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Soybean Chlorosis Studies on High pH Bottomland Soils

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SUMMARY

Soybean varieties are different in tolerance to lime-induced chlorosis. Field trials were conducted to evaluate variety performance on soils where chlorosis in soybeans was a known problem. Thirty-six varieties out of 177 were identified as tolerant to soil conditions that cause chlorosis. Eleven varieties of these 36 were found to have the most consistent yield performance on high pH soils. Another seven varieties are judged to have potential in these soils but have been evaluated for only one or two years.

Tolerant varieties must be planted at adequate densities for best performance. A seeding rate of 13.5 seeds per foot of row, the highest seeding rate employed, did not appear to maximize yield on soils where chlorosis was severe.

On some soils, chlorosis is so severe that even tolerant varieties planted at adequate densities will not produce seed. Under conditions where soils cause moderate to severe chlorosis in tolerant varieties, yields were improved by the use of a high pH stable chelate (Fe-EDDHA) with the seed.

INTRODUCTION

Chlorosis (yellowing) in soybeans has been a problem on some soils since soybeans have been grown in Nebraska. The problem is common on the alkaline soils in the Platte and Elkhorn River Valleys and, to a lesser extent, in the Loup and Republican Valleys and high lime soils in central and western Nebraska. Approximately 250,000 acres of land exist in the river valleys where chlorosis is likely to be a problem.

Field studies were initiated in 1980 to: 1) evaluate soybean varieties grown on these soils, 2) study the influence of seeding density, and 3) determine the economic returns of applying an iron chelate with the seed at the time of planting.

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EXPERIMENTAL METHODS

Soybean seed was solicited from seed companies. Companies were asked to submit seed of pure line varieties considered to be tolerant to chlorosis for evaluation on high pH soil.

All experimental sites were in farmers' fields. Individual plots were two 30 inch rows by 20 feet. Plots were planted with a two-row plot planter (except 1980 when plots were 15 feet long and planted with a hand push planter) and harvested with a plot combine. Plot rows were trimmed to 15 foot lengths prior to harvest. Seed yields were calculated at 13% moisture.

Chlorosis scores based on leaf color were made four, six, and eight weeks after planting (six and eight weeks in 1986-88) using the following as a guide:

1. **Normal**; dark green leaves
2. **Near Normal**; light green, no chlorotic leaves
3. **Mild Chlorosis**; interveinal yellowing in upper trifoliolate leaves
4. **Chlorotic**; interveinal yellowing in all trifoliolates, necrotic (white or dead) leaf areas just beginning to show on some leaves
5. **Very Chlorotic**; pronounced interveinal yellowing, necrotic leaves
6. **Severely Chlorotic**; some plants dead, necrotic leaf tissue dominates

Variety Trials

Soybean varieties were planted in a randomized complete block design with six or seven replications. Seeds were planted at nine seeds per foot of row during 1980-83. It became apparent that this seeding rate was too low and was resulting in excessive chlorosis at some sites. During 1984-88, seeding rate was increased to 11 seeds per foot of row.

The varieties Century (1980-85) and Century 84 (1985-88) were used as the standard varieties during the study. Stine 2050+ (Midwest Oilseeds 2050) was identified as a tolerant variety in 1980, and was used each year in the tests as another standard. The variety Nebsoy was found to be very sensitive to the alkaline soils and was included as a tester variety during 1984-88.

New varieties were added to the study each year as submitted by seed companies. Only those varieties that exhibited some tolerance to the alkaline soil conditions were included in the test for more than one year except for the standard and tester varieties.

Variety X Density Trials

Three varieties (Century, Nebsoy, and Stine 2920) were each planted in 1984 and 1985 at three seeding densities (4.5, 9.0, and 13.5 seeds per foot of row). Stine 2920 was selected as a tolerant variety, Century intermediate in reaction, and Nebsoy as very sensitive to chlorosis. These studies were arranged in a randomized complete block design and planted adjacent to the variety trials in five to seven replications.

Variety X Iron Chelate Trials

Preliminary screening investigations (1980-85) suggested that the application of a high pH stable iron chelate (Fe-EDDHA) may improve the growth and seed yield of soybeans on soils that are too alkaline for good production of even chlorosis tolerant varieties. Since no information was available on the response of various varieties to applied iron chelate, 15 varieties identified as having tolerance to chlorosis were selected in 1986. Three other varieties (Nebsoy, Mead, and Century 84) were included as tester and standard varieties.

These eighteen varieties were planted in four-row plots. Two rows were not treated and the other two rows received five pounds of iron chelate (Fe-EDDHA) in 25 gallons of water per acre placed on the seed in the seed furrow. In 1987, six rows of 18 varieties were planted and three rates of Fe-EDDHA were used: 0, 2.5, and 5 pounds of product (6% Fe) per acre. Both rates of Fe-EDDHA were applied in 25 gallons of water per acre. During 1988, six row plots and three rates of iron chelate were used with 27 varieties. These 27 were evaluated in variety trials in 1986 and 1987 and were in the 1988 variety trials.

A split plot design was used each year. Varieties were randomized in complete blocks and iron treatment was randomized within the variety plots. Six replications were planted at each site.

RESULTS AND DISCUSSION

Variety Trials

Data were collected from 23 locations during 1980-88. Chlorosis scores and seed yields for each site are tabulated in Appendix A. Degree of chlorosis by sites ranged from mild to severe. Soil tests were made on soils from most sites (data not reported) and no parameters were found that correlated with the severity of chlorosis.

During this nine year study, 177 varieties were evaluated for one or more years and are listed in Table 1.

Table 1. Soybean varieties that were tested on high pH soils, 1980-88.

Brand	Entry	Brand	Entry	Brand	Entry	Brand	Entry
——	Amcor	Diamond	D220	Jacques	J103	Ohlde	2188
——	Amsoy 71	Diamond	D310	Jacques	J105	Ohlde	2190
——	BSR 101	Diamond	Eagle	Jacques	J201	Ohlde	2193
——	Century	Diamond	TC204A	Jacques	J231	Ohlde	3000
——	Century 84	Diamond	83-32	Jacques	J271		
——	Calland	Ferry Morse	GT1310			Pioneer	1082
——	Corsoy 79	Ferry Morse	GT1380	Land O'Lakes	L2330	Pioneer	9181
——	Cumberland			Land O'Lakes	L2456	Pioneer	9271
——	Elf	Fontanelle	F3850	Land O'Lakes	L3145	Pioneer	9292
——	Elgin	Fontanelle	F4201	Land O'Lakes	L3665	Pride	B216
		Fontanelle	F4545	Land O'Lakes	L4106	Pride	B220
——	Fremont	Fontanelle	F4646	Land O'Lakes	L4207	Profiseed	1152
——	Hack	Fontanelle	F4747	Land O'Lakes	Exp.79-1746	Profiseed	1350
——	Harper	Fontanelle	X5003	Land O'Lakes	Exp.79-3068	Riverside	4041
——	Hobbit	Funk Seed	12213				
——	Hoyt	Funk Seed	12227	Latham	650	S Brand	S44A
——	Lakota			Latham	1010	S Brand	S46D
——	Logan	Golden Harvest	Cherokee III	Lynks	5234	S Brand	S46J
——	Mead	Golden Harvest	H1233	Lynks	8165	S Brand	S47A
——	Nebsoy	Golden Harvest	H1276	Lynks	8252	S Brand	S47B
		Golden Harvest	H1285	Lynks	8280	S Brand	S48
——	Pella	Golden Harvest	X257			S Brand	S50a
——	Platte	Golden Harvest	X277	McCubbin	EXP.40510	S Brand	S67
——	Wayne	Golden Harvest	X308	McCubbin	Taylor		
——	Weber	Golden Harvest	X360	McCubbin	Troy	Sexauer	SX2080

Table 1. Continued

Brand	Entry	Brand	Entry	Brand	Entry	Brand	Entry
——	Will			Midwest Oilseeds	328	Sexauer	SX2090
——	Williams	Hoegemeyer	150	Midwest Oilseeds	397	SOI	166
——	Williams 79	Hoegemeyer	200	MSR/Agri-gold	Royal	SOI	266
——	Williams 82	Hoegemeyer	205	MSR/Agri-gold	Royal II	SOI	268
——	Winchester	Hoegemeyer	264	MSR	6666	SOI	285
——	Zane	Hoegemeyer	281	MSR	X5557	SRF	200
		Hoegemeyer	350			SRF	Matsoy
Agripro	AP225C			NAPB	Exp.9649		
Agripro	AP250	Hofler	Censoy	NC+	2A34	Stine	2050+
Agripro	AP350	Hofler	Gem	NC+	2D90	Stine	2070
Americana	Clinton	Hofler	Topaz	NC+	2D90+	Stine	2330
Asgrow	A2187	Horizon	H21	NC+	2K40	Stine	2920
Asgrow	A2234	Horizon	H25	NC+	3H49	Stine	3500
Asgrow	A2575	Horizon	H28	New Harvest	270	Stock Seed	SS462A
Asgrow	A2680	Horizon	H29			Stock Seed	SS500
Asgrow	A3127	Hy-Vigor	Rotunda	Northrup King	S23-03	Stock Seed	SS793
Asgrow	A3427	Hy-Vigor	900	Northrup King	S2596		
				Northrup King	S27-10	Superior	SPB289
Dahlgren	DS-3285	Jacobsen	679	Northrup King	S29-20	Superior	SPB308
Dekalb-Pfizer Gen.	CX174	Jacobsen	771	Northrup King	S30-31	Superior	SPB308T
Dekalb-Pfizer Gen.	CX264	Jacobsen	799	Northrup King	S4044	Superior	SPB340
Dekalb-Pfizer Gen.	CX283	Jacobsen	824	Northrup King	S4501	Superior	X250
Dekalb-Pfizer Gen.	CX290	Jacobsen	972	Northrup King	X735028	Valley	778
Dekalb-Pfizer Gen.	CX324			Northrup King	X8821	Valley	1178
Dekalb-Pfizer Gen.	CX350						

Table 2. Chlorosis score eight weeks after planting and seed yield of 57 soybean varieties grown at three locations (Dodge, Madison, and Merrick Counties), 1988.

Brand	Entry	Chlorosis Score	Seed Yield, bu/ac.
SOI	226	2.9 abc*	36.3 a*
Dek-Pfizer	CX174	2.5 a	35.9 ab
Profiseed	PS1350	2.8 abc	35.7 ab
Horizon	H21	3.2 abcdef	35.5 ab
Dek-Pfizer	CX283	2.9 abc	35.0 ab
Jacques	J103	2.5 a	34.9 ab
G. Harvest	H1285	2.9 abc	34.7 abc
Jacques	J231	2.7 ab	34.4 abc
NC+	2D90+	2.9 abc	34.4 abc
Lynks	8280	2.9 abc	34.1 abcd
Dahlgren D	S-3285	3.0 abc	33.9 abcd
McCubbin	Taylor	2.9 abc	33.9 abcd
Superior	SPB308	3.0 abc	33.7 abcd
Horizon	H25	3.0 abcd	32.3 abcde
S Brand	S47B	3.4 bcdefg	32.0 abcde
Stine	2330	3.1 abcdef	31.7 abcde
Fontanelle	F4201	3.0 abcd	31.7 abcde
S Brand	S44A	3.1 abcdef	31.6 abcde
Jacobsen	824	2.9 abc	31.5 abcde
Ohlde	2193	2.9 abc	31.3 abcde
Hoegemeyer	205	3.0 abc	31.3 abcde
S Brand	S46D	3.2 abcdef	31.2 abcde
Stine	2050+	3.6 cdefg	31.0 abcde
Stine	2920	3.4 bcdefg	30.9 abcde
Fontanelle	F4545	3.1 abcde	30.8 abcde
Stine	2070	3.2 abcdef	30.7 abcde
Profiseed	PS1152	3.1 abcde	30.6 abcde
Horizon	H29	3.6 cdefg	30.5 abcde
Superior	SPB308T	3.4 bcdefg	30.1 abcde
Asgrow	A2187	3.0 abc	30.1 abcde
S Brand	S46J	3.0 abc	30.0 abcde
NC+	2K40	3.1 abcde	28.7 abcdef
Hoegemeyer	150	3.4 bcdefg	28.5 abcdef
Asgrow	A3427	3.4 bcdefg	27.1 abcdefg
Asgrow	A2234	3.9 efgh	26.3 bcdefgh
N. K.	29-20	3.8 efgh	26.2 bcdefgh
SOI	285	3.9 efgh	26.0 bcdefgh
N. K.	23-03	3.1 abcde	26.0 bcdefgh
SOI	166	3.5 bcdefg	24.8 cdefghi
N. K.	X8821	3.5 cdefg	24.5 defghi
Fontanelle	F3850	3.6 cdefg	23.8 efghi
——	Century 84	3.8 efgh	22.9 efghi
Lynks	5234	4.0 gh	22.9 efghi
SRF	200	4.4 hi	20.4 fghij
SOI	268	3.8 defgh	20.3 fghij
——	Mead	4.3 hi	18.8 ghijk
G. Harvest	X277	4.1 gh	18.5 ghijk
Hoegemeyer	281	4.5 hij	17.3 hijk
——	BSR 101	3.9 fgh	15.9 ijkl
Sexauer	SX2080	4.8 ijk	15.5 ijklm
——	Hoyt	4.9 ijkl	12.3 jklmn
MSR	6666	5.1 jklm	11.0 klmno
Sexauer	SX2090	5.6 lm	7.7 lmnop
Horizon	H28	5.5 klm	6.9 mnop
G. Harvest	X308	5.5 klm	4.6 nop
Jacobsen	972	5.7 m	2.4 op
——	Nebsoy	5.7 m	1.7 p

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table 2 shows the chlorosis score eight weeks after planting and the seed yield of 57 varieties grown at three sites in 1988. Thirty-four varieties were in the top yield group based on the Duncan's Multiple Range Test. Of these 34 varieties, eight were in the test for the first year (SOI 226, Lynks 8280, Dahlgren DS-3285, Fontanelle F4201, Stine 2070, S Brand S46J, NC+ 2K40, and Hoegemeyer 150) and four varieties were in the test for the second year (Dekalb-Pfizer CX174, Horizon H21, Jacobsen 824, and Superior SPB308T). The other 22 varieties in this top yield group have been tested for three or more years. The top yielding varieties generally had the lowest chlorosis scores which indicates that varieties which had the least chlorosis had the highest seed yields (Table 2). The relationship between chlorosis score and seed yield is shown in Figure 1. For each unit increase in chlorosis score, seed yield was reduced 10.38 bushels per acre.

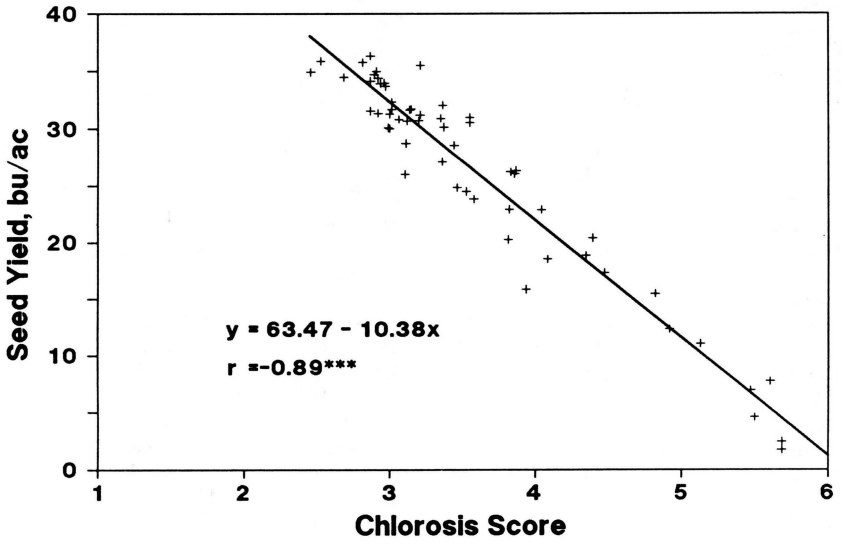

Figure 1. Relationship of seed yield to eight week chlorosis score for 57 soybean varieties grown at three sites, 1988.

Chlorosis scores eight weeks after planting and the seed yields for 28 varieties tested for three years at eight sites are shown in Table 3. These varieties, except for Century 84, Mead, and Nebsoy, were those that had shown tolerance to chlorosis in previous tests. Twenty-three varieties were in the top seed yield group. Varieties in the top yield group are those that generally had the lowest chlorosis scores (Table 3). This relationship between chlorosis score and seed yield is illustrated in Figure 2. Seed yield was reduced 10.52 bushels per acre for each unit increase in chlorosis score.

Table 3. Chlorosis score eight weeks after planting and seed yield of 28 soybean varieties grown at eight locations [Colfax, Dawson (2), Dodge (2), Madison, Merrick, and Stanton Counties], 1986-88.

Brand	Entry	Chlorosis Score	Seed Yield, bu/ac.
NC+	2D90+	2.5 abcd*	42.3 a*
Jacques	J103	2.3 a	41.7 ab
S Brand	S46D	2.6 abcde	41.5 ab
G. Harvest	H1285	2.7 abcde	41.2 abc
McCubbin	Taylor	2.6 abcde	40.9 abc
Dek-Pfizer	CX283	2.6 abcde	40.8 abc
Horizon	H29	2.8 bcde	40.8 abc
Jacques	J231	2.4 abc	40.6 abc
Asgrow	A2187	2.3 ab	40.0 abc
Ohlde	2193	2.6 abcde	39.9 abc
Profiseed	1350	2.6 abcd	39.7 abc
Superior	SPB308	2.7 bcde	39.6 abcd
S Brand	S44A	2.6 abcde	39.5 abcd
S Brand	S47B	2.8 cde	39.5 abcd
Stine	2330	2.7 abcde	39.2 abcd
Stine	2050+	2.9 de	38.9 abcd
Horizon	H25	2.7 abcde	38.8 abcd
Stine	2920	2.9 de	38.6 abcd
Hoegemeyer	205	2.8 bcde	38.4 abcd
Profiseed	1152	2.6 abcde	38.3 abcd
Fontanelle	F4545	2.7 abcde	37.8 abcde
N. K.	S29-20	3.0 ef	37.5 abcde
Asgrow	A3427	2.9 de	36.6 abcde
N. K.	S23-03	2.6 abcde	35.8 bcde
——	BSR 101	2.8 cde	35.4 cde
——	Century 84	3.0 ef	33.8 de
——	Mead	3.4 f	32.2 e
——	Nebsoy	4.4 g	19.2 f

*Values within individual columns followed by the same letter are not significantly different @ .05.

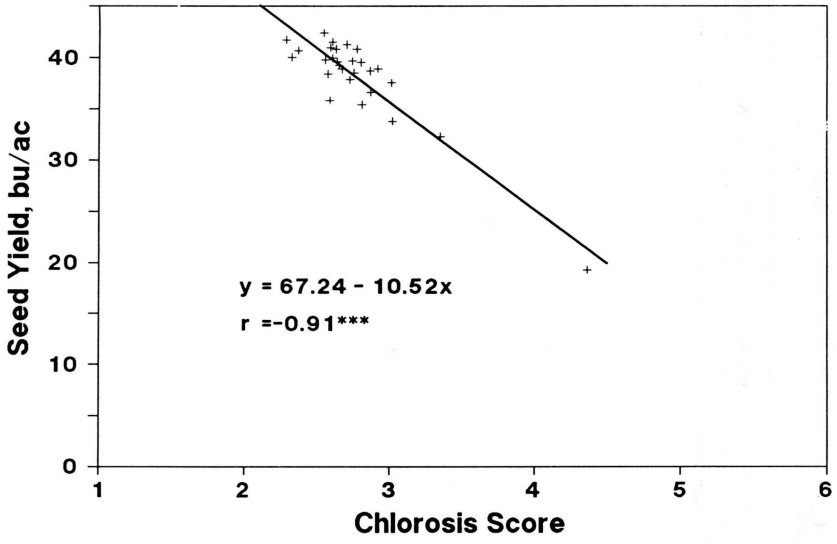

Figure 2. Relationship of seed yield to eight week chlorosis score for 28 soybean varieties grown at eight sites, 1986-88.

Thirty-six varieties, listed in Table 4, are those that have tolerance to chlorosis. Eleven varieties (Dekalb-Pfizer CX283, Golden Harvest H1285, Jacques J103, Jacques J231, McCubbin Taylor, NC+ 2D90+, Ohlde 2193, Profiseed PS1350, S Brand S46D, Stine 2330, and Superior SPB308) have been in the top two-thirds of the top seed yield group during three or more years of field testing. Another seven varieties (Dahlgren DS-3285, Dekalb-Pfizer CX174, Fontanelle F4201, Horizon H21, Jacobsen J824, Lynks 8280, and SOI 226) were in the top two-thirds of the top yield group for one or two years of field testing. These 18 varieties have produced the highest seed yields when grown in high pH soils. Stine 2050+, the variety identified as tolerant in the first year and used as a standard during this study, was in the top seed yield group over years except in the 1983-88 average. This variety, although not one of the varieties in the upper two-thirds of the top yielding group, does have tolerance to chlorosis and is a good choice to serve as a standard to which seed yield of other varieties can be compared.

Soybean varieties are different in tolerance to soil conditions that cause

Table 4. Thirty-six soybean varieties in the top seed yield group in 1988 and over years based on Duncan's Multiple Range Test.

Brand	Entry	Years								
		1988	87-88	86-88	85-88	84-88	83-88	82-88	81-88	80-88
		Rank in group by years over sites								
Asgrow	A2187	30	23	9	11					
Asgrow	A3427	34	--	23						
Dahlgren	DS-3285	11								
Dakalb-Pfizer	CX174	2	4							
Dekalb-Pfizer	CX283	5	8	6	7	3	4	1		
Fontanelle	F4201	17								
Fontanelle	F4545	25	25	21	14	11	12	8	4	
Golden Harvest	H1285	7	3	4	2	1	2			
Hoegemeyer	150	33								
Hoegemeyer	205	21	22	19	15	8	8	7		
Horizon	H21	4	2							
Horizon	H25	14	15	17						
Horizon	H29	28	21	7						
Jacobsen	J824	19	17							
Jacques	J103	6	1	2	1	5	5	2		
Jacques	J231	8	7	8	5					
Lynks	8280	10								
McCubbin	Taylor	12	9	5	10	4	1			
NC+	2D90+	9	5	1	4	2	3			
NC+	2K40	32								
Northrup King	S23-03	--	26	--	16					
Northrup King	S29-20	--	27	22						

Table 4. Continued.

Brand	Entry	Years								
		1988	87-88	86-88	85-88	84-88	83-88	82-88	81-88	80-88
		Rank in group by years over sites								
Ohlde	2193	20	15	10	3					
Profiseed	1152	27	18	20	12					
Profiseed	1350	3	10	11						
S Brand	S44A	18	13	13	8	10	9			
S Brand	S46D	22	6	3	6	6	6	3	1	
S Brand	S46J	31								
S Brand	S47B	15	20	14	13	9	10	5	2	
SOI	226	1								
Stine	2050+	23	24	16	18	13	--	9	3	1
Stine	2070	26								
Stine	2330	16	12	15						
Stine	2920	24	16	18	17	12	11	6		
Superior	SPB308	13	11	12	9	7	7	4		
Superior	SPB308T	29	19							
Varieties in Test		57	34	28	21	16	15	11	6	2
Total Sites		3	6	8	12	17	19	21	22	23

chlorosis. Selection of a tolerant variety is necessary to produce high soybean seed yields on these soils. When a new variety is developed, its performance needs to be compared with varieties that are known to be tolerant. Testing varietal response should be a continuing effort in the chlorosis areas of Nebraska.

Variety X Density Trials

Data were collected from nine sites in 1984-85 and are shown in Appendix B. The influence of variety and seeding density on chlorosis scores and seed yield over nine sites is shown in Table 5.

Chlorosis scores were dependent on site, variety, and seeding density. Degree of chlorosis varied by site from near normal to very chlorotic. Degree of chlorosis was highest in Nebsoy and lowest in Stine 2920.

Increasing seeding density from 4.5 seeds to 13.5 seeds per foot of row reduced the degree of chlorosis. Figure 3 shows the linear relationship between seeding density and chlorosis score for each variety. There were no site or variety interactions with seeding density in terms of chlorosis score.

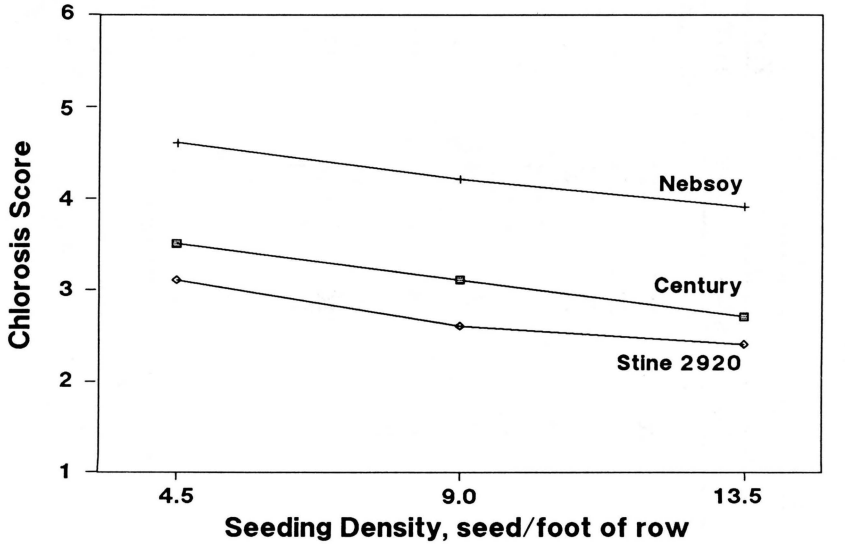

Figure 3. Influence of seeding density on chlorosis score of three soybean varieties grown at nine sites, 1984-1985.

Table 5. Influence of variety and seeding density on chlorosis score and seed yield of soybeans grown at nine sites in Nebraska, 1984-85.

Chlorosis Scores

Variety	Density, seed/foot of row 4.5	9.0	13.5	Mean
4 weeks after planting (8 sites)				
Century	3.3	3.0	2.8	3.0
Nebsoy	3.8	3.5	3.4	3.6
Stine 2920	3.2	3.0	2.7	3.0
Mean	3.4	3.2	3.0	3.2
6 weeks after planting (8 sites)				
Century	3.6	3.4	2.9	3.3
Nebsoy	4.3	4.0	3.9	4.1
Stine 2920	3.3	3.0	2.7	3.0
Mean	3.7	3.5	3.2	3.4
8 weeks after planting (9 sites)				
Century	3.5	3.1	2.7	3.1
Nebsoy	4.6	4.2	3.9	4.2
Stine 2920	3.1	2.6	2.4	2.7
Mean	3.7	3.3	3.0	3.3

Seed Yield, bushels/acre

Variety	Density, seed/foot of row 4.5	9.0	13.5	Mean
Century	15.1	21.5	28.3	21.7
Nebsoy	5.4	11.0	14.2	10.1
Stine 2920	18.0	25.7	31.6	25.1
Mean	12.8	19.3	24.8	19.0

F-Test Probabilities

Source	Score, weeks after planting 4	6	8	Seed Yield
Sites (S)	<0.01	<0.01	<0.01	<0.01
Variety (V)	<0.01	<0.01	<0.01	<0.01
Density (D)	<0.01	<0.01	<0.01	<0.01
S X V	0.23	<0.01	<0.01	<0.01
S X D	0.71	0.05	0.10	<0.01
V X D	0.54	0.63	0.87	0.05
S X V X D	0.92	0.30	0.16	<0.01

There was a significant site by variety interaction for chlorosis score. Stine 2920 was slightly less chlorotic than Century when averaged over sites and Nebsoy most chlorotic. As the intensity of chlorosis increased from site to site, Century became more chlorotic than Stine 2920 until chlorosis was severe in Century. Where chlorosis was severe, Stine 2920 also became chlorotic.

Seed yield was influenced by site, variety, and seeding density. Seed yield for individual sites was dependent on moisture and degree of chlorosis. Mean seed yields by sites ranged from 8 to 44 bushels per acre (Tables Appendix B). Stine 2920 produced the highest seed yield and Nebsoy the lowest (Table 5). Seed yields were increased by increasing seeding density.

Even though there were significant interactions of site by variety and site by density, the main effects of variety and density on seed yield were highly significant. These significant site interactions were the result of an extreme range in site characteristics. At sites where chlorosis was mild, Century and Stine 2920 produced similar seed yields at a given seeding density. When chlorosis was moderate to severe, Stine 2920 produced higher seed yields at lower seeding density than did Century.

Table 5 also shows a significant variety by seeding density interaction for yield. Even though increasing the seeding rate improved the seed yield of all three varieties, the total yield increase was not as great for Nebsoy as for the other two varieties (Figure 4). These data show that selecting a tolerant variety and planting at an adequate seeding rate are both necessary to obtain maximum seed yields. More studies, using higher seeding rates, are needed to determine the seeding rate that is adequate to maximize seed yields on these high pH soils.

Variety X Iron Chelate Trials

Data were collected from six sites and data for each site are presented in Appendix C. Chlorosis did not occur at the site in Merrick County, 1988; thus, only seed yields were obtained. Seed yield was influenced by variety but not by iron chelate.

Chlorosis was very mild in Dawson County, 1987. Chlorosis score and seed yield were dependent on variety and were negatively correlated; however, iron chelate had no effect.

At the other four sites, chlorosis score and seed yield were dependent on variety and iron chelate application. Fourteen varieties planted without and with five pounds per acre of Fe-EDDHA were common for these four sites. Table 6 shows the chlorosis score of each variety without and with Fe-EDDHA applied. The application of Fe-EDDHA improved the mean chlorosis score 1.7 units. There was no variety X iron interaction.

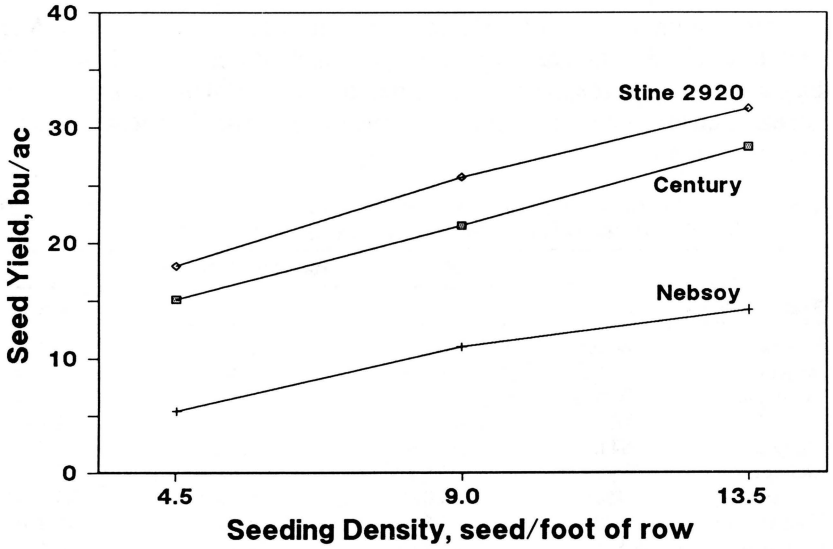

Figure 4. Influence of seeding density on seed yield of three soybean varieties grown at nine sites, 1984-1985.

Table 6. Chlorosis score eight weeks after planting of 14 soybean varieties grown with two rates of iron chelate (Fe-EDDHA) at four locations [Colfax (3) and Dodge Counties], 1986-88.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
S Brand	S46D	4.1 ab*	2.4 a*	3.2 a*
Dek-Pfizer	CX283	4.2 abc	2.5 a	3.2 a
Jacques	J103	4.1 abc	2.3 a	3.3 a
McCubbin	Taylor	4.0 a	2.6 a	3.3 a
NC+	2D90+	4.2 abc	2.5 a	3.3 a
S Brand	S44A	4.4 abcd	2.4 a	3.4 a
Fontanelle	4545	4.3 abcd	2.7 abc	3.4 ab
Hoegemeyer	205	4.3 abcd	2.7 abc	3.5 ab
S Brand	S47B	4.3 abcd	2.7 abc	3.5 ab
Stine	2920	4.5 bcd	2.6 ab	3.6 ab
G. Harvest	H1285	4.6 cd	2.8 abc	3.6 ab
Stine	2050+	4.5 bcd	2.8 abc	3.7 abc
——	Century 84	4.6 de	3.1 bc	3.9 bc
——	Mead	5.0 e	3.1 c	4.1 c
	Mean	4.4	2.7	3.5

*Values within individual columns followed by the same letter are not significantly different @ .05.

Seed yields for these 14 varieties grown without and with Fe-EDDHA are presented in Table 7. Varieties were significantly different and Fe-EDDHA increased the mean seed yield 22.1 bushels per acre. Although some varieties appear to have responded differently to iron, there was no significant variety X iron interaction.

Table 7. Seed yield (bu/ac) of 14 soybean varieties grown with two rates of iron chelate (Fe-EDDHA) at four locations [Colfax (3) and Dodge Counties], 1986-88.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
S Brand	S46D	18.8 a*	40.5 a*	30.2 a*
Jacques	J103	18.1 ab	43.4 a	29.7 ab
Dek-Pfizer	CX283	17.7 ab	39.0 a	28.7 ab
NC+	2D90+	18.1 ab	39.5 a	28.7 ab
S Brand	S44A	16.8 ab	40.6 a	28.6 ab
McCubbin	Taylor	19.6 a	37.4 ab	28.5 ab
Fontanelle	4545	18.0 ab	36.1 abc	27.3 ab
Hoegemeyer	205	15.6 ab	35.8 abc	26.3 ab
G. Harvest	H1285	12.7 ab	37.6 ab	26.1 ab
S Brand	S47B	14.6 ab	37.2 abc	25.9 ab
Stine	2050+	12.7 ab	37.2 abc	25.2 abc
Stine	2920	11.3 bc	37.6 ab	24.3 bc
——	Century 84	11.5 bc	29.6 c	20.5 cd
——	Mead	5.3 c	29.7 bc	18.1 d
	Mean	15.1	37.2	26.3

*Values within individual columns followed by the same letter are not significantly different @ .05.

The application of Fe-EDDHA was very profitable (22 bushels of soybeans from five pounds of Fe-EDDHA at $12.00 per pound of product); however, optimum rate cannot be determined from these data.

During 1987 and 1988, Fe-EDDHA was applied at two rates of material to allow an economic evaluation. Data are available from two sites in Colfax County where 15 soybean varieties were grown without and with 2.5 and 5.0 pounds per acre of Fe-EDDHA applied (Tables 8 and 9). Chlorosis score and seed yield were both influenced by variety and rate of iron applied. Figure 5 shows the negative correlation between chlorosis score and seed yield.

Table 8 gives the chlorosis score for each variety at three levels of Fe-EDDHA. The application of 2.5 pounds per acre of Fe-EDDHA improved the mean chlorosis score 1.6 units. Increasing the rate of Fe-EDDHA to five pounds improved chlorosis score another 0.4 units.

Seed yields from the two sites for 15 varieties and three rates of Fe-EDDHA are shown in Table 9. Varieties were significantly different; however, there was no significant variety X iron interaction. The application of 2.5 pounds per acre of Fe-EDDHA increased mean soybean seed yield 20.7 bushels per acre. An additional 2.5 pounds Fe-EDDHA gave 4.9 more bushels per acre.

Table 8. Chlorosis score eight weeks after planting of 15 soybean varieties grown with three rates of iron chelate (Fe-EDDHA) at two Colfax County sites, 1987-88.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
S Brand	S44A	4.9 abc*	3.1 a*	2.6 abc*	3.4 a*
Jacques	J103	4.8 ab	3.1 a	2.3 a	3.4 ab
Dek-Pfizer	CX283	4.5 a	3.2 a	2.8 abcd	3.5 ab
Stine	2330	4.5 a	3.3 a	2.5 ab	3.5 ab
McCubbin	Taylor	4.6 ab	3.2 a	2.9 abcd	3.5 abc
S Brand	S46D	4.8 ab	3.2 a	2.8 abcd	3.5 abc
NC+	2D90+	5.1 abc	3.1 a	2.9 abcd	3.7 abc
Hoegemeyer	205	4.8 ab	3.6 ab	2.9 abcd	3.7 abc
S Brand	S47B	4.8 ab	3.5 ab	2.9 abcd	3.7 abc
Fontanelle	4545	4.9 abc	3.6 ab	3.3 cde	3.8 abc
Stine	2920	5.2 abc	3.4 a	2.9 abcd	3.9 abc
G. Harvest	H1285	5.4 bc	3.4 a	3.3 de	3.9 abcd
Stine	2050+	5.2 abc	3.7 ab	3.2 bcde	4.0 bcd
——	Century 84	5.2 abc	3.7 ab	3.4 de	4.1 cd
——	Mead	5.7 c	4.2 b	3.7 e	4.5 d
	Mean	5.0	3.4	3.0	3.7

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table 9. Seed yield (bu/ac) of 15 soybean varieties grown with three rates of iron chelate (Fe-EDDHA) at two Colfax County sites, 1987-88.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5**	**Mean**
S Brand	S44A	11.0 ab*	36.0 a*	37.9 a*	28.4 a*
Dek-Pfizer	CX283	13.3 a	33.7 ab	36.4 a	28.4 a
McCubbin	Taylor	12.7 a	33.4 ab	37.5 a	28.3 a
S Brand	S46D	9.2 abc	31.1 ab	36.4 a	25.9 ab
Stine	2330	10.7 ab	31.4 ab	34.8 a	25.4 abc
NC+	2D90+	7.4 abc	32.3 ab	34.4 a	25.0 abc
Jacques	J103	9.4 abc	29.9 abc	38.0 a	25.0 abc
Hoegemeyer	205	8.2 abc	27.2 abc	35.8 a	24.2 abc
Fontanelle	4545	9.7 abc	25.8 bc	31.0 ab	23.9 abc
S Brand	S47B	8.4 abc	26.7 abc	36.4 a	23.6 abc
G. Harvest	H1285	3.5 abc	30.7 abc	31.8 ab	23.3 abc
Stine	2050+	4.6 abc	24.2 bc	33.4 ab	20.5 bcd
Stine	2920	1.7 bc	27.5 abc	32.0 ab	19.7 cd
——	Century 84	4.1 abc	21.3 cd	23.6 bc	16.3 de
——	Mead	0.3 c	12.9 d	20.4 c	11.5 e
	Mean	7.6	28.3	33.2	23.3

*Values within individual columns followed by the same letter are not significantly different @ .05.

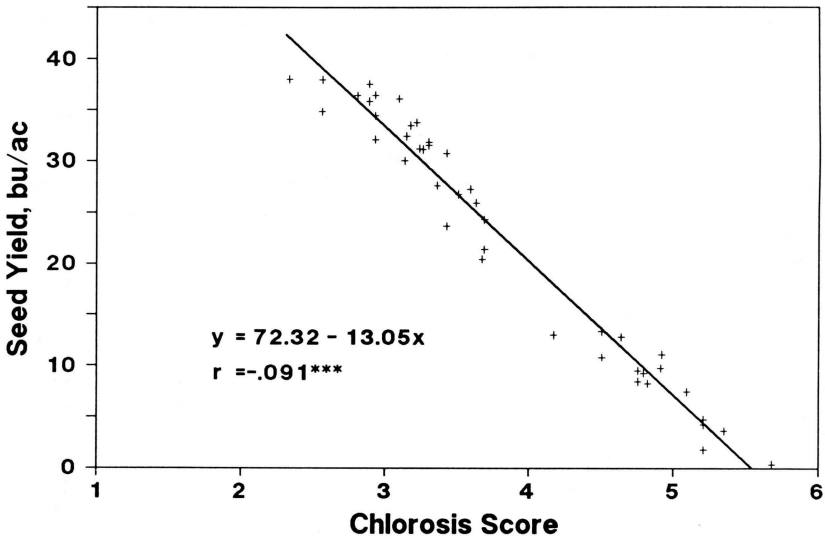

Figure 5. Relationship of seed yield to eight week chlorosis score for 15 soybean varieties grown with three rates of iron chelate at two sites in Colfax County, 1987-88.

Two varieties, Century 84 and Mead, are not considered to be tolerant to chlorosis; therefore, the yield data for these two varieties were deleted for economic analysis. The thirteen remaining varieties were significantly different in terms of seed yield; however, there was no significant variety by iron interaction. All varieties responded similarly to applied iron chelate.

Statistical analysis of these data indicate a significant second degree response (significant @ <0.0001) which is associated with a non-linear response. Since there was no significant variety by iron chelate interaction and the R^2 was significant @ <0.001, quadratic regression was used to evaluate these data.

Figure 6 shows the response of these 13 varieties to applied Fe-EDDHA. Maximum yield was calculated to occur at 4.5 pounds Fe-EDDHA per acre. *Assuming* soybeans at $6.00 per bushel and Fe-EDDHA at $12.00 per pound, maximum profit occurred at 3.7 pounds of Fe-EDDHA per acre. At these two locations, even tolerant varieties were very chlorotic without Fe-EDDHA (chlorosis score 4.9 and seed yield 8.4 bushels per acre) and the application of Fe-EDDHA was necessary and profitable for soybean production. Under less severe condition, less Fe-EDDHA should be needed. Where chlorosis is mild (such as Dawson County, Appendix Table C12), variety selection was adequate to over-come chlorosis.

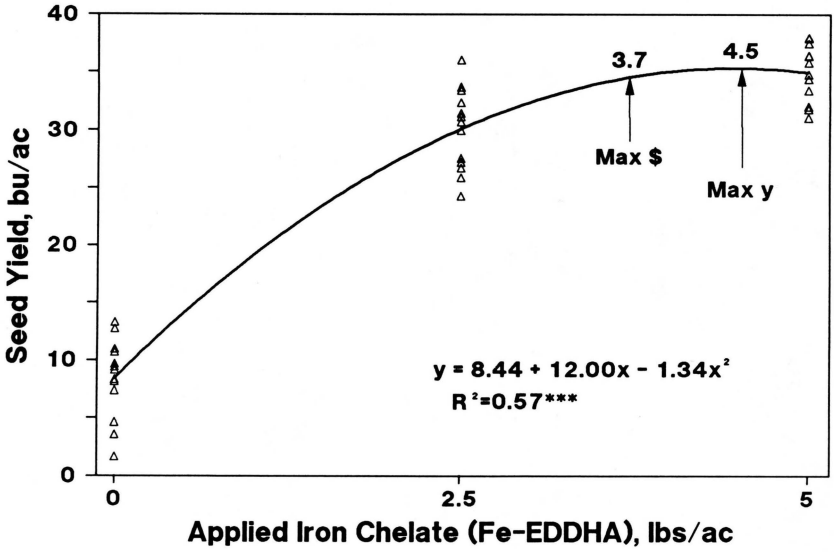

Figure 6. Influence of iron chelate (Fe-EDDHA) on the seed yield of 13 soybean varieties grown at two sites in Colfax County, 1987-1988.

These data suggest that additional studies are needed to determine the appropriate rate of Fe-EDDHA to apply. More rates, from none to over five pounds of Fe-EDDHA per acre, need to be applied to soils that differ in degree of chlorosis. It appears that a limited number of varieties that are tolerant to chlorosis could be used since a variety by iron interaction was not observed in these studies.

Based on these studies, appropriate variety selection and application of between 2.5 and 5 pounds per acre Fe-EDDHA where necessary should provide the most economical returns.

Appendix A

Table A1. Chlorosis score and seed yield of 16 soybean varieties, Dodge County, 1980.

Brand	Entry	Chlorosis score, weeks after planting			Seed yield, bu/ac.
		4	6	8	
Stine	2050+	3.0 a*	2.2 a*	2.2 a*	36.6 a*
S Brand	S47A	4.0 bc	3.0 ab	2.8 ab	27.3 b
S Brand	S48	3.7 b	3.1 bc	2.8 ab	26.4 b
Hy-Vigor	Rotunda	3.7 ab	3.0 ab	2.8 ab	26.3 b
New Harvest	270	4.0 bc	3.3 bc	3.0 abc	23.3 bc
Americ.	Clinton	3.7 ab	3.0 ab	3.1 bc	22.8 bc
——	Century	4.3 bc	3.6 bc	3.0 bc	22.5 bc
Fontanelle	F4747	4.2 bc	3.4 bc	2.8 ab	22.5 bc
S Brand	S50A	4.2 bc	3.7 bc	3.3 bc	22.3 bc
Valley	778	4.2 bc	3.7 bc	3.1 bc	22.0 bc
Hy-Vigor	900	4.4 bc	3.9 bc	3.4 bc	21.5 bc
Valley	1178	4.6 cd	4.0 cd	3.7 c	16.9 cd
SRF	Matsoy	5.1 d	4.9 de	4.4 d	13.7 de
——	Wayne	5.1 d	5.1 e	4.9 d	11.3 de
——	Calland	4.7 cd	4.0 cd	3.7 c	11.0 de
——	Nebsoy	5.3 d	4.9 de	4.8 d	7.6 e

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A2. Chlorosis score and seed yield of 34 soybean varieties, Douglas County, 1981.

Brand	Entry	Chlorosis score, weeks after planting 4	6	8	Seed yield, bu/ac.
Stine	2050+	3.0 abcd*	2.8 abc*	1.8 abcd*	49.5 a*
Hofler	Censoy	2.7 ab	2.7 ab	1.8 abc	45.2 ab
Fontanelle	F4747	2.5 a	2.7 ab	1.6 ab	45.0 abc
S Brand	S48	2.7 ab	2.8 abc	1.3 a	44.4 abcd
Diamond	TC204A	3.3 abcde	3.3 abcdef	2.5 abcdef	43.7 abcde
L O'Lakes	L4207	3.5 bcdef	3.4 abcdef	2.2 abcde	42.5 abcdef
Fontanelle	F4545	3.4 bcde	3.3 abcdef	2.3 abcde	42.0 abcdef
Dek-Pfizer	CX290	2.8 abc	2.6 a	1.8 abc	41.8 abcdef
Jacques	J105	3.4 bcde	3.6 cdefg	2.6 abcdefg	40.9 abcdefg
Midwest Oil	328	3.5 bcdef	3.7 defgh	2.8 bcdefgh	40.4 abcdefgh
Dek-Pfizer	CX350	3.3 abcde	3.0 abcd	2.2 abcde	39.8 abcdefgh
Midwest Oil	397	3.4 bcde	3.7 defgh	2.6 abcdefg	38.0 abcdefgh
——	Mead	3.8 defg	4.1 fgh	3.3 efghij	37.4 abcdefghi
S Brand	S47B	3.6 cdef	3.8 defgh	3.0 bcdefghi	32.8 bcdefghij
Asgrow	A2680	3.3 abcde	3.1 abcde	2.3 abcde	31.3 bcdefghij
SRF	Matsoy	3.8 def	4.0 fgh	3.6 efghijk	30.5 bcdefghijk
Superior	SPB289	3.4 bcde	3.5 bcdef	3.0 bcdefghi	30.3 bcdefghijk
——	Elf	3.6 cdef	3.8 defgh	3.4 efghij	30.1 bcdefghijk
Agripro	AP225C	3.8 defg	3.9 efgh	3.2 cdefghi	28.7 bcdefghijkl
Asgrow	A3127	3.9 efg	4.0 fgh	3.3 defghi	28.4 cdefghijkl
NAPB	Ex. 9649	3.4 bcde	3.6 cdefg	3.0 bcdefghi	27.9 defghijkl
Asgrow	A2575	3.8 def	3.7 defgh	3.4 efghij	27.1 efghijkl
L O L	Exp79-3068	3.9 efg	4.1 fgh	3.5 efghijk	26.9 fghijkl
S Brand	S46D	3.7 cdef	3.8 defgh	3.2 cdefghi	26.8 fghijkl
——	Calland	3.7 cdef	3.9 efgh	3.5 efghijk	24.6 ghijklm
Agripro	AP350	3.9 efg	4.1 fgh	3.8 fghijk	24.2 hijklm
N. K.	S2596	3.8 defg	4.0 fgh	4.0 ghijk	23.8 hijklm
——	Century	3.5 bcdef	4.1 fgh	3.8 fghijk	21.1 ijklm
Agripro	AP250	4.3 fgh	4.5 hi	4.2 hijkl	19.7 jklm
——	Pella	4.7 gh	4.5 hi	4.3 ijkl	19.3 jklm
Pride	B220	4.7 gh	5.0 i	4.8 kl	14.2 klmn
N. K.	S4044	3.9 efg	4.4 ghi	4.3 ijkl	13.5 lmn
Pride	B216	5.1 h	5.2 i	4.7 jkl	9.0 mn
——	Williams	4.7 gh	4.9 i	5.4 l	1.3 n

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A3. Chlorosis score and seed yield of 39 soybean varieties, Dodge County (Fremont), 1982.

Brand	Entry	Chlorosis score, weeks after planting 4	6	8	Seed yield, bu/ac.
MSR	Royal	3.5 abcd*	3.4 abcd*	3.4 abcde*	46.4 a*
Midwest Oil	397	3.2 ab	3.0 abc	3.0 abc	46.0 ab
Stock	SS793	3.3 abc	3.1 abc	3.1 abc	45.0 abc
Stine	2920	3.5 abcd	2.8 ab	2.5 ab	44.9 abc
S Brand	S47B	3.0 a	2.7 a	2.3 a	44.8 abc
Stine	2050+	3.4 abcd	3.1 abc	3.0 abc	44.1 abc
Diamond	TC204A	3.7 abcd	3.5 abcde	3.0 abc	44.0 abc
Superior	SPB340	3.4 abcd	3.1 abc	3.2 abcd	43.7 abc
NC+	2D90	3.4 abcd	3.4 abcd	3.1 abc	43.2 abcd
Dek-Pfizer	CX283	3.4 abcd	3.0 abc	3.0 abc	43.0 abcd
S Brand	S46D	3.5 abcd	3.0 abc	3.2 abcd	42.3 abcd
Hoegemeyer	205	3.4 abcd	3.3 abc	3.3 abcde	42.2 abcd
Fontanelle	F4545	3.2 ab	3.1 abc	2.8 abc	41.9 abcd
N. K.	S23-03	3.7 abcd	3.7 abcde	3.5 abcde	41.8 abcd
Fontanelle	F4747	3.3 abc	3.4 abcd	3.3 abcde	41.7 abcd
Hoegemeyer	264	3.2 ab	3.1 abc	3.1 abc	41.7 abcd
S Brand	S48	3.5 abcd	3.5 abcde	3.3 abcde	41.3 abcd
Jacques	J105	3.7 abcd	3.5 abcde	3.3 abcde	40.9 abcd
Hofler	Censoy	3.7 abcd	3.6 abcde	3.4 abcde	40.4 abcd
G. H.	Cherokee III	3.5 abcd	3.2 abc	3.3 abcde	40.3 abcd
Jacques	J103	3.2 ab	3.2 abc	3.0 abc	40.1 abcde
Hofler	Gem	3.9 bcd	3.8 abcde	3.5 abcde	39.5 abcdef
L O'Lakes	L4207	3.9 bcd	3.6 abcde	3.6 abcde	39.4 abcdef
SRF	Matsoy	3.8 abcd	3.6 abcde	3.6 abcde	38.5 abcdef
——	Mead	3.7 abcd	3.7 abcde	4.0 cde	38.2 abcdef
Dek-Pfizer	CX290	3.6 abcd	3.4 abcd	3.2 abcd	38.1 abcdef
Superior	SPB308	3.5 abcd	3.8 abcde	3.8 bcde	37.8 abcdef
L O'Lakes	L4106	3.4 abcd	3.4 abcd	3.4 abcde	37.4 abcdef
Midwest Oil	328	3.7 abcd	4.1 cde	4.2 cde	37.1 bcdefg
Dek-Pfizer	CX350	3.7 abcd	3.6 abcde	3.6 abcde	36.9 bcdefgh
——	Calland	3.7 abcd	3.5 abcde	3.2 abcd	36.3 cdefgh
——	Century	3.7 abcd	3.6 abcde	3.6 abcde	36.2 cdefgh
Asgrow	A2680	3.6 abcd	3.6 abcde	3.6 abcde	36.1 cdefgh
Funks	12227	3.7 abcd	3.9 bcde	4.1 cde	34.2 defgh
N. K.	S2596	4.0 bcd	4.6 e	4.6 de	31.3 efghi
Funks	12213	4.1 cd	4.1 cde	4.0 cde	31.1 fghi
——	Hobbit	3.6 abcd	4.0 cde	3.9 bcde	28.6 ghi
NC+	2A34	3.9 bcd	4.0 cde	3.8 bcde	28.4 hi
Diamond	Eagle	4.2 d	4.5 de	4.7 e	24.7 i

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A4. Chlorosis score and seed yield of 40 soybean varieties, Dodge County (North Bend), 1982.

Brand	Entry	Chlorosis score, weeks after planting 6	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
Midwest Oil	397	3.4 defgh*	2.8 bcdef*	33.5 a*
L O'Lakes	L4207	3.1 bcdefg	2.7 abcde	32.2 ab
Jacques	J105	3.3 cdefgh	2.8 abcde	31.6 abc
Stine	2920	3.3 cdefgh	2.8 bcdef	31.4 abc
Hofler	Gem	3.0 bcdef	2.4 abcd	31.4 abc
Dek-Pfizer	CX290	2.8 abcd	2.2 ab	31.1 abc
S Brand	S48	3.0 bcdef	2.8 bcdef	31.1 abc
Superior	SPB340	3.2 bcdefg	2.5 abcde	30.9 abcd
L O'Lakes	L4106	2.2 a	1.9 a	30.8 abcd
S Brand	S47B	3.2 bcdefg	2.3 abc	30.6 abcd
Fontanelle	F4545	3.4 defgh	2.9 bcdef	30.5 abcd
Fontanelle	F4747	3.0 bcdef	2.5 abcde	30.4 abcd
Hoegemeyer	264	3.1 bcdefg	2.9 bcdef	29.9 abcd
Stine	2050+	3.3 cdefgh	2.8 abcde	29.7 abcde
S Brand	S46D	2.8 abcd	2.7 abcde	29.7 abcde
SRF	Matsoy	3.3 cdefgh	3.3 defg	29.1 abcdef
Jacques	J103	2.5 ab	1.9 a	29.0 abcdefg
Diamond	TC204A	3.3 cdefg	2.8 abcde	28.9 abcdefg
Superior	SPB308	2.8 abcd	2.2 ab	28.9 abcdefg
——	Calland	3.2 bcdefg	2.8 bcdef	28.7 abcdefg
Funks	12227	3.3 cdefgh	2.8 bcdef	28.7 abcdefg
——	Century	2.7 abc	2.9 bcdef	28.6 abcdefg
Stock	SS793	3.3 cdefgh	3.0 bcdef	28.3 abcdefg
N. K.	S23-03	3.6 efgh	3.3 efgh	28.3 abcdefg
NC+	2D90	3.3 cdefg	2.6 abcde	28.1 abcdefg
MSR	Royal	2.9 bcde	2.8 bcdef	27.6 abcdefg
Diamond	Eagle	3.8 gh	3.3 defg	27.5 abcdefg
——	Mead	3.3 cdefg	3.0 bcdef	27.2 bcdefg
Dek-Pfizer	CX283	3.3 cdefg	3.1 cdefg	27.0 bcdefg
Hoegemeyer	205	3.3 cdefg	2.7 abcde	26.6 bcdefgh
Asgrow	A2680	3.0 bcdef	2.8 abcde	26.5 bcdefgh
Dek-Pfizer	CX350	3.3 cdefgh	3.1 cdefg	26.4 bcdefgh
Hofler	Censoy	3.2 bcdefg	2.9 bcdef	26.1 bcdefgh
Funks	12213	3.7 fgh	3.3 efgh	25.5 cdefgh
——	Weber	3.3 cdefgh	2.8 bcdef	24.8 defgh
NC+	2A34	3.6 efgh	3.3 efgh	23.5 efgh
G. H.	Cherokee III	3.4 defgh	3.3 defg	23.3 fgh
Midwest Oil	328	3.8 gh	3.8 gh	22.9 fgh
——	Hobbit	3.6 efgh	3.7 fgh	22.8 gh
N. K.	S2596	4.0 h	4.1 h	20.8 h

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A5. Chlorosis score and seed yield of 44 soybean varieties, Douglas County, 1983.

Brand	Entry	Chlorosis score, weeks after planting			Seed yield,
		4	6	8	bu/ac.
Stine	2920	3.5 abcd*	3.4 abcde*	3.5 abc*	50.3 a*
McCubbin	Taylor	3.2 ab	3.0 abc	1.3 a	49.7 ab
Hoegemeyer	200	3.4 abcd	3.0 abc	2.0 ab	49.1 ab
Jacques	J103	3.2 ab	3.3 abcde	2.3 abc	47.0 ab
S Brand	S46D	3.0 a	3.0 abc	1.3 a	46.3 abc
NC+	2D90+	3.2 ab	3.0 abc	1.8 ab	43.3 abcd
Jacques	J105	3.1 ab	3.4 abcde	3.2 abc	42.8 abcd
S Brand	S44A	3.5 abcd	3.4 abcde	2.9 abc	41.1 abcde
Hofler	Censoy	3.1 ab	3.0 abc	2.0 ab	40.4 abcdef
S Brand	S47B	3.4 abcd	3.4 abcde	3.1 abc	40.3 abcdef
Stine	2050+	3.4 abcd	3.4 abcde	3.0 abc	39.5 abcdef
S Brand	S48	3.3 abc	3.4 abcde	2.0 ab	39.3 abcdef
Midwest Oil	397	3.3 abc	3.2 abcd	2.6 abc	38.8 abcdef
Stock	SS793	3.5 abcd	3.7 abcde	3.4 abc	38.4 abcdef
Stock	SS500	3.5 abcd	3.4 abcde	3.2 abc	38.4 abcdef
Hoegemeyer	264	3.4 abcd	3.3 abcde	1.8 ab	38.3 abcdef
Dek-Pfizer	CX350	3.1 ab	2.9 a	2.5 abc	37.8 abcdefg
Fontanelle	F4747	3.4 abcd	3.5 abcde	2.2 ab	36.9 abcdefgh
Superior	SPB308	3.0 a	3.3 abcde	2.4 abc	36.6 abcdefgh
MSR	Royal	3.5 abcd	3.4 abcde	3.4 abc	36.3 abcdefgh
——	Century	3.5 abcd	3.6 abcde	3.9 bc	36.2 abcdefgh
Dek-Pfizer	CX283	3.8 abcd	3.5 abcde	2.7 abc	35.9 abcdefghi
G. Harvest	X360	3.1 ab	2.9 ab	1.9 ab	35.9 abcdefghi
N. K.	X735028	3.5 abcd	3.4 abcde	2.1 ab	35.8 abcdefghi
G. Harvest	H1285	3.5 abcd	3.8 abcdef	3.6 abc	35.7 abcdefghi
Hoegemeyer	205	3.5 abcd	3.9 bcdefg	3.8 bc	34.6 abcdefghij
L O'Lakes	L4106	3.4 abcd	3.4 abcde	2.5 abc	34.5 abcdefghij
——	Platte	3.5 abcd	3.8 abcdef	3.5 abc	33.9 abcdefghij
Superior	SPB340	3.5 abcd	3.5 abcde	2.8 abc	32.8 abcdefghij
Hofler	Gem	3.8 abcd	4.0 defg	4.2 bc	32.7 abcdefghij
Diamond	TC204A	3.5 abcd	3.9 bcdefg	3.0 abc	32.3 abcdefghij
Stock	SS462A	3.1 ab	3.5 abcde	3.1 abc	32.3 abcdefghij
L O'Lakes	L4207	3.5 abcd	3.4 abcde	3.0 abc	31.2 bcdefghij
L O L	Exp79-1746	3.3 abc	3.7 abcde	3.7 abc	30.7 bcdefghij
Stine	2330	3.5 abcd	4.0 defg	3.6 abc	27.7 cdefghijk
——	Mead	3.8 abcd	4.2 defg	3.8 bc	24.5 defghijkl
Hoegemeyer	350	4.1 d	3.8 abcdef	4.0 bc	23.7 efghijkl
NC+	2D90	3.8 bcd	3.9 cdefg	3.4 abc	21.8 fghijkl
Fontanelle	F4545	3.5 abcd	4.2 defg	3.5 abc	19.2 ghijkl
Dek-Pfizer	CX290	3.7 abcd	3.7 abcdef	3.9 bc	18.7 hijkl
Ferry Mor	GT1310	3.4 abcd	4.0 defg	4.2 bc	17.2 ijkl
Diamond	83-32	4.0 cd	4.8 g	4.7 c	16.1 jkl
Ferry Mor	GT1380	4.0 cd	4.2 efg	4.7 c	10.5 kl
N. K.	S45-01	4.1 d	4.7 fg	4.7 c	9.2 l

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A6. Chlorosis score and seed yield of 44 soybean varieties, Saunders County, 1983.

Brand	Entry	Chlorosis score, weeks after planting 6	8	Seed yield, bu/ac.
McCubbin	Taylor	2.2 abc*	2.7 a*	32.9 a*
Superior	SPB308	2.2 abc	2.8 a	31.3 ab
Stine	2920	2.1 a	2.4 a	31.2 ab
Stock	SS462A	2.4 abcdef	2.6 a	29.3 abc
NC+	2D90+	2.3 abcde	2.8 a	28.8 abc
Dek-Pfizer	CX283	2.6 defgh	2.8 a	28.8 abc
Stine	2330	2.3 abcde	2.7 a	28.4 abc
L O'Lakes	L4207	2.2 abc	2.5 a	28.2 abc
Jacques	J103	2.3 abcde	2.4 a	27.9 abc
S Brand	S44A	2.4 abcdef	2.8 a	27.7 abc
Ferry Mor	GT1310	2.6 defgh	2.6 a	27.5 abc
S Brand	S46D	2.2 abcd	2.8 a	27.5 abc
Jacques	J105	2.4 abcdefg	2.8 a	27.2 abc
Hoegemeyer	205	2.3 abcde	3.0 a	26.9 abc
NC+	2D90	2.2 abc	2.7 a	26.6 abcd
Stine	2050+	2.5 bcdefgh	2.6 a	26.6 abcd
Hoegemeyer	264	2.4 abcdef	2.5 a	26.2 abcd
S Brand	S47B	2.3 abcde	3.2 a	25.7 abcd
Hoegemeyer	200	2.2 abcd	2.5 a	25.2 abcd
Superior	SPB340	2.3 abcde	2.5 a	25.2 abcd
Hoegemeyer	350	2.5 bcdefgh	3.3 a	25.1 abcd
G. Harvest	H1285	2.3 abcde	2.7 a	24.6 abcd
Diamond	83-32	2.7 fgh	2.8 a	24.3 abcd
L O'Lakes	L4106	2.3 abcde	2.8 a	24.2 abcd
Dek-Pfizer	CX290	2.2 abc	2.4 a	24.1 abcd
S Brand	S48	2.4 abcdef	2.9 a	23.8 abcd
MSR	Royal	2.2 abc	2.9 a	23.3 abcd
Stock	SS793	2.2 abc	2.5 a	23.2 abcd
Fontanelle	F4747	2.4 abcdef	2.8 a	22.8 abcde
——	Century	2.2 abc	3.3 a	22.3 abcde
Diamond	TC204A	2.4 abcdef	3.3 a	22.2 abcde
——	Mead	2.6 efgh	3.1 a	21.9 abcde
Midwest Oil	397	2.1 ab	2.7 a	21.7 abcde
Fontanelle	F4545	2.5 bcdefgh	3.0 a	21.7 abcde
G. Harvest	X360	2.2 abc	2.6 a	21.4 abcde
N. K.	S45-01	2.2 abcd	2.9 a	21.3 abcde
Hofler	Gem	2.4 abcdefg	2.8 a	21.3 abcde
Dek-Pfizer	CX350	2.5 cdefgh	2.4 a	20.6 abcde
Hofler	Censoy	2.3 abcde	3.1 a	19.2 bcde
N. K.	X735028	2.3 abcde	2.7 a	18.7 bcde
L O L	Exp79-1746	2.2 abc	2.6 a	17.9 cde
——	Platte	2.6 efgh	3.2 a	17.5 cde
Stock	SS500	2.8 gh	3.1 a	13.7 de
Ferry Mor	GT1380	2.8 h	3.5 a	10.2 e

*Values within individual columns followed by the same letterare not significantly different @ .05.

Table A7. Chlorosis score and seed yield of 46 soybean varieties, Colfax County, 1984.

Brand	Entry	Chlorosis score, weeks after planting 4	6	8	Seed yield, bu/ac.
MSR	Royal II	2.3 abc*	3.1 abcdefg*	2.1 abcd*	20.6 a*
S Brand	S47B	2.3 abc	2.7 abcde	1.9 ab	20.3 a
Stock	SS462A	2.2 abc	2.4 ab	1.6 a	20.1 a
S Brand	S46D	2.3 abc	2.7 abcde	1.8 ab	20.0 ab
L O'Lakes	L4207	2.5 abc	3.1 abcdefg	2.3 abcdef	19.9 abc
Dek-Pfizer	CX283	2.3 abc	2.7 abcde	1.8 ab	19.7 abc
G. Harvest	H1285	2.1 ab	2.4 ab	2.0 abc	19.6 abc
Superior	SPB308	2.1 ab	2.6 abcd	2.0 abc	19.5 abc
S Brand	S44A	2.3 abc	2.9 abcdef	2.1 abcd	19.4 abc
MSR	Royal	2.5 abc	2.9 abcdef	2.4 abcdefg	19.3 abc
Stine	2920	2.5 abc	2.9 abcdef	2.1 abcd	19.0 abcd
G. Harvest	H1233	2.2 abc	2.4 ab	2.2 abcde	18.8 abcde
Fontanelle	F4545	2.1 ab	2.5 abc	1.9 ab	18.8 abcde
Hoegemeyer	205	2.4 abc	2.6 abcd	2.3 abcdef	18.6 abcdef
NC+	2D90+	2.1 ab	2.3 a	1.8 ab	18.6 abcdef
L O'Lakes	L4106	2.2 abc	3.0 abcdefg	2.4 abcdefg	18.5 abcdef
McCubbin	Taylor	2.5 abc	2.6 abcd	2.3 abcdef	18.3 abcdef
Stine	2050+	2.4 abc	2.6 abcd	2.1 abcd	18.1 abcdefg
Jacques	J105	2.3 abc	3.0 abcdefg	2.7 bcdefg	18.1 abcdefg
Hoegemeyer	264	2.2 abc	3.3 abcdefg	3.0 cdefghi	17.8 abcdefgh
Stock	SS793	2.2 abc	2.7 abcde	2.4 abcdefg	17.6 abcdefgh
Hofler	Gem	2.2 abc	2.7 abcde	2.4 abcdefg	17.5 abcdefgh
Hoegemeyer	200	2.0 a	2.3 ab	1.8 ab	17.5 abcdefgh
Jacques	J103	2.1 ab	2.6 abcd	1.9 ab	17.4 abcdefgh
——	Weber	2.5 abc	2.8 abcde	1.9 ab	17.0 abcdefghi
——	Mead	2.4 abc	3.4 bcdefg	2.6 abcdefg	17.0 abcdefghij
Dek-Pfizer	CX350	2.2 abc	2.8 abcde	1.9 ab	16.8 abcdefghij
Superior	SPB340	2.2 abc	2.7 abcde	1.6 a	16.5 abcdefghijk
Diamond	TC204A	2.3 abc	2.9 abcdef	2.0 abc	16.3 abcdefghijkl
——	Century	2.2 abc	2.8 abcde	2.3 abcdef	15.4 bcdefghijkl
Stine	3500	2.3 abc	3.1 abcdefg	2.8 bcdefg	15.2 cdefghijkl
——	Winchester	2.3 abc	2.9 abcdef	3.0 cdefghi	14.4 defghijklm
——	Elgin	2.4 abc	3.7 efg	3.3 fghi	14.3 efghijklm
——	Harper	2.2 abc	3.3 abcdefg	2.6 abcdefg	14.1 fghijklm
——	Will	2.5 abc	3.5 cdefg	3.3 fghi	13.5 ghijklm
——	Corsoy 79	2.4 abc	3.6 cdefg	3.4 ghi	13.4 hijklm
——	Williams	2.2 abc	3.0 abcdefg	2.9 bcdefgh	13.2 hijklm
Hofler	Topaz	2.8 c	4.0 gh	3.9 hi	12.7 ijklm
——	Williams 79	2.4 abc	3.1 abcdefg	3.1 defghi	12.6 ijklm
Stock	SS500	2.5 abc	3.7 efg	3.2 efghi	12.6 ijklm
——	Platte	2.5 abc	3.7 efg	3.2 efghi	12.6 ijklm
——	Williams 82	2.2 abc	3.4 bcdefg	3.1 defghi	12.4 jklm
——	Cumberland	2.5 abc	3.6 defg	3.1 defghi	11.9 klm
Midwest Oil	397	2.3 abc	3.1 abcdefg	2.9 bcdefgh	11.8 lm
——	Nebsoy	2.7 bc	3.9 fgh	4.0 i	10.3 m
Diamond	D310	3.5 d	4.7 h	5.1 j	2.5 n

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A8. Chlorosis score and seed yield of 46 soybean varieties, Dixon County, 1984.

Brand	Entry	Chlorosis score, weeks after planting			Seed yield,
		4	6	8	bu/ac.
McCubbin	Taylor	2.1 abc*	1.8 abcd*	1.6 ab*	24.1 a*
S Brand	S46D	2.0 abc	1.6 a	1.6 a	20.6 ab
S Brand	S47B	2.2 abcd	1.9 abcde	1.9 abcdef	19.7 bc
NC+	2D90+	2.0 abc	1.7 ab	1.8 abcd	19.2 bcd
Superior	SPB308	2.0 abc	1.9 abcde	1.8 abcde	19.1 bcd
G. Harvest	H1285	2.2 abcd	1.8 abcde	1.7 abcd	18.9 bcd
Hoegemeyer	205	2.2 abcd	2.0 abcde	1.9 abcdef	18.6 bcd
——	Corsoy 79	2.2 abcd	1.8 abcd	1.7 abc	18.6 bcd
——	Weber	2.2 abcd	2.1 abcdef	2.1 bcdef	18.5 bcd
Stock	SS462A	2.0 abc	2.0 abcde	1.9 abcdef	18.5 bcd
——	Elgin	2.3 abcd	2.2 bcdef	2.1 bcdef	18.2 bcd
Dek-Pfizer	CX283	2.0 abc	1.8 abcde	1.8 abcd	17.9 bcde
Fontanelle	F4545	2.1 abc	2.0 abcde	2.0 abcdef	17.9 bcde
MSR	Royal	2.1 abc	1.9 abcde	1.9 abcdef	17.7 bcdef
Stine	2050+	2.1 abc	2.1 abcde	2.0 abcdef	17.6 bcdef
——	Century	2.2 abcd	2.1 abcde	2.1 bcdef	17.5 bcdef
MSR	Royal II	2.4 abcd	2.0 abcde	1.9 abcdef	17.3 bcdefg
Stock	SS793	2.2 abcd	1.7 ab	1.9 abcdef	17.3 bcdefg
Jacques	J103	2.4 abcd	2.0 abcde	1.9 abcdef	17.2 bcdefg
Stine	2920	2.1 abc	1.8 abcd	1.9 abcdef	17.2 bcdefg
S Brand	S44A	2.4 abcd	2.1 abcdef	2.1 bcdef	17.1 bcdefg
Superior	SPB340	2.1 abc	1.8 abc	2.0 abcdef	16.9 bcdefg
L O'Lakes	L4207	2.0 abc	2.1 abcdef	2.3 fgh	16.5 bcdefg
G. Harvest	H1233	2.5 cde	2.3 def	2.1 cdef	16.4 bcdefgh
Hofler	Gem	2.2 abcd	2.0 abcde	2.0 abcdef	16.4 bcdefgh
Hoegemeyer	200	2.1 abc	2.0 abcde	1.9 abcdef	16.3 bcdefgh
——	Platte	2.2 abcd	2.0 abcde	2.0 abcdef	15.2 cdefghi
L O'Lakes	L4106	1.9 ab	1.9 abcde	2.0 abcdef	15.0 cdefghij
Dek-Pfizer	CX350	2.1 abc	2.0 abcde	2.2 cdefg	14.2 defghij
Stock	SS500	2.4 bcd	2.3 efg	2.3 fgh	13.3 efghijk
Jacques	J105	2.2 abcd	2.1 abcdef	2.1 abcdef	13.1 efghijk
Hofler	Topaz	2.4 bcd	2.2 cdef	2.3 efg	12.8 fghijk
Stine	3500	2.3 abcd	2.3 cdef	2.3 efg	12.6 ghijk
Midwest Oil	397	1.9 a	2.0 abcde	2.2 cdefg	12.5 ghijk
——	Mead	2.1 abc	2.1 abcdef	2.2 cdefg	11.6 hijkl
Diamond	TC204A	2.5 cde	2.3 efg	2.3 fgh	10.8 ijklm
——	Harper	2.1 abc	2.0 abcde	2.0 abcdef	10.5 ijklmn
——	Will	2.5 cde	2.6 fg	2.6 gh	10.3 jklmn
——	Winchester	2.5 cde	2.2 cdef	2.2 defg	9.0 klmno
——	Williams 79	2.4 abcd	2.3 def	2.3 efg	9.0 klmno
——	Cumberland	2.4 abcd	2.1 abcdef	2.1 bcdef	7.7 lmno
Diamond	D310	2.7 de	2.8 g	2.7 h	7.7 lmno
——	Williams 82	2.4 bcd	2.3 def	2.2 defg	7.2 lmno
Hoegemeyer	264	2.4 abcd	2.2 bcdef	2.1 bcdef	6.7 mno
——	Williams	2.3 abcd	2.1 abcde	2.1 bcdef	6.1 no
——	Nebsoy	2.9 e	3.3 h	3.3 i	4.6 o

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A9. Chlorosis score and seed yield of 47 soybean varieties, Dodge County, 1984.

Brand	Entry	Chlorosis score, weeks after planting 4	6	8	Seed yield, bu/ac.
McCubbin	Taylor	2.7 a*	2.9 abcd*	1.6 a*	41.9 a*
Dek-Pfizer	CX283	3.1 abcde	2.8 ab	1.6 a	41.6 a
NC+	2D90+	3.1 abcde	2.8 abc	1.8 a	40.9 ab
S Brand	S47B	3.3 abcdef	3.1 abcdef	1.8 a	40.8 ab
Hoegemeyer	205	2.7 a	2.7 a	1.5 a	40.7 ab
Superior	SPB308	3.0 abcd	2.8 abc	1.8 ab	39.9 ab
G. Harvest	H1233	3.3 abcdefg	2.8 abc	1.7 a	39.0 ab
MSR	Royal	2.9 abc	2.8 ab	1.6 a	38.7 abc
G. Harvest	H1285	3.2 abcde	2.8 ab	1.9 ab	37.4 abcd
Stine	2920	3.2 abcde	3.0 abcde	2.1 abcd	37.2 abcd
Stine	2050+	3.2 abcde	3.2 abcdefg	2.1 abcd	36.8 abcd
Stock	SS793	2.9 abc	3.2 abcdefg	2.2 abcde	35.9 abcd
S Brand	S44A	3.3 abcdef	3.0 abcde	2.1 abcd	35.6 abcde
Hoegemeyer	200	3.1 abcde	3.3 abcdefghi	2.3 abcdef	34.8 abcdef
Fontanelle	F4545	3.3 abcdefg	3.3 abcdefghi	2.3 abcdef	34.1 abcdef
S Brand	S46D	2.9 abc	3.2 abcdefg	2.3 abcdef	34.0 abcