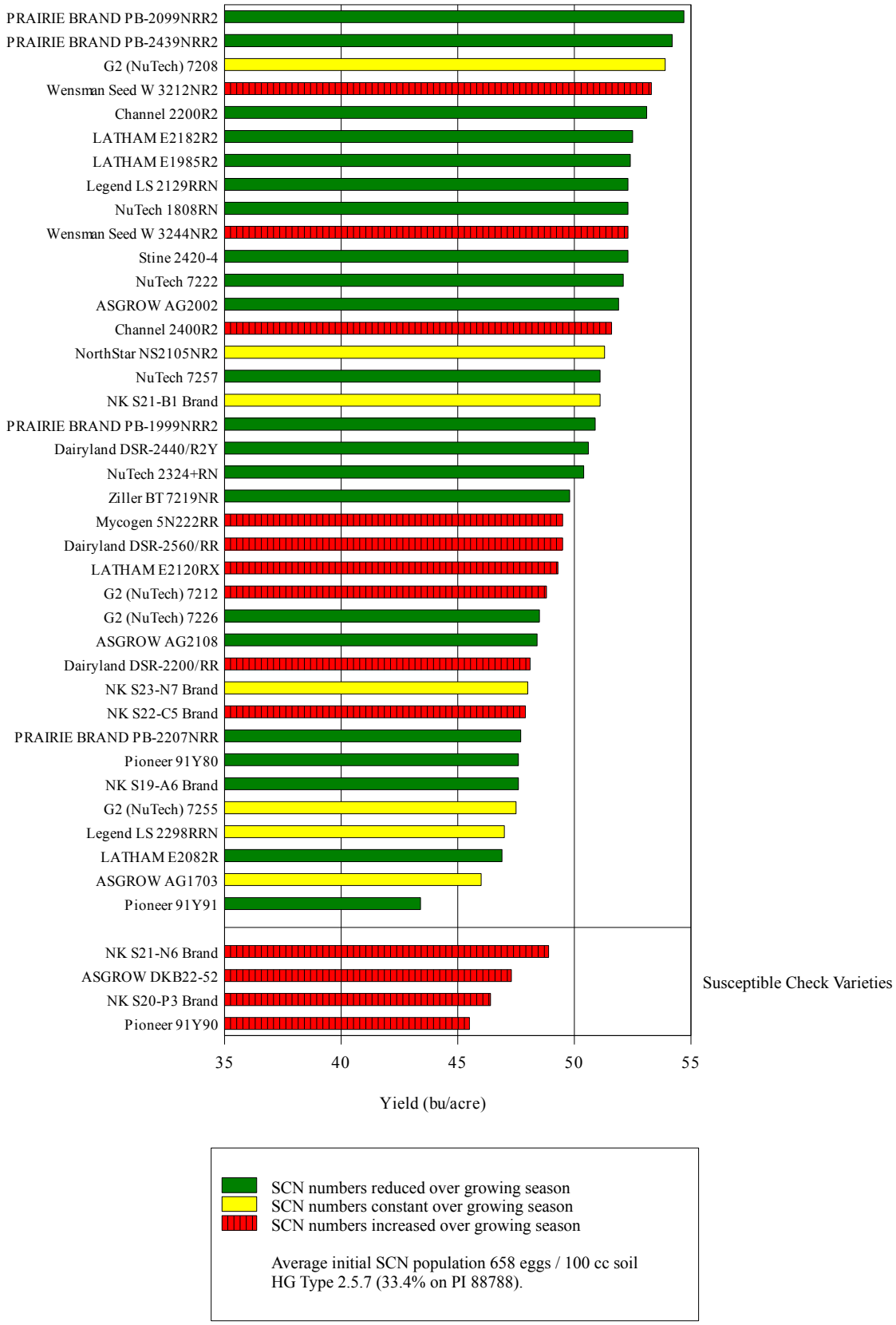


Table 3. Arlington (NE Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
PRAIRIE BRAND	PB-2099NRR2	2.0	PI 88788	2.1	26	30.0	1.5	54.7	1	100	0.2
PRAIRIE BRAND	PB-2439NRR2	2.4	PI 88788	2.3	27	32.0	2.0	54.2	2	167	0.2
G2 (NuTech)	7208	2.0	PI 88788	3.3	26	34.0	1.5	53.9	3	167	1.1
Wensman Seed	W 3212NR2	2.1	PI 88788	2.6	26	31.3	1.5	53.3	4	500	1.3
Channel	2200R2	2.2	PI 88788	2.3	26	29.5	1.6	53.1	5	250	0.6
LATHAM	E2182R2	2.1	PI 88788	2.6	25	29.5	1.8	52.5	6	100	0.1
LATHAM	E1985R2	1.9	PI 88788	2.1	22	31.7	2.5	52.4	7	267	0.6
Legend	LS 2129RRN	2.1	PI 88788	3.0	26	34.3	2.0	52.3	8	225	0.6
NuTech	1808RN	2.0	PI 88788	3.2	26	33.5	1.5	52.3	8	175	0.3
Wensman Seed	W 3244NR2	2.4	PI 88788	2.2	27	33.5	1.9	52.3	8	550	1.8
Stine	2420-4	2.4	PI 88788	3.6	29	32.8	1.8	52.3	8	200	0.5
NuTech	7222	2.2	PI 88788	3.3	26	32.3	2.0	52.1	12	100	0.7
ASGROW	AG2002	2.0	PI 88788	2.7	27	34.8	1.9	51.9	13	300	0.7
Channel	2400R2	2.4	PI 88788	2.2	27	32.5	2.0	51.6	14	550	4.7
NorthStar	NS2105NR2	2.1	PI 88788	1.9	27	31.3	1.8	51.3	15	300	0.8
NuTech	7257	2.5	PI 88788	2.9	28	31.7	1.5	51.1	16	500	0.7
NK	S21-B1 Brand	2.1	PI 88788	3.0	26	31.5	2.4	51.1	16	350	0.8
PRAIRIE BRAND	PB-1999NRR2	1.9	PI 88788	2.2	24	32.7	2.7	50.9	18	167	0.3
Dairyland	DSR-2440/R2Y	2.4	PI 88788	2.6	28	32.8	1.6	50.6	19	675	0.5
NuTech	2324+RN	2.3	PI 88788	3.4	27	30.5	1.8	50.4	20	300	0.4
Ziller	BT 7219NR	2.1	PI 88788	3.1	27	32.8	2.0	49.8	21	350	0.4
Mycogen	5N222RR	2.2	PI 88788	3.0	24	29.8	1.6	49.5	22	825	2.0
Dairyland	DSR-2560/RR	2.5	NG[4]	2.6	30	33.3	2.4	49.5	22	1,300	3.2
LATHAM	E2120RX	2.1	PUSCN-14	2.8	30	32.5	1.5	49.3	24	4,025	6.0
G2 (NuTech)	7212	2.1	PI 88788	3.2	26	32.7	1.7	48.8	26	567	1.9
G2 (NuTech)	7226	2.2	Peking	2.5	27	30.7	2.0	48.5	27	67	0.2
ASGROW	AG2108	2.1	PI 88788	2.9	26	32.3	1.7	48.4	28	300	0.4
Dairyland	DSR-2200/RR	2.2	NG[4]	2.5	30	34.5	1.9	48.1	29	2,475	8.4
NK	S23-N7 Brand	2.3	PI 88788	3.4	27	34.3	2.5	48.0	30	975	1.0
NK	S22-C5 Brand	2.2	PI 88788	1.9	23	29.5	1.8	47.9	31	500	1.4
PRAIRIE BRAND	PB-2207NRR	2.2	PI 88788	2.4	27	32.3	1.8	47.7	32	133	0.2
Pioneer	91Y80	1.8	PI 88788	2.1	25	31.8	1.6	47.6	33	175	0.2
NK	S19-A6 Brand	1.9	PI 88788	3.3	26	33.5	2.0	47.6	33	125	0.4
G2 (NuTech)	7255	2.5	PI 88788	3.5	31	38.3	1.8	47.5	35	300	0.9
Legend	LS 2298RRN	2.2	PI 88788	2.6	23	29.3	1.5	47.0	37	367	0.8
LATHAM	E2082R	2.0	PI 88788	2.3	26	30.5	2.0	46.9	38	175	0.3
ASGROW	AG1703	1.7	PI 88788	2.9	23	29.3	1.6	46.0	40	225	1.0
Pioneer	91Y91	1.9	Peking	3.0	22	29.3	2.5	43.4	42	233	0.6
	Average	2.2	-	2.7	26	32.2	1.9	50.1	-	539	1.3
	LSD[3] (P = 0.05)	-	-	-	-	2.7	0.4	4.1	-	1,392	2.8
	LSD[3] (P = 0.10)	-	-	-	-	2.2	0.4	3.5	-	1,164	2.4
NK	*S21-N6 Brand*	*2.1*	*None*	*3.3*	*26*	*31.0*	*1.8*	*48.9*	*25*	*2,067*	*8.0*
ASGROW	*DKB22-52*	*2.2*	*None*	*3.1*	*23*	*26.0*	*1.7*	*47.3*	*36*	*5,533*	*4.2*
NK	*S20-P3 Brand*	*2.0*	*None*	*3.9*	*27*	*32.5*	*2.1*	*46.4*	*39*	*4,325*	*22.1*
Pioneer	*91Y90*	*1.9*	*None*	*2.7*	*25*	*34.3*	*1.8*	*45.5*	*41*	*3,450*	*9.4*
	Average	2.1	-	3.3	25	31.3	1.9	46.9	-	3,850	10.8

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 658 eggs per 100 cc soil; HG Type 2.5.7 (33.4% 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, NS = no significant differences among the varieties.
[4] NG = not given; no genetic source of resistance given; described as possessing "field resistance".

Figure 4. Farnhamville (WC Iowa) Roundup ®

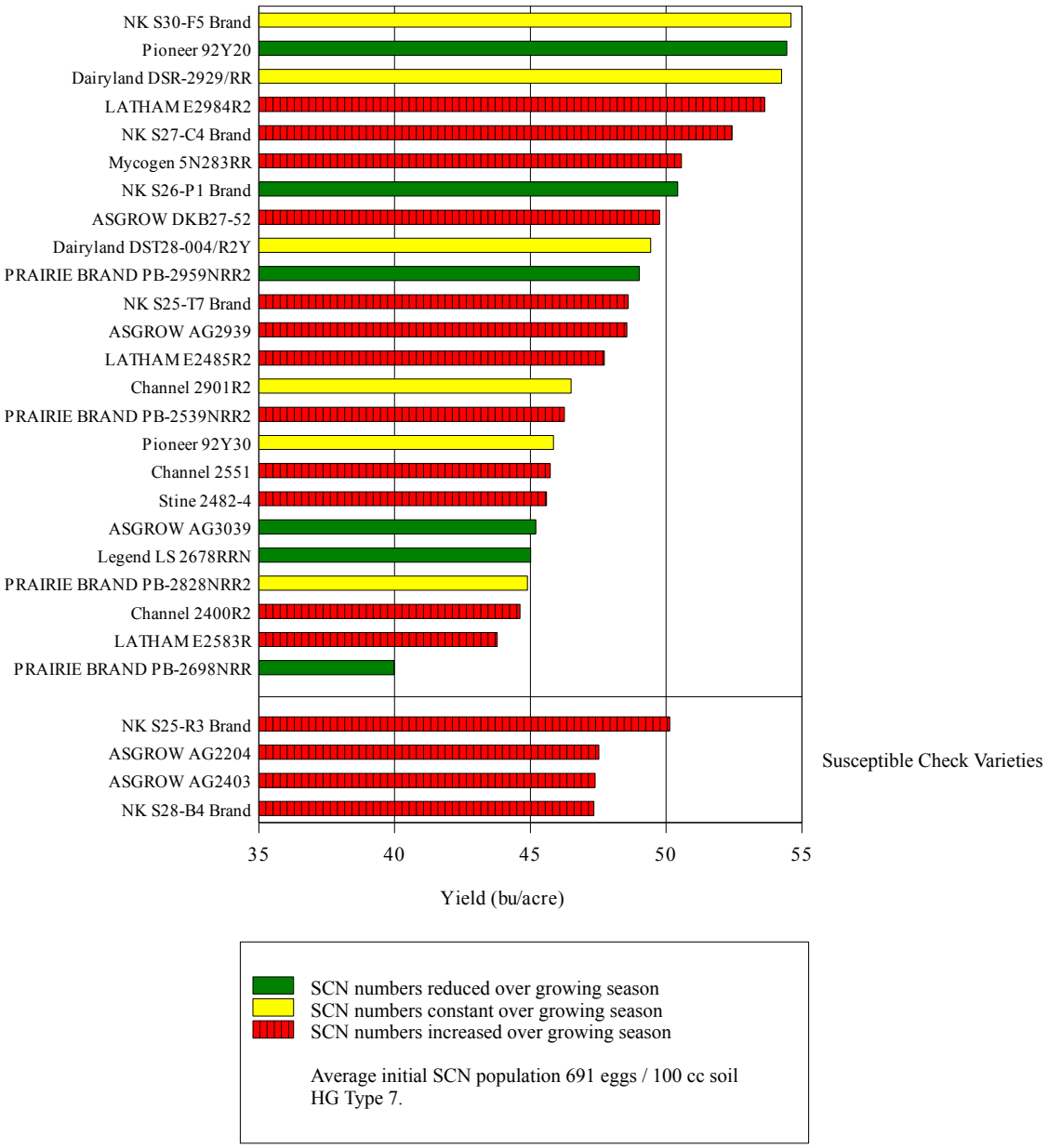


Table 4. Farnhamville (WC Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
NK	S30-F5 Brand	3.0	PI 88788	3.0	30	36.5	2.0	54.6	1	275	1.0
Pioneer	92Y20	2.2	Peking	3.1	18	30.3	1.6	54.5	2	225	0.6
Dairyland	DSR-2929/RR	2.9	PI 88788	2.4	29	35.3	2.0	54.3	3	625	1.1
LATHAM	E2984R2	2.9	PI 88788	2.9	26	32.8	1.9	53.6	4	575	1.4
NK	S27-C4 Brand	2.7	PI 88788	3.4	26	29.0	1.5	52.4	5	1,075	1.8
Mycogen	5N283RR	2.8	PI 88788	2.7	26	33.8	1.9	50.6	6	400	1.5
NK	S26-P1 Brand	2.6	Peking	2.3	25	27.0	1.9	50.4	7	275	0.7
ASGROW	DKB27-52	2.7	PI 88788	3.3	19	29.5	1.5	49.8	9	325	1.8
Dairyland	DST28-004/R2Y	2.8	PI 88788	3.2	29	25.8	1.4	49.4	10	150	1.0
PRAIRIE BRAND	PB-2959NRR2	2.9	PI 88788	3.1	28	31.8	1.8	49.0	11	350	0.7
NK	S25-T7 Brand	2.5	PI 88788	3.3	22	28.5	1.5	48.6	12	1,050	5.6
ASGROW	AG2939	2.7	PI 88788	3.6	28	31.0	1.6	48.6	12	725	3.4
LATHAM	E2485R2	2.4	PI 88788	2.6	23	33.0	1.8	47.7	14	700	1.9
Channel	2901R2	2.9	PI 88788	2.5	26	29.0	1.6	46.5	18	425	0.9
PRAIRIE BRAND	PB-2539NRR2	2.5	PI 88788	3.3	24	33.5	1.6	46.3	19	400	3.8
Pioneer	92Y30	2.3	PI 88788	2.4	19	31.8	1.5	45.9	20	575	0.9
Channel	2551	2.5	PI 88788	2.8	16	26.0	1.1	45.7	21	600	1.7
Stine	2482-4	2.4	PI 88788	2.3	18	27.3	1.3	45.6	22	800	2.1
ASGROW	AG3039	3.0	PI 88788	1.9	25	33.3	1.6	45.2	23	225	0.7
Legend	LS 2678RRN	2.6	PI 88788	2.0	19	28.5	1.5	45.0	24	825	0.6
PRAIRIE BRAND	PB-2828NRR2	2.8	PI 88788	2.3	25	35.0	1.9	44.9	25	425	0.9
Channel	2400R2	2.4	PI 88788	2.2	22	29.3	1.5	44.6	26	725	1.4
LATHAM	E2583R	2.5	PI 88788	3.0	17	25.8	1.1	43.8	27	1,050	1.6
PRAIRIE BRAND	PB-2698NRR	2.6	PI 88788	2.6	23	28.8	1.6	40.0	28	675	0.7
	Average	2.7	-	2.8	23	30.5	1.6	48.2	-	561	1.6
	LSD[3] (P = 0.05)	-	-	-	-	3.3	0.3	7.4	-	NS	NS
	LSD[3] (P = 0.10)	-	-	-	-	2.8	0.2	6.1	-	NS	NS
NK	*S25-R3 Brand*	*2.5*	*None*	*2.9*	*22*	*27.3*	*1.8*	*50.1*	*8*	*4,200*	*9.7*
ASGROW	*AG2204*	*2.2*	*None*	*2.5*	*20*	*27.8*	*1.5*	*47.5*	*15*	*7,200*	*8.9*
ASGROW	*AG2403*	*2.4*	*None*	*1.8*	*18*	*25.5*	*1.5*	*47.4*	*16*	*4,275*	*8.5*
NK	*S28-B4 Brand*	*2.8*	*None*	*2.2*	*26*	*31.0*	*1.8*	*47.3*	*17*	*8,075*	*8.3*
	Average	2.5	-	2.4	22	27.9	1.6	48.1	-	5,938	8.9

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 691 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, NS = no significant differences among the varieties.

Figure 5. Farnhamville (WC Iowa) Conventional

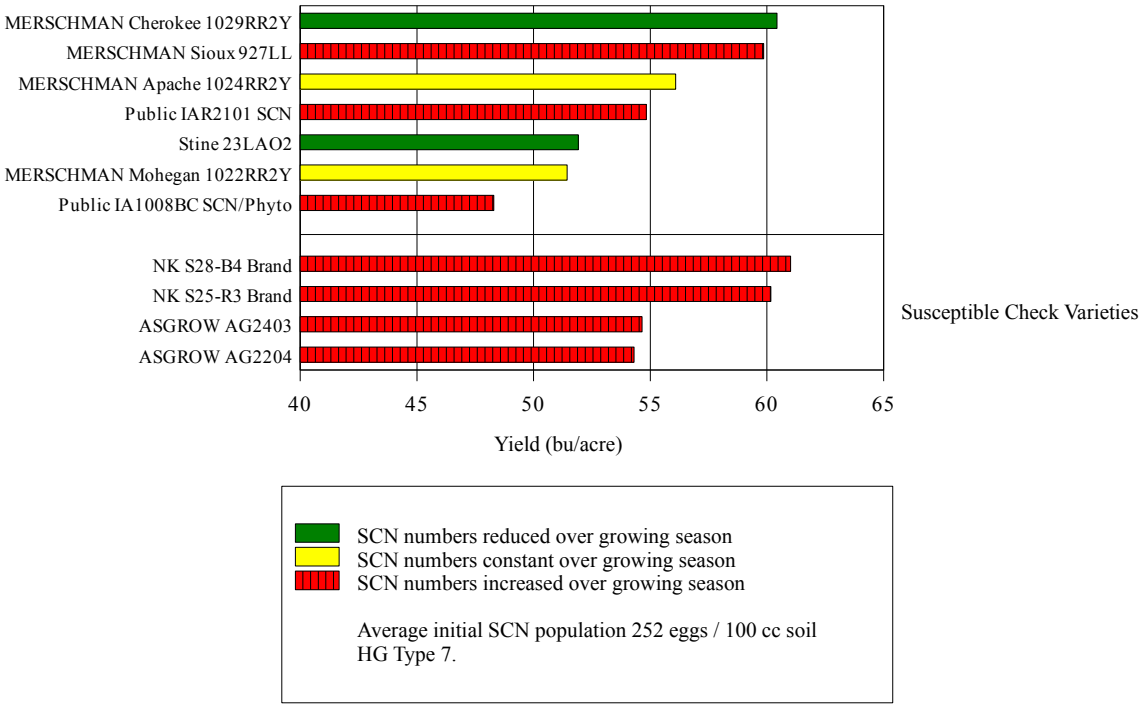


Table 5. Farnhamville (WC Iowa) Conventional

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
MERSCHMAN	Cherokee 1029RR2Y	2.9	PI 88788	3.6	32	34.5	1.6	60.4	2	175	0.5
MERSCHMAN	Sioux 927LL	2.7	PI 88788	3.6	30	39.3	2.1	59.9	4	1,850	11.6
MERSCHMAN	Apache 1024RR2Y	2.4	PI 88788	2.6	26	35.3	1.6	56.1	5	175	1.2
Public	IAR2101 SCN	2.1	PI 507354 and PI 88788	3.1	23	37.0	2.0	54.8	6	200	1.6
Stine	23LAO2	2.3	PI 88788	3.3	27	38.0	1.8	51.9	9	50	0.5
MERSCHMAN	Mohegan 1022RR2Y	2.2	PI 88788	1.9	21	29.3	1.5	51.4	10	100	0.8
Public	IA1008BC SCN/Phyto	1.9	PI 88788	3.0	20	32.5	1.6	48.3	11	250	2.2
	Average	2.4	-	3.0	26	35.1	1.8	54.7	-	400	2.9
	LSD[3] (P = 0.05)	-	-	-	-	3.3	0.3	6.0	-	NS	8.7
	LSD[3] (P = 0.10)	-	-	-	-	2.7	0.3	4.9	-	NS	7.1
NK	*S28-B4 Brand*	*2.8*	*None*	*2.2*	*28*	*32.5*	*1.6*	*61.0*	*1*	*950*	*9.3*
NK	*S25-R3 Brand*	*2.5*	*None*	*2.9*	*26*	*30.8*	*1.6*	*60.2*	*3*	*1,250*	*5.1*
ASGROW	*AG2403*	*2.4*	*None*	*1.8*	*21*	*30.3*	*1.5*	*54.7*	*7*	*2,000*	*16.3*
ASGROW	*AG2204*	*2.2*	*None*	*2.5*	*23*	*30.0*	*1.5*	*54.3*	*8*	*1,600*	*8.7*
	Average	2.5	-	2.4	25	30.9	1.6	57.5	-	1450	9.4

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 252 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, NS = no significant differences among the varieties.

Figure 6. Nevada (C Iowa) Roundup ®

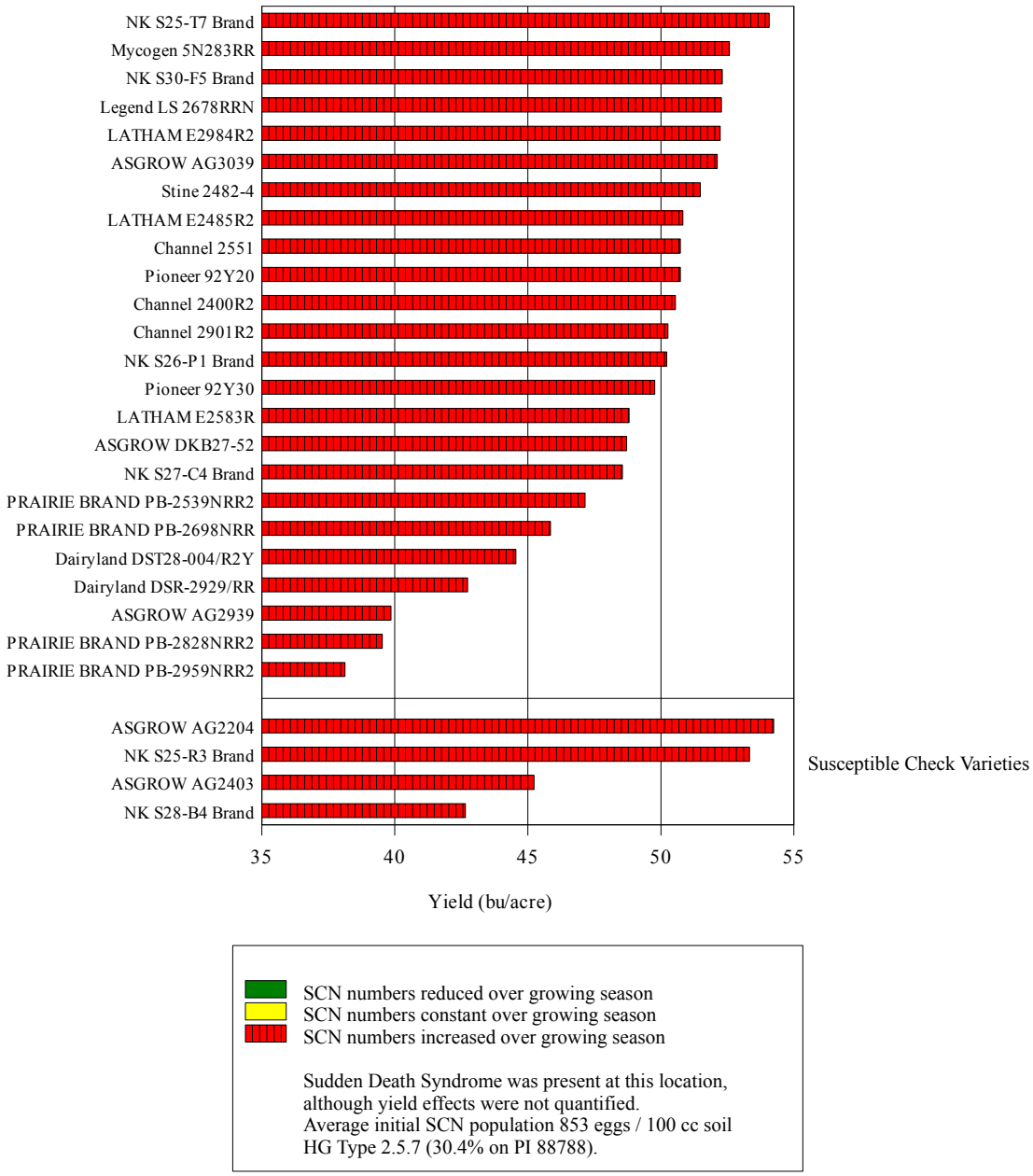


Table 6. Nevada (C Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
NK	S25-T7 Brand	2.5	PI 88788	3.3	22	32.3	1.8	54.1	2	1,975	16.4
Mycogen	5N283RR	2.8	PI 88788	2.7	26	35.8	1.6	52.6	4	3,125	6.3
NK	S30-F5 Brand	3.0	PI 88788	3.0	30	40.8	1.9	52.3	5	1,600	2.9
Legend	LS 2678RRN	2.6	PI 88788	2.0	19	31.8	1.5	52.3	5	1,500	3.9
LATHAM	E2984R2	2.9	PI 88788	2.9	26	33.5	1.6	52.2	7	2,400	3.1
ASGROW	AG3039	3.0	PI 88788	1.9	25	37.3	1.8	52.1	8	2,500	4.2
Stine	2482-4	2.4	PI 88788	2.3	18	30.8	1.5	51.5	9	3,625	6.2
LATHAM	E2485R2	2.4	PI 88788	2.6	23	29.5	1.5	50.8	10	925	1.7
Channel	2551	2.5	PI 88788	2.8	16	30.0	1.5	50.7	11	1,700	3.7
Pioneer	92Y20	2.2	Peking	3.1	18	27.5	1.8	50.7	11	675	2.8
Channel	2400R2	2.4	PI 88788	2.2	22	32.3	1.6	50.6	13	2,875	11.0
Channel	2901R2	2.9	PI 88788	2.5	26	36.8	1.6	50.3	14	1,650	4.9
NK	S26-P1 Brand	2.6	Peking	2.3	25	33.3	1.6	50.2	15	725	2.0
Pioneer	92Y30	2.3	PI 88788	2.4	19	30.8	1.8	49.8	16	900	1.6
LATHAM	E2583R	2.5	PI 88788	3.0	17	31.3	1.4	48.8	17	1,325	1.9
ASGROW	DKB27-52	2.7	PI 88788	3.3	19	30.8	1.6	48.7	18	975	2.9
NK	S27-C4 Brand	2.7	PI 88788	3.4	26	31.3	1.8	48.6	19	2,750	6.6
PRAIRIE BRAND	PB-2539NRR2	2.5	PI 88788	3.3	24	34.8	1.8	47.2	20	1,950	4.6
PRAIRIE BRAND	PB-2698NRR	2.6	PI 88788	2.6	23	28.0	1.4	45.9	21	2,150	4.2
Dairyland	DST28-004/R2Y	2.8	PI 88788	3.2	29	35.5	1.5	44.6	23	2,475	2.6
Dairyland	DSR-2929/RR	2.9	PI 88788	2.4	29	36.8	1.8	42.7	24	2,125	4.2
ASGROW	AG2939	2.7	PI 88788	3.6	28	34.3	1.8	39.9	26	1,150	1.7
PRAIRIE BRAND	PB-2828NRR2	2.8	PI 88788	2.3	25	33.8	1.5	39.5	27	1,425	6.7
PRAIRIE BRAND	PB-2959NRR2	2.9	PI 88788	3.1	28	31.3	1.5	38.1	28	2,525	4.2
	Average	2.7	-	2.8	23	32.9	1.6	48.5	-	1,876	4.6
	LSD[3] (P = 0.05)	-	-	-	-	4.7	NS	9.3	-	NS	NS
	LSD[3] (P = 0.10)	-	-	-	-	3.9	0.3	7.7	-	1,486	NS
ASGROW	*AG2204*	*2.2*	*None*	*2.5*	*20*	*28.3*	*1.4*	*54.2*	*1*	*1,000*	*2.4*
NK	*S25-R3 Brand*	*2.5*	*None*	*2.9*	*22*	*29.5*	*1.6*	*53.3*	*3*	*2,800*	*5.0*
ASGROW	*AG2403*	*2.4*	*None*	*1.8*	*18*	*25.3*	*1.1*	*45.2*	*22*	*1,425*	*4.0*
NK	*S28-B4 Brand*	*2.8*	*None*	*2.2*	*26*	*31.0*	*1.5*	*42.7*	*24*	*2,850*	*4.1*
	Average	2.5	-	2.4	22	28.5	1.4	48.9	-	2,019	3.9

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.
Sudden Death Syndrome was present at this location, although yield effects were not quantified.
[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 853 eggs per 100 cc soil; HG Type 2.5.7 (30.4% 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, NS = no significant differences among the varieties.

Figure 7. Nevada (C Iowa) Conventional

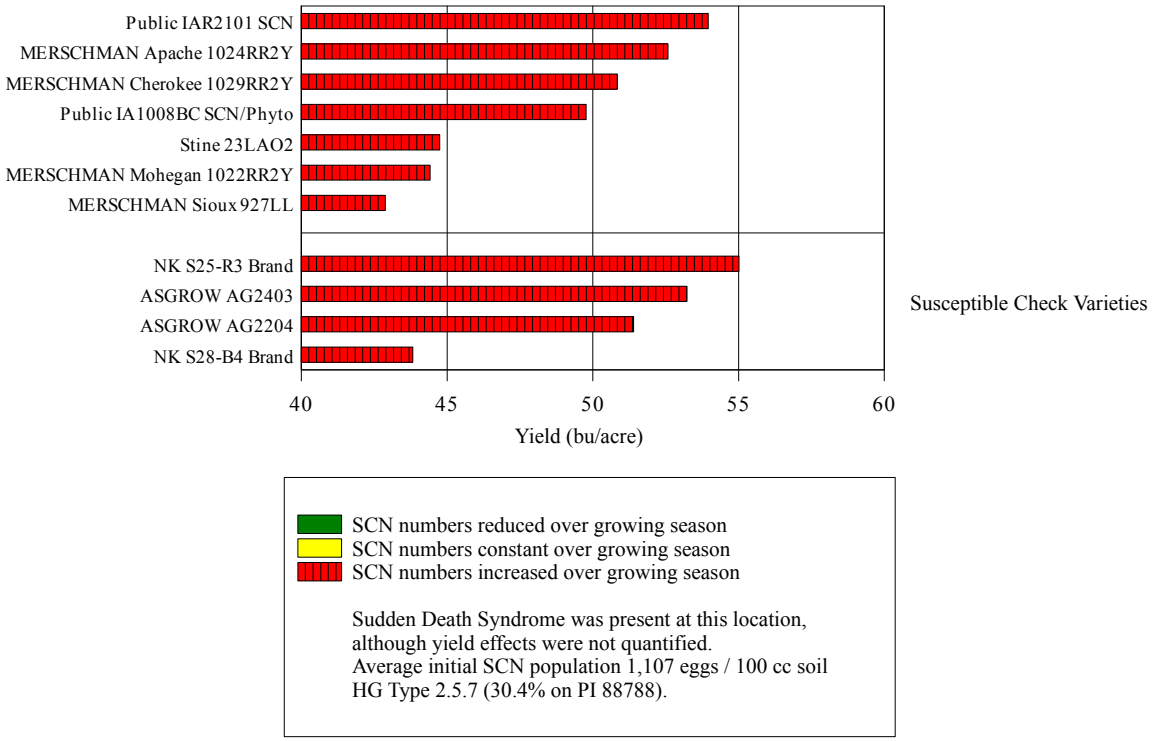


Table 7. Nevada (C Iowa) Conventional

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Public	IAR2101 SCN	2.1	PI 507354 and PI 88788	3.1	23	30.8	1.9	54.0	2	400	1.5
MERSCHMAN	Apache 1024RR2Y	2.4	PI 88788	2.6	26	30.3	1.6	52.6	4	1,125	2.3
MERSCHMAN	Cherokee 1029RR2Y	2.9	PI 88788	3.6	32	30.5	1.8	50.8	6	1,875	2.2
Public	IA1008BC SCN/Phyto	1.9	PI 88788	3.0	20	29.5	1.9	49.8	7	1,625	7.7
Stine	23LAO2	2.3	PI 88788	3.3	27	38.8	1.9	44.8	8	925	1.4
MERSCHMAN	Mohegan 1022RR2Y	2.2	PI 88788	1.9	21	27.0	1.5	44.4	9	2,075	2.9
MERSCHMAN	Sioux 927LL	2.7	PI 88788	3.6	30	36.5	2.0	42.9	11	2,225	3.7
	Average	2.4	-	3.0	26	31.9	1.8	48.5	-	1,464	3.1
	LSD[3] (P = 0.05)	-	-	-	-	3.2	NS	NS	-	NS	3.7
	LSD[3] (P = 0.10)	-	-	-	-	2.6	0.3	NS	-	1,114	3.0
NK	*S25-R3 Brand*	*2.5*	*None*	*2.9*	*26*	*29.5*	*1.9*	*55.0*	*1*	*2,075*	*4.4*
ASGROW	*AG2403*	*2.4*	*None*	*1.8*	*21*	*26.8*	*1.6*	*53.2*	*3*	*925*	*2.0*
ASGROW	*AG2204*	*2.2*	*None*	*2.5*	*23*	*30.3*	*1.5*	*51.4*	*5*	*1,075*	*1.3*
NK	*S28-B4 Brand*	*2.8*	*None*	*2.2*	*28*	*30.3*	*2.0*	*43.8*	*10*	*2,250*	*5.1*
	Average		-	2.4	25	29.2	1.8	50.9	-	1,581	3.2

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.
Sudden Death Syndrome was present at this location, although yield effects were not quantified.
[1] Final SCN egg population density (eggs per 100 cc soil); there were no significant differences among initial SCN population densities; initial SCN population 1,107 eggs per 100 cc soil; HG Type 2.5.7 (30.4% 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, NS = no significant differences among the varieties.

Figure 8. Urbana (EC Iowa) Roundup ®

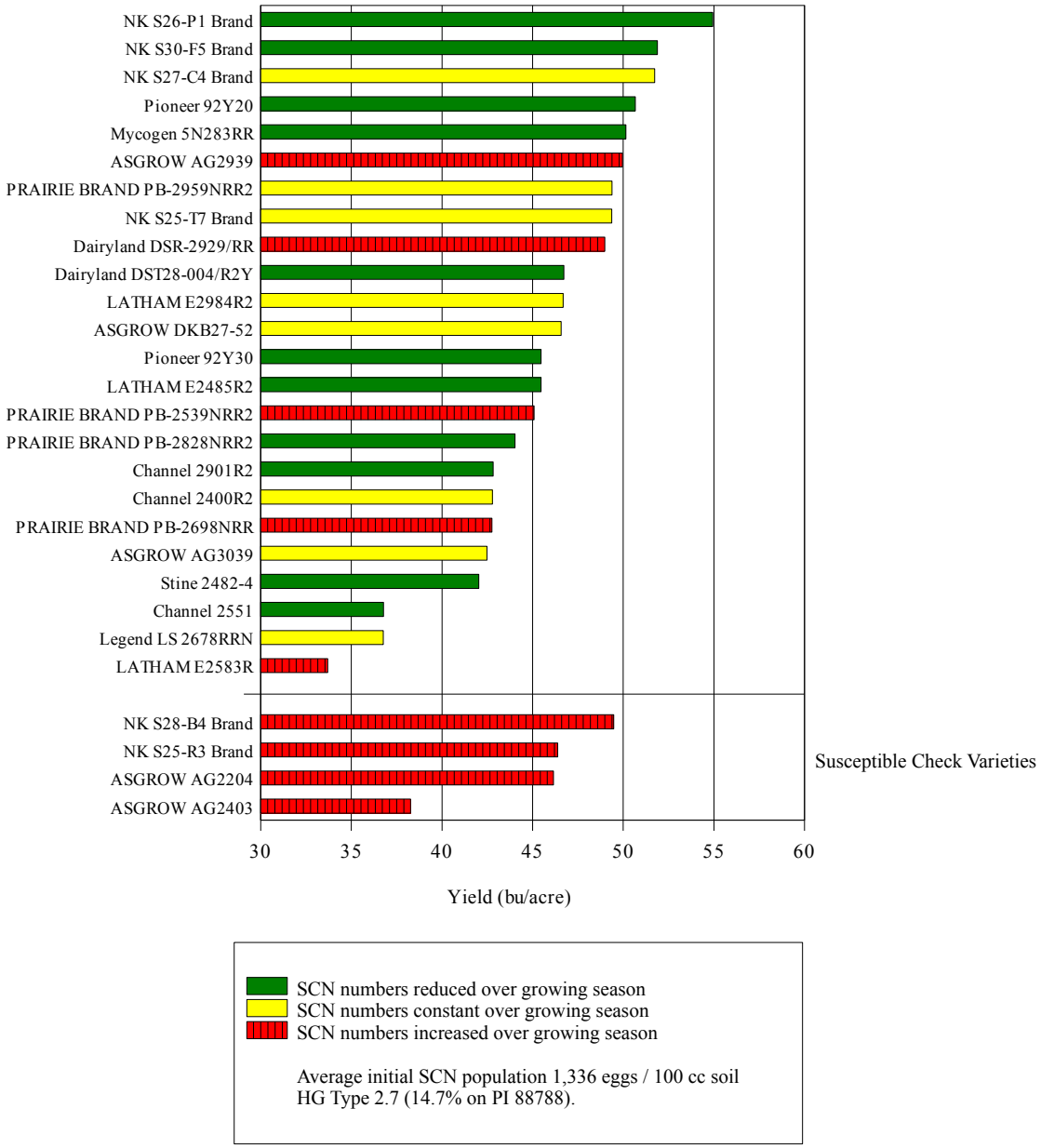


Table 8. Urbana (EC Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
NK	S26-P1 Brand	2.6	Peking	2.3	25	31.5	1.9	54.9	1	225	0.4
NK	S30-F5 Brand	3.0	PI 88788	3.0	30	35.8	2.3	51.9	2	650	0.6
NK	S27-C4 Brand	2.7	PI 88788	3.4	26	30.5	1.6	51.7	3	400	0.9
Pioneer	92Y20	2.2	Peking	3.1	18	30.0	1.8	50.7	4	350	0.3
Mycogen	5N283RR	2.8	PI 88788	2.7	26	31.5	1.9	50.2	5	475	0.7
ASGROW	AG2939	2.7	PI 88788	3.6	28	33.0	2.0	50.0	6	875	1.3
PRAIRIE BRAND	PB-2959NRR2	2.9	PI 88788	3.1	28	31.8	1.9	49.4	8	675	1.1
NK	S25-T7 Brand	2.5	PI 88788	3.3	22	31.8	1.6	49.4	8	925	0.8
Dairyland	DSR-2929/RR	2.9	PI 88788	2.4	29	32.5	2.1	49.0	10	800	1.9
Dairyland	DST28-004/R2Y	2.8	PI 88788	3.2	29	32.5	1.6	46.7	11	450	0.7
LATHAM	E2984R2	2.9	PI 88788	2.9	26	32.0	2.0	46.7	11	850	1.1
ASGROW	DKB27-52	2.7	PI 88788	3.3	19	30.0	1.6	46.6	13	825	0.9
Pioneer	92Y30	2.3	PI 88788	2.4	19	32.3	1.9	45.5	16	825	0.7
LATHAM	E2485R2	2.4	PI 88788	2.6	23	32.3	2.1	45.5	16	475	0.7
PRAIRIE BRAND	PB-2539NRR2	2.5	PI 88788	3.3	24	31.0	2.0	45.1	18	650	1.4
PRAIRIE BRAND	PB-2828NRR2	2.8	PI 88788	2.3	25	32.8	1.9	44.0	19	475	0.5
Channel	2901R2	2.9	PI 88788	2.5	26	32.3	2.0	42.8	20	475	0.3
Channel	2400R2	2.4	PI 88788	2.2	22	32.0	2.0	42.8	20	475	0.9
PRAIRIE BRAND	PB-2698NRR	2.6	PI 88788	2.6	23	30.0	1.6	42.8	20	1,225	2.0
ASGROW	AG3039	3.0	PI 88788	1.9	25	34.3	2.0	42.5	23	325	1.0
Stine	2482-4	2.4	PI 88788	2.3	18	30.0	1.6	42.0	24	400	0.3
Channel	2551	2.5	PI 88788	2.8	16	29.5	1.6	36.8	26	750	0.3
Legend	LS 2678RRN	2.6	PI 88788	2.0	19	32.0	1.8	36.8	26	800	0.9
LATHAM	E2583R	2.5	PI 88788	3.0	17	29.0	1.8	33.7	28	650	1.8
	Average	2.7	-	2.8	23	31.7	1.9	45.7	-	626	0.9
	LSD[3] (P = 0.05)	-	-	-	-	2.4	0.4	6.9	-	NS	NS
	LSD[3] (P = 0.10)	-	-	-	-	2.0	0.3	5.8	-	439	NS
NK	*S28-B4 Brand*	*2.8*	*None*	*2.2*	*26*	*32.5*	*1.8*	*49.5*	*7*	*4,950*	*5.3*
NK	*S25-R3 Brand*	*2.5*	*None*	*2.9*	*22*	*29.3*	*1.8*	*46.4*	*14*	*5,325*	*6.7*
ASGROW	*AG2204*	*2.2*	*None*	*2.5*	*20*	*27.0*	*1.4*	*46.2*	*15*	*4,150*	*3.9*
ASGROW	*AG2403*	*2.4*	*None*	*1.8*	*18*	*26.5*	*1.6*	*38.3*	*25*	*3,050*	*4.0*
	Average	2.5	-	2.4	22	28.8	1.6	45.1	-	4,369	5.0

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 1,336 eggs per 100 cc soil; HG Type 2.7 (14.7% 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, NS = no significant differences among the varieties.

Figure 9. Urbana (EC Iowa) Conventional

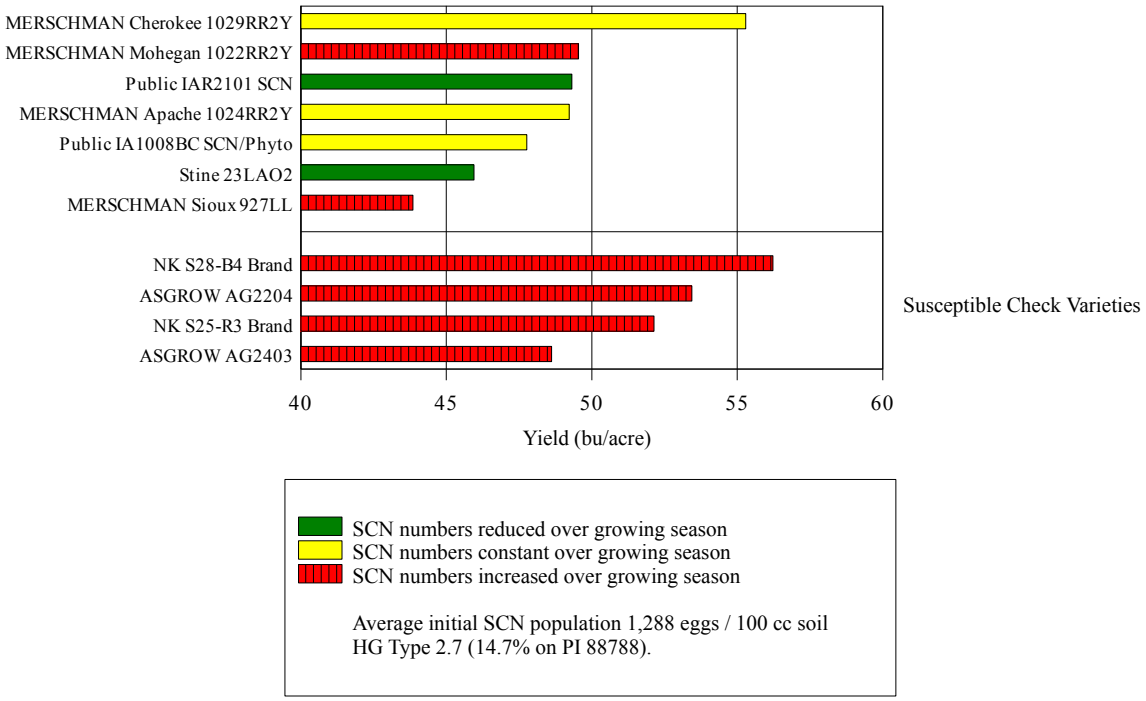


Table 9. Urbana (EC Iowa) Conventional

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
MERSCHMAN	Cherokee 1029RR2Y	2.9	PI 88788	3.6	32	33.5	2.3	55.3	2	600	0.8
MERSCHMAN	Mohegan 1022RR2Y	2.2	PI 88788	1.9	21	28.8	1.8	49.5	5	875	1.6
Public	IAR2101 SCN	2.1	PI 507354 and PI 88788	3.1	23	32.5	2.3	49.3	6	450	0.3
MERSCHMAN	Apache 1024RR2Y	2.4	PI 88788	2.6	26	32.3	2.5	49.2	7	550	1.0
Public	IA1008BC SCN/Phyto	1.9	PI 88788	3.0	20	32.0	2.1	47.8	9	325	1.1
Stine	23LAO2	2.3	PI 88788	3.3	27	37.5	2.3	46.0	10	475	0.3
MERSCHMAN	Sioux 927LL	2.7	PI 88788	3.6	30	35.8	1.9	43.9	11	1,975	1.8
	Average	2.4	-	3.0	26	33.2	2.1	48.7	-	750	1.0
	LSD[3] (P = 0.05)	-	-	-	-	3.6	0.4	NS	-	848	NS
	LSD[3] (P = 0.10)	-	-	-	-	3.0	0.3	5.7	-	700	NS
NK	*S28-B4 Brand*	*2.8*	*None*	*2.2*	*28*	*33.5*	*2.0*	*56.2*	*1*	*2,600*	*13.1*
ASGROW	*AG2204*	*2.2*	*None*	*2.5*	*23*	*29.0*	*1.6*	*53.4*	*3*	*1,925*	*1.6*
NK	*S25-R3 Brand*	*2.5*	*None*	*2.9*	*26*	*31.8*	*2.0*	*52.1*	*4*	*2,450*	*4.5*
ASGROW	*AG2403*	*2.4*	*None*	*1.8*	*21*	*27.8*	*1.8*	*48.6*	*8*	*2,925*	*2.6*
	Average	2.5	-	2.4	25	30.5	1.8	52.6	-	2,475	5.4

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 1,288 eggs per 100 cc soil; HG Type 2.7 (14.7% 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, NS = no significant differences among the varieties.

Figure 10. Malvern (SW Iowa) Roundup ®

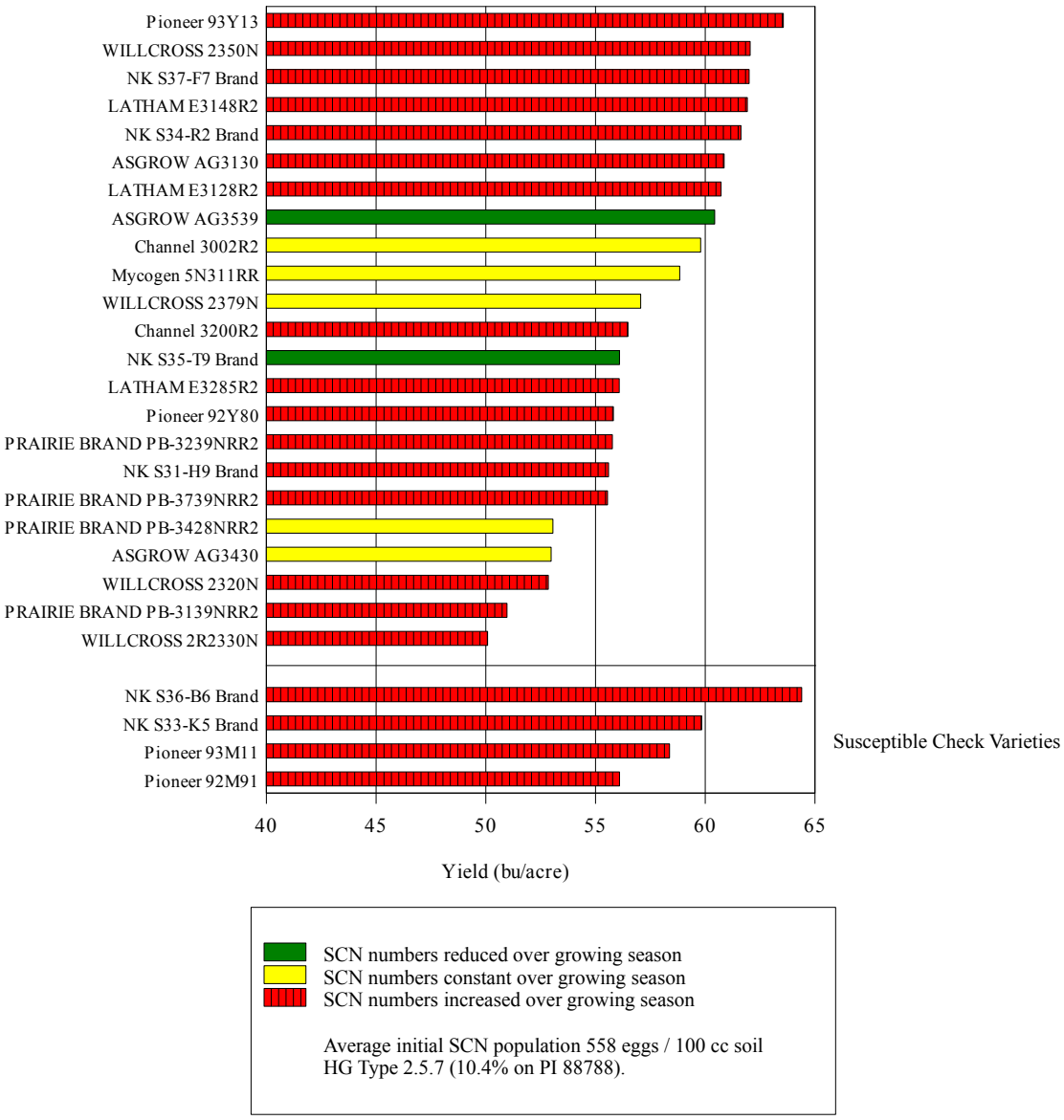


Table 10. Malvern (SW Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
Pioneer	93Y13	3.1	PI 88788	3.2	17	36.8	1.8	63.6	2	500	4.0
WILLCROSS	2350N	3.5	PI 88788	3.1	19	43.5	2.1	62.0	3	350	1.3
NK	S37-F7 Brand	3.7	PI 88788	4.0	14	43.8	1.8	62.0	3	650	1.7
LATHAM	E3148R2	3.1	PI 88788	3.4	19	39.0	1.9	61.9	5	1,000	6.6
NK	S34-R2 Brand	3.4	PI 88788	3.1	15	39.8	1.5	61.6	6	575	1.8
ASGROW	AG3130	3.1	PI 88788	3.1	20	40.5	1.6	60.9	7	800	2.2
LATHAM	E3128R2	3.1	PI 88788	2.8	17	39.8	1.8	60.7	8	625	4.8
ASGROW	AG3539	3.5	PI 88788	2.8	23	41.5	1.5	60.4	9	475	0.6
Channel	3002R2	3.0	PI 88788	3.3	21	39.5	2.0	59.8	10	875	0.9
Mycogen	5N311RR	3.1	PI 88788	2.6	20	35.8	1.8	58.8	12	375	1.1
WILLCROSS	2379N	3.7	PI 88788	3.7	18	39.8	1.8	57.1	14	600	1.2
Channel	3200R2	3.2	PI 88788	3.4	15	39.8	1.8	56.5	15	1,150	2.4
NK	S35-T9 Brand	3.5	PI 88788	3.6	18	47.8	2.0	56.1	16	425	0.7
LATHAM	E3285R2	3.2	PI 88788	3.3	18	38.3	1.5	56.1	16	625	3.0
Pioneer	92Y80	2.8	PI 88788	3.1	17	37.3	1.9	55.8	19	500	2.1
PRAIRIE BRAND	PB-3239NRR2	3.2	PI 88788	3.4	15	39.0	1.5	55.8	20	1,625	8.8
NK	S31-H9 Brand	3.1	PI 88788	3.0	14	46.5	2.1	55.6	21	625	2.6
PRAIRIE BRAND	PB-3739NRR2	3.7	PI 88788	3.4	20	45.0	1.9	55.6	21	425	1.9
PRAIRIE BRAND	PB-3428NRR2	3.4	PI 88788	2.2	17	41.0	1.6	53.1	23	425	0.9
ASGROW	AG3430	3.4	PI 88788	3.4	18	37.5	1.6	53.0	24	1,200	1.2
WILLCROSS	2320N	3.2	PI 88788	3.8	18	36.8	1.6	52.9	25	700	4.0
PRAIRIE BRAND	PB-3139NRR2	3.1	PI 88788	2.8	16	37.5	1.5	51.0	26	575	2.1
WILLCROSS	2R2330N	3.4	PI 88788	3.6	15	39.5	1.6	50.1	27	1,475	6.6
	Average	3.3	-	3.2	18	40.2	1.7	57.4	-	721	2.7
	LSD[3] (P = 0.05)	-	-	-	-	2.2	0.3	3.4	-	NS	NS
	LSD[3] (P = 0.10)	-	-	-	-	1.8	0.3	2.8	-	NS	NS
NK	*S36-B6 Brand*	*3.6*	*None*	*3.4*	*21*	*42*	*1.5*	*64.4*	*1*	*1,400*	*8.4*
NK	*S33-K5 Brand*	*3.3*	*None*	*3.4*	*24*	*42*	*1.9*	*59.8*	*10*	*2,225*	*3.8*
Pioneer	*93M11*	*3.1*	*None*	*2.9*	*23*	*35*	*1.5*	*58.4*	*13*	*1,475*	*5.1*
Pioneer	*92M91*	*2.9*	*None*	*2.3*	*19*	*37*	*1.5*	*56.1*	*16*	*1,475*	*12.2*
	Average	3.2	-	3.0	22	38.9	1.6	59.7	-	1,644	7.4

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 558 eggs per 100 cc soil; HG Type 2.5.7 (10.4% 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, NS = no significant differences among the varieties.

Figure 11. Malvern (SW Iowa) Conventional

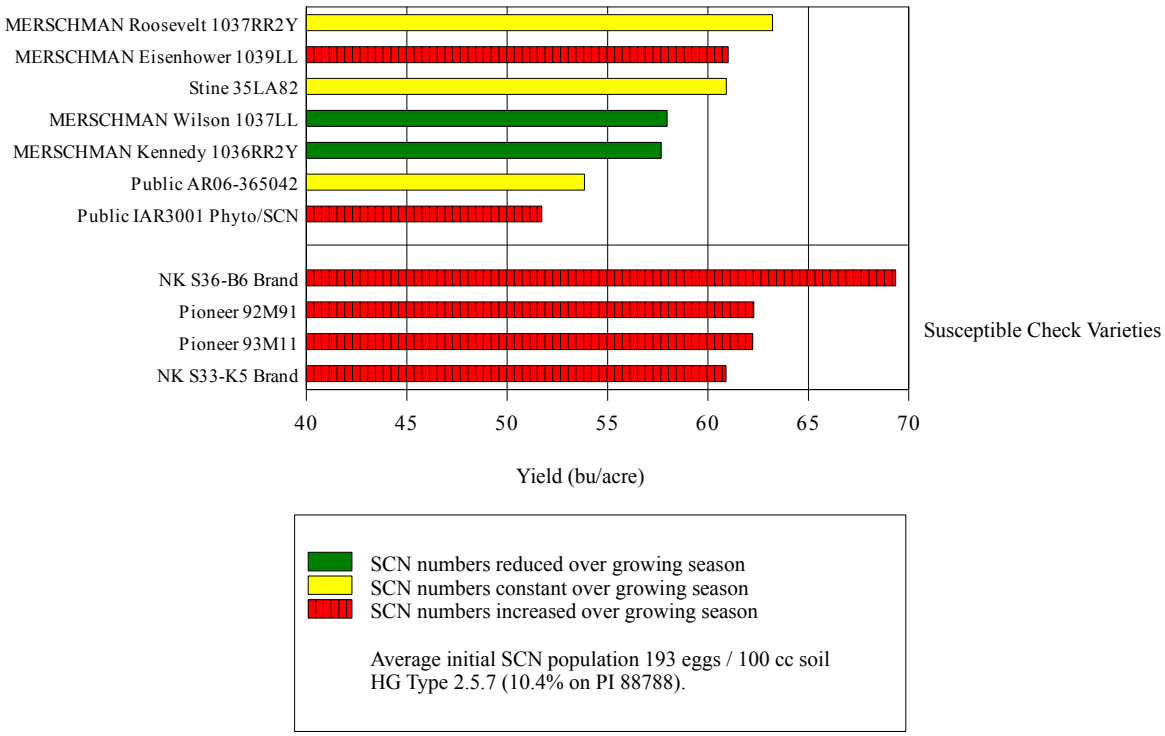
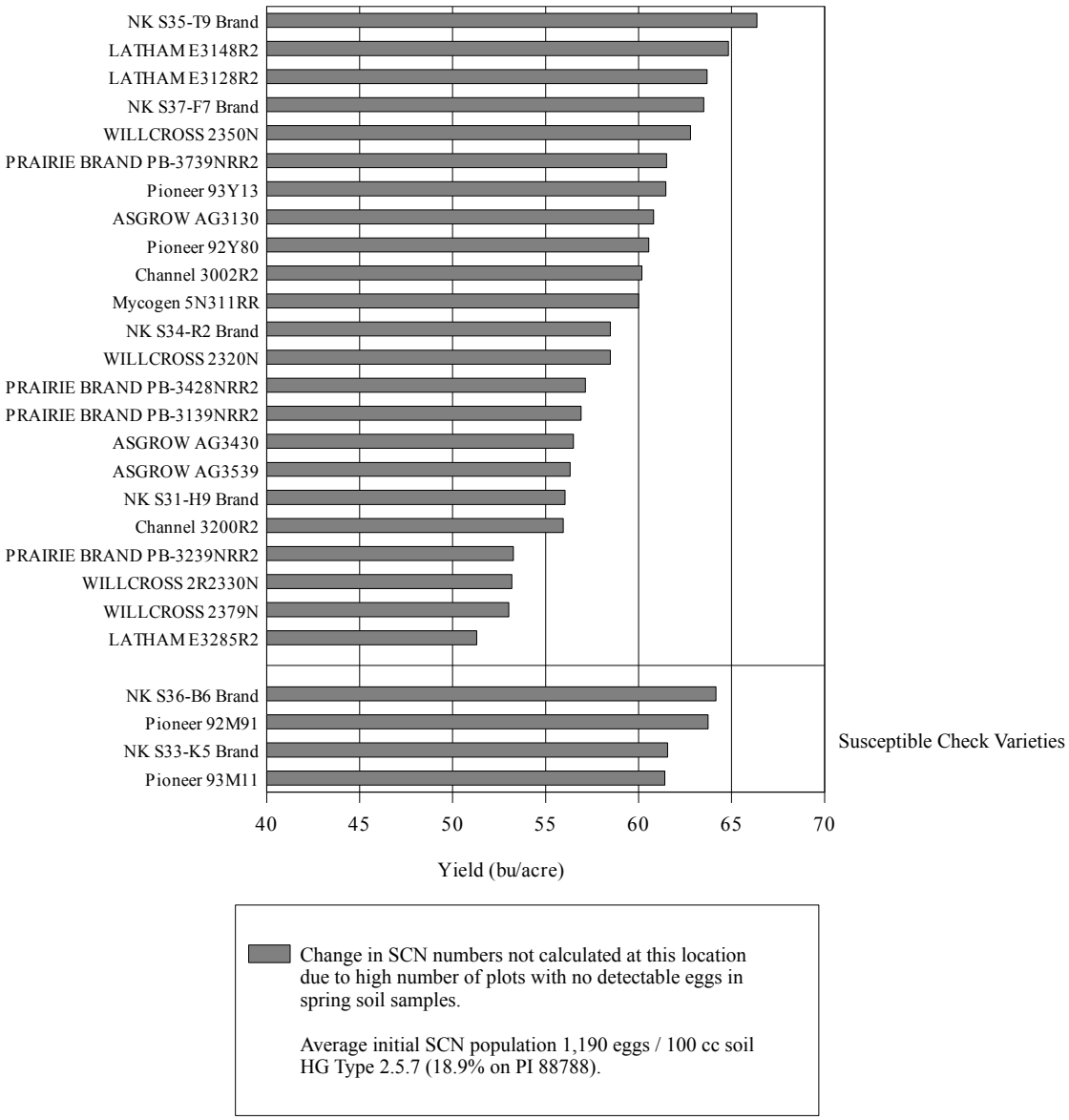


Table 11. Malvern (SW Iowa) Conventional

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
MERSCHMAN	Roosevelt 1037RR2Y	3.7	PI 88788	3.1	30	41.3	1.9	63.2	2	175	0.8
MERSCHMAN	Eisenhower 1039LL	3.9	PI 88788	3.8	27	40.5	1.6	61.0	5	150	1.3
Stine	35LA82	3.5	PI 88788	2.2	23	38.8	1.6	60.9	6	100	0.8
MERSCHMAN	Wilson 1037LL	3.7	PI 88788	3.3	27	43.5	2.0	58.0	8	125	0.7
MERSCHMAN	Kennedy 1036RR2Y	3.6	PI 88788	2.9	25	45.5	2.0	57.7	9	50	0.5
Public	AR06-365042	3.0	PI 88788	3.4	20	38.0	1.9	53.9	10	125	0.8
Public	IAR3001 Phyto/SCN	3.0	PI 438489B/PI 90363	3.3	18	41.5	3.0	51.7	11	175	1.6
	Average	3.5	-	3.1	24	41.3	2.0	58.0	-	129	0.9
	LSD[3] (P = 0.05)	-	-	-	-	2.0	0.3	3.7	-	NS	NS
	LSD[3] (P = 0.10)	-	-	-	-	1.7	0.2	3.0	-	NS	NS
NK	S36-B6 Brand	3.6	None	3.4	29	42.0	1.8	69.3	1	875	5.0
Pioneer	92M91	2.9	None	2.3	18	38.0	1.8	62.3	3	525	1.5
Pioneer	93M11	3.1	None	2.9	22	37.0	1.5	62.2	4	325	2.9
NK	S33-K5 Brand	3.3	None	3.4	24	42.0	2.0	60.9	6	1,025	10.3
	Average	3.2	-	3.0	23	39.8	1.8	63.7	-	688	4.9

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 193 eggs per 100 cc soil; HG Type 2.5.7 (10.4% 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, NS = no significant differences among the varieties.

Figure 12. Oskaloosa (SC Iowa) Roundup ®



Change in SCN numbers not calculated at this location due to high number of plots with no detectable eggs in spring soil samples.

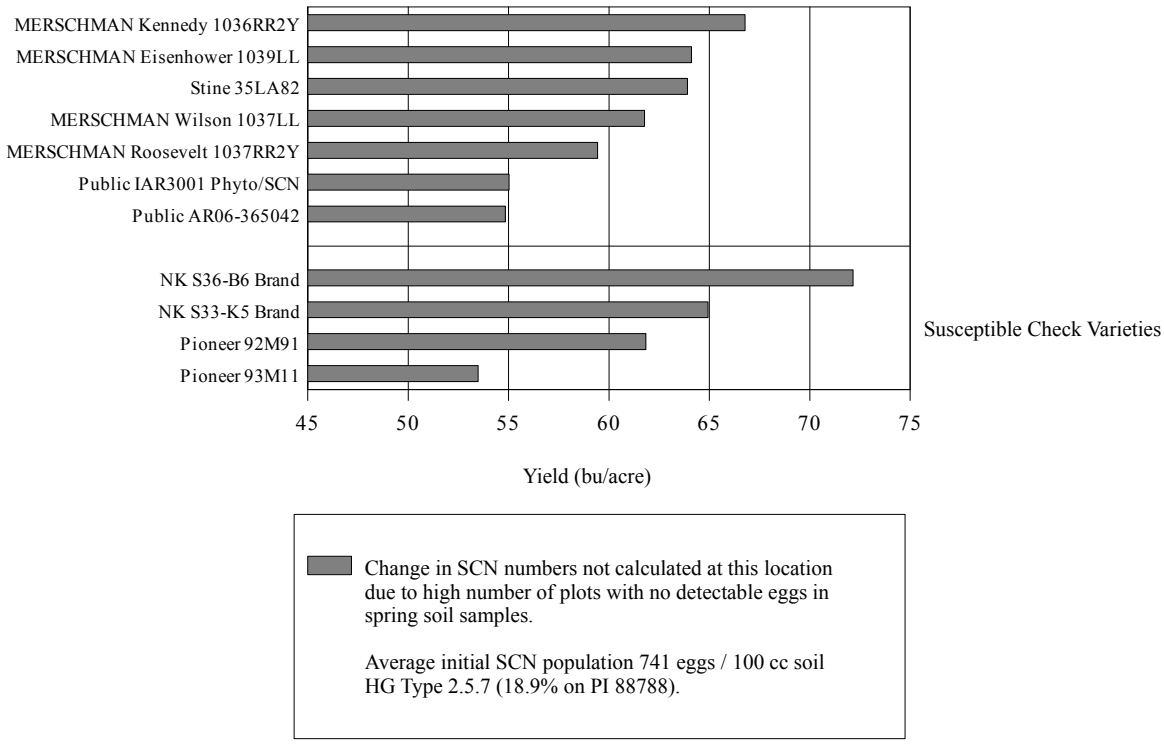
Average initial SCN population 1,190 eggs / 100 cc soil
HG Type 2.5.7 (18.9% on PI 88788).

Table 12. Oskaloosa (SC Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
NK	S35-T9 Brand	3.5	PI 88788	3.6	18	45.8	2.5	66.4	1	400	.
LATHAM	E3148R2	3.1	PI 88788	3.4	19	36.3	1.9	64.8	2	400	.
LATHAM	E3128R2	3.1	PI 88788	2.8	17	39.3	2.0	63.7	4	1,233	.
NK	S37-F7 Brand	3.7	PI 88788	4.0	14	42.0	1.8	63.5	6	75	.
WILLCROSS	2350N	3.5	PI 88788	3.1	19	38.8	3.1	62.8	7	575	.
PRAIRIE BRAND	PB-3739NRR2	3.7	PI 88788	3.4	20	44.0	2.4	61.5	9	775	.
Pioneer	93Y13	3.1	PI 88788	3.2	17	33.0	2.0	61.5	9	150	.
ASGROW	AG3130	3.1	PI 88788	3.1	20	38.5	1.9	60.8	12	700	.
Pioneer	92Y80	2.8	PI 88788	3.1	17	36.8	2.0	60.6	13	425	.
Channel	3002R2	3.0	PI 88788	3.3	21	37.5	2.6	60.2	14	300	.
Mycogen	5N311RR	3.1	PI 88788	2.6	20	34.8	1.9	60.0	15	475	.
NK	S34-R2 Brand	3.4	PI 88788	3.1	15	37.3	1.6	58.5	16	1,850	.
WILLCROSS	2320N	3.2	PI 88788	3.8	18	36.8	1.8	58.5	16	450	.
PRAIRIE BRAND	PB-3428NRR2	3.4	PI 88788	2.2	17	37.8	2.1	57.1	18	475	.
PRAIRIE BRAND	PB-3139NRR2	3.1	PI 88788	2.8	16	37.8	1.6	56.9	19	425	.
ASGROW	AG3430	3.4	PI 88788	3.4	18	38.3	2.6	56.5	20	1,475	.
ASGROW	AG3539	3.5	PI 88788	2.8	23	41.3	1.9	56.3	21	650	.
NK	S31-H9 Brand	3.1	PI 88788	3.0	14	40.0	2.8	56.1	22	525	.
Channel	3200R2	3.2	PI 88788	3.4	15	41.3	2.3	56.0	23	325	.
PRAIRIE BRAND	PB-3239NRR2	3.2	PI 88788	3.4	15	39.8	1.6	53.3	24	75	.
WILLCROSS	2R2330N	3.4	PI 88788	3.6	15	38.0	2.4	53.2	25	25	.
WILLCROSS	2379N	3.7	PI 88788	3.7	18	36.3	2.4	53.0	26	450	.
LATHAM	E3285R2	3.2	PI 88788	3.3	18	39.3	1.8	51.3	27	350	.
	Average	3.3	-	3.2	18	38.7	2.1	58.8	-	547	.
	LSD[3] (P = 0.05)	-	-	-	-	2.8	0.5	7.8	-	NS	.
	LSD[3] (P = 0.10)	-	-	-	-	2.4	0.4	6.5	-	NS	.
NK	*S36-B6 Brand*	*3.6*	*None*	*3.4*	*21*	*41.0*	*1.9*	*64.2*	*3*	*4,075*	.
Pioneer	*92M91*	*2.9*	*None*	*2.3*	*19*	*34.3*	*1.5*	*63.7*	*4*	*2,525*	.
NK	*S33-K5 Brand*	*3.3*	*None*	*3.4*	*24*	*39.0*	*2.1*	*61.6*	*8*	*2,625*	.
Pioneer	*93M11*	*3.1*	*None*	*2.9*	*23*	*31.5*	*1.5*	*61.4*	*11*	*475*	.
	Average	3.2	-	3.0	22	36.4	1.8	62.7	-	2,425	.

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 1,190 eggs per 100 cc soil; HG Type 2.5.7 (18.9% on PI 88788).
[2] Final SCN egg population density / initial SCN egg population density. There were too many plots at this location with an initial population density of 0 to calculate and compare RF values.
[3] Least significant difference: values are from Fisher's least significant difference test, NS = no significant differences among the varieties.

Figure 13. Oskaloosa (SC Iowa) Conventional



Change in SCN numbers not calculated at this location due to high number of plots with no detectable eggs in spring soil samples.

Average initial SCN population 741 eggs / 100 cc soil
HG Type 2.5.7 (18.9% on PI 88788).

Table 13. Oskaloosa (SC Iowa) Conventional

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
MERSCHMAN	Kennedy 1036RR2Y	3.6	PI 88788	2.9	25	41.5	2.1	66.8	2	250	.
MERSCHMAN	Eisenhower 1039LL	3.9	PI 88788	3.8	27	37.5	2.0	64.1	4	650	.
Stine	35LA82	3.5	PI 88788	2.2	23	36.5	1.6	63.9	5	500	.
MERSCHMAN	Wilson 1037LL	3.7	PI 88788	3.3	27	38.8	2.0	61.8	7	75	.
MERSCHMAN	Roosevelt 1037RR2Y	3.7	PI 88788	3.1	30	40.5	1.9	59.4	8	550	.
Public	IAR3001 Phyto/SCN	3.0	PI 438489B/PI 90363	3.3	18	36.5	2.9	55.0	9	25	.
Public	AR06-365042	3.0	PI 88788	3.4	20	36.3	2.0	54.8	10	200	.
	Average	3.5	-	3.1	24	38.2	2.1	60.8	-	321	.
	LSD[3] (P = 0.05)	-	-	-	-	3.3	0.3	7.2	-	NS	.
	LSD[3] (P = 0.10)	-	-	-	-	2.8	0.3	6.0	-	NS	.
NK	*S36-B6 Brand*	*3.6*	*None*	*3.4*	*29*	*38.3*	*2.0*	*72.2*	*1*	*1,325*	.
NK	*S33-K5 Brand*	*3.3*	*None*	*3.4*	*24*	*37.3*	*1.6*	*64.9*	*3*	*3,725*	.
Pioneer	*92M91*	*2.9*	*None*	*2.3*	*18*	*33.5*	*1.5*	*61.8*	*6*	*675*	.
Pioneer	*93M11*	*3.1*	*None*	*2.9*	*22*	*32.5*	*1.4*	*53.5*	*11*	*4,125*	.
	Average	3.2	-	-	23	35.4	1.6	63.1	-	2,463	.

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 741 eggs per 100 cc soil; HG Type 2.5.7 (18.9% on PI 88788).
[2] Final SCN egg population density / initial SCN egg population density. There were too many plots at this location with an initial population density of 0 to calculate and compare RF values.
[3] Least significant difference: values are from Fisher's least significant difference test, NS = no significant differences among the varieties.

Figure 14. Fruitland (SE Iowa) Roundup ®

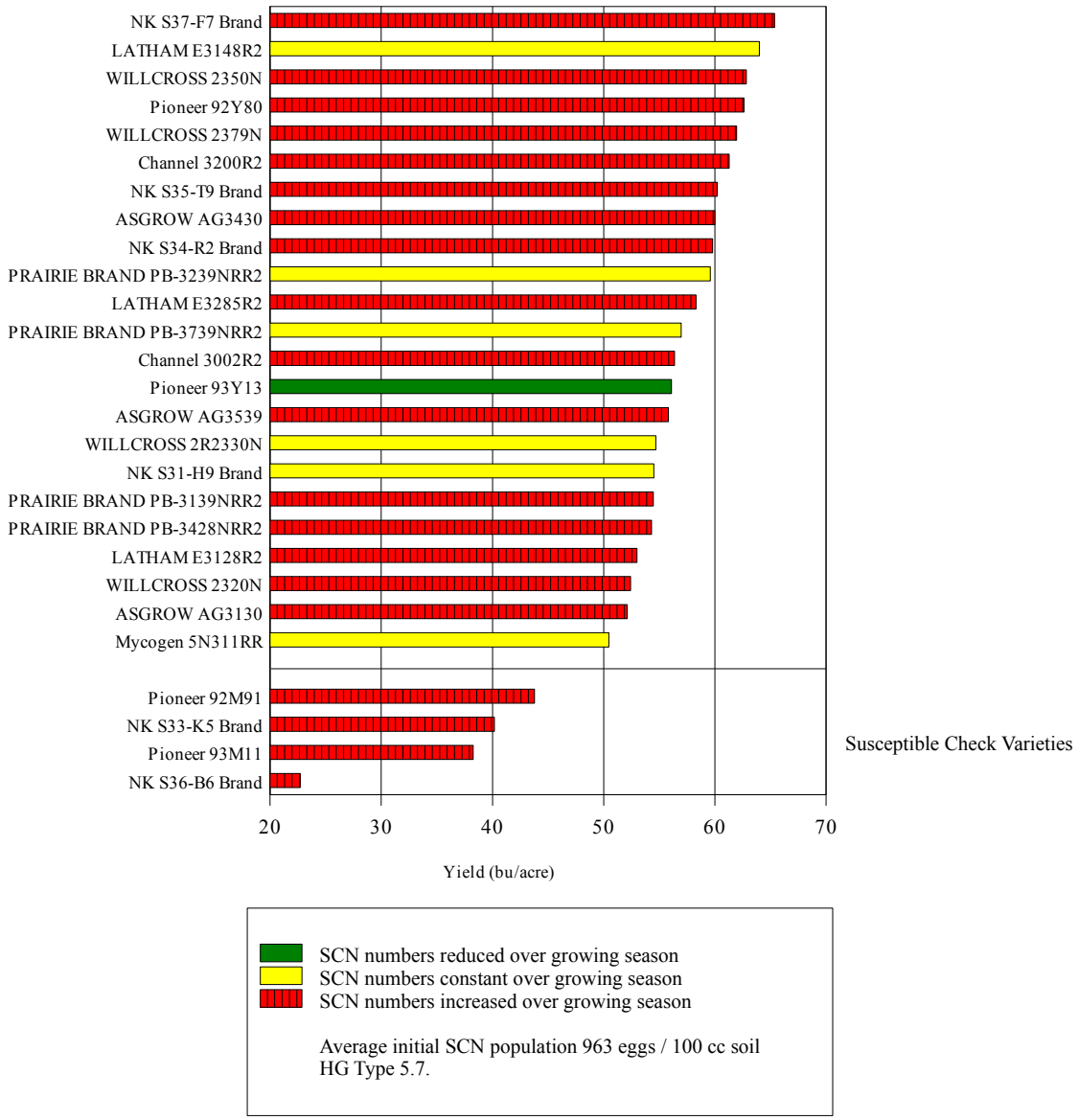


Table 14. Fruitland (SE Iowa) Roundup ®

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
NK	S37-F7 Brand	3.7	PI 88788	4.0	14	33.5	1.5	65.4	1	1,450	6.5
LATHAM	E3148R2	3.1	PI 88788	3.4	19	33.3	2.0	64.0	2	600	1.0
WILLCROSS	2350N	3.5	PI 88788	3.1	19	33.3	2.4	62.8	3	1,200	1.9
Pioneer	92Y80	2.8	PI 88788	3.1	17	29.3	2.0	62.6	4	1,025	1.4
WILLCROSS	2379N	3.7	PI 88788	3.7	18	32.8	1.9	62.0	5	2,275	2.9
Channel	3200R2	3.2	PI 88788	3.4	15	33.8	1.8	61.3	6	1,675	4.0
NK	S35-T9 Brand	3.5	PI 88788	3.6	18	37.0	1.9	60.2	7	1,725	3.3
ASGROW	AG3430	3.4	PI 88788	3.4	18	30.8	1.9	60.0	8	1,900	3.1
NK	S34-R2 Brand	3.4	PI 88788	3.1	15	32.3	1.6	59.8	9	2,275	3.9
PRAIRIE BRAND	PB-3239NRR2	3.2	PI 88788	3.4	15	32.0	1.5	59.6	10	1,400	1.1
LATHAM	E3285R2	3.2	PI 88788	3.3	18	30.8	1.5	58.3	11	1,825	4.0
PRAIRIE BRAND	PB-3739NRR2	3.7	PI 88788	3.4	20	37.8	2.0	57.0	12	1,425	1.1
Channel	3002R2	3.0	PI 88788	3.3	21	30.5	2.0	56.4	13	2,100	2.4
Pioneer	93Y13	3.1	PI 88788	3.2	17	27.5	1.5	56.1	14	775	0.6
ASGROW	AG3539	3.5	PI 88788	2.8	23	34.3	1.8	55.8	15	5,650	6.3
WILLCROSS	2R2330N	3.4	PI 88788	3.6	15	31.8	1.8	54.7	16	775	0.8
NK	S31-H9 Brand	3.1	PI 88788	3.0	14	32.3	2.3	54.5	17	1,250	1.1
PRAIRIE BRAND	PB-3139NRR2	3.1	PI 88788	2.8	16	30.5	1.9	54.5	17	875	3.8
PRAIRIE BRAND	PB-3428NRR2	3.4	PI 88788	2.2	17	34.3	1.9	54.3	19	1,200	1.3
LATHAM	E3128R2	3.1	PI 88788	2.8	17	29.8	1.8	53.0	20	1,550	2.1
WILLCROSS	2320N	3.2	PI 88788	3.8	18	31.3	1.9	52.4	21	1,925	1.8
ASGROW	AG3130	3.1	PI 88788	3.1	20	29.5	1.6	52.1	22	1,825	3.2
Mycogen	5N311RR	3.1	PI 88788	2.6	20	27.8	1.9	50.5	23	1,425	0.9
	Average	3.3	-	3.2	18	32.0	1.8	57.7	-	1,658	2.5
	LSD[3] (P = 0.05)	-	-	-	-	2.6	0.3	7.9	-	1,742	NS
	LSD[3] (P = 0.10)	-	-	-	-	2.2	0.3	6.6	-	1,456	NS
Pioneer	*92M91*	*2.9*	*None*	*2.3*	*19*	*24.8*	*1.5*	*43.8*	*24*	*18,500*	*63.0*
NK	*S33-K5 Brand*	*3.3*	*None*	*3.4*	*24*	*29.5*	*2.0*	*40.2*	*25*	*15,250*	*53.8*
Pioneer	*93M11*	*3.1*	*None*	*2.9*	*23*	*25.0*	*1.4*	*38.3*	*26*	*11,950*	*12.0*
NK	*S36-B6 Brand*	*3.6*	*None*	*3.4*	*21*	*26.5*	*1.9*	*22.7*	*27*	*10,800*	*12.3*
	Average	3.2	-	3.0	22	26.4	1.7	36.2	-	14,125	35.3

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 963 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, NS = no significant differences among the varieties.

Figure 15. Fruitland (SE Iowa) Conventional

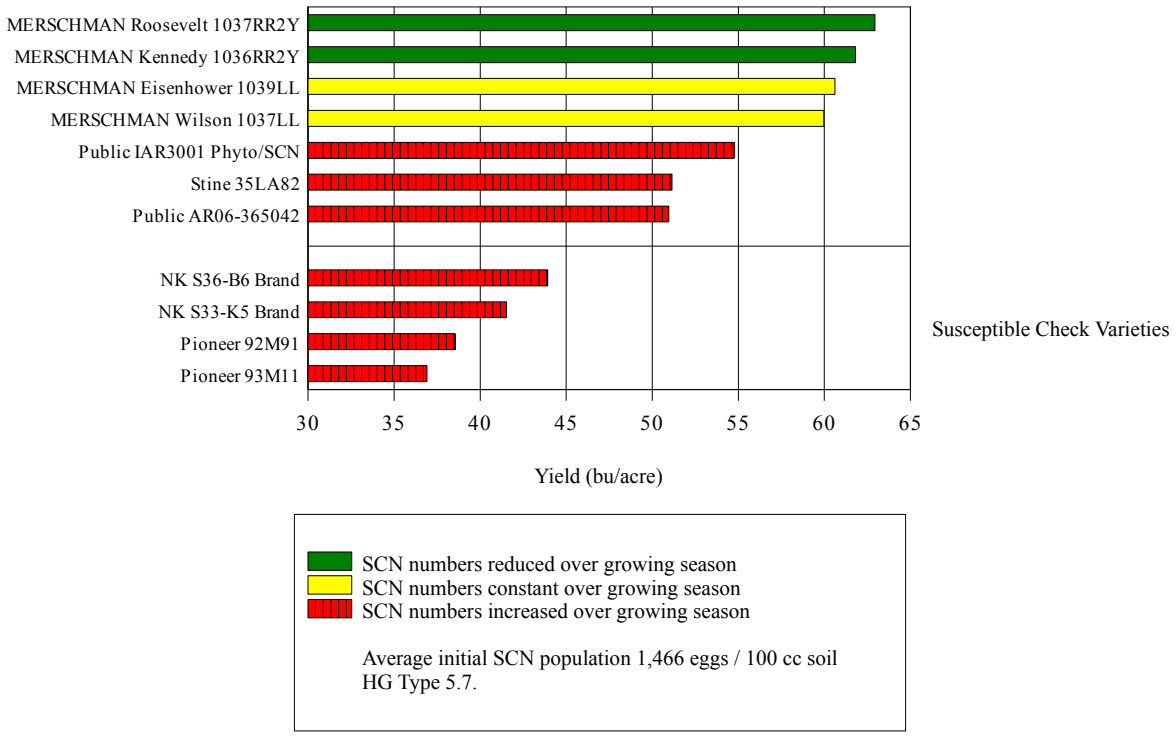


Table 15. Fruitland (SE Iowa) Conventional

Brand	Variety	Relative maturity	Resistance	IDC	Maturity date	Height (inches)	Lodging (1-5)	Yield (bu/acre)	Yield rank	SCN # (/100cc)[1]	RF[2]
MERSCHMAN	Roosevelt 1037RR2Y	3.7	PI 88788	3.1	30	36.5	2.0	62.9	1	875	0.7
MERSCHMAN	Kennedy 1036RR2Y	3.6	PI 88788	2.9	25	37.0	2.0	61.8	2	1,200	0.7
MERSCHMAN	Eisenhower 1039LL	3.9	PI 88788	3.8	27	31.8	1.5	60.6	3	2,475	1.1
MERSCHMAN	Wilson 1037LL	3.7	PI 88788	3.3	27	32.8	1.9	60.0	4	925	0.8
Public	IAR3001 Phyto/SCN	3.0	PI 438489B/PI 90363	3.3	18	32.5	2.6	54.8	5	725	1.4
Stine	35LA82	3.5	PI 88788	2.2	23	31.8	1.5	51.2	6	2,350	1.8
Public	AR06-365042	3.0	PI 88788	3.4	20	29.5	2.0	51.0	7	3,625	2.2
	Average	3.5	-	3.1	24	33.1	1.9	57.5	-	1,739	1.3
	LSD[3] (P = 0.05)	-	-	-	-	1.5	0.3	7.1	-	1,943	NS
	LSD[3] (P = 0.10)	-	-	-	-	1.3	0.3	5.9	-	1,604	NS
NK	*S36-B6 Brand*	*3.6*	*None*	*3.4*	*29*	*26.5*	*1.5*	*43.9*	*8*	*18,375*	*14.7*
NK	*S33-K5 Brand*	*3.3*	*None*	*3.4*	*24*	*26.8*	*1.5*	*41.5*	*9*	*15,000*	*20.8*
Pioneer	*92M91*	*2.9*	*None*	*2.3*	*18*	*25.3*	*1.1*	*38.6*	*10*	*20,400*	*13.5*
Pioneer	*93M11*	*3.1*	*None*	*2.9*	*22*	*23.5*	*1.0*	*36.9*	*11*	*16,025*	*20.7*
	Average	3.2	-	3.0	23	25.5	1.3	40.2	-	17,450	17.4

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 1,466 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, NS = no significant differences among the varieties.

Table 16. 2009 Varieties by brand and seed treatment listings.

Asgrow	
AG1703	CruiserMaxx
AG2002	CruiserMaxx
AG2108	CruiserMaxx
DKB27-52	CruiserMaxx
AG2939	Acceleron+Insecticide
AG3039	Acceleron+Insecticide
AG3130	Acceleron+Insecticide
AG3430	Acceleron+Insecticide
AG3539	Acceleron+Insecticide
Channel Bio	
2200R2	Acceleron
2400R2	Acceleron
2901R2	Acceleron
2551	Apron Maxx
3002R2	Acceleron
3200R2	Acceleron
Dairyland	
DSR-2200/RR	untreated
DSR-2440/R2Y	untreated
DSR-2560/RR	untreated
DSR-2929/RR	untreated
DST-28004/R2Y	untreated
G2 (NuTech)	
7226	CruiserMaxx
7208	CruiserMaxx
7212	CruiserMaxx
7255	CruiserMaxx
Latham	
E1982R2	Acceleron
L2082R	Trilex+Gaucho
E2120RX	Trilex+Gaucho
E2182R2	Acceleron
E2485R2	Acceleron
E2583R	Trilex+Gaucho
E2984R2	Acceleron
E3128R2	Acceleron
E3148R2	Acceleron
E3285R2	Acceleron
Legend	
LS 2129RRN	Trilex 6000
LS 2298RRN	Trilex 6000
LS 2678RRN	Trilex 6000
Merschman	
Mohegan 1022RR2Y	Acceleron
Sioux 927LL	Trilex 6000
Apache 1024RR2Y	Acceleron
Cherokee 1029RR2Y	Acceleron
Kennedy 1036RR2Y	Acceleron
Roosevelt 1037RR2Y	Acceleron
Wilson 1037LL	Trilex 6000
Eisenhower 1039LL	Trilex 6000
Mycogen	
5N222RR	Acceleron
5N283RR	Acceleron
5N311RR	Acceleron
NK	
S19-A6	CruiserMaxx
S21-B1	CruiserMaxx
S22-C5	CruiserMaxx
S23-N7	CruiserMaxx
S25-T7	CruiserMaxx
S26-P1	CruiserMaxx
S27-C4	CruiserMaxx
S30-F5	CruiserMaxx
S31-H9	CruiserMaxx
S34-R2	CruiserMaxx
S35-T9	CruiserMaxx
S37-F7	CruiserMaxx
North Star	
NS2105NR2	CruiserMaxx
NuTech	
2324+RN	CruiserMaxx
1808RN	CruiserMaxx
7222	CruiserMaxx
7257	CruiserMaxx
Pioneer Hi-Bred International, Inc.	
91Y80	CruiserMaxx
91Y91	CruiserMaxx
92Y20	CruiserMaxx
92Y30	CruiserMaxx
92Y80	CruiserMaxx
93Y13	CruiserMaxx
Prairie Brand	
PB-1999RR2	Acceleron
PB-2099NRR2	Acceleron
PB-2207NRR	Trilex 6000
PB-2439NRR2	Acceleron
PB-2539NRR2	Acceleron
PB-2698NRR	Trilex 6000
PB-2828NRR2	Acceleron
PB-2959NRR2	Acceleron
PB-3139NRR2	Acceleron
PB-3239NRR2	Acceleron
PB-3428NRR2	Acceleron
PB-3739NRR2	Acceleron
Public	
IA1008BC SCN/Phyto	CruiserMaxx
IAR2101 SCN	CruiserMaxx
IAR3001 Phyto/SCN	CruiserMaxx
AR06-365042	CruiserMaxx

Table 16 continued. 2009 Varieties by brand and seed treatment listings.

Stine	
2420-4	Trilex 6000
2482-4	Trilex 6000
23LA02	Trilex 6000
35LA82	Trilex 6000
Wensman Seed	
W 3212NR2	CruiserMaxx
W 3244NR2	CruiserMaxx
Willcross	
2R2330N	Acceleron
2320N	Trilex 6000
2350N	Trilex 6000
2379N	Trilex 6000
Ziller	
BT 7219NR	CruiserMaxx

Table 17. 2009 test participants.

Channel Bio Corp.
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Dow AgroSciences/Mycogen Seeds
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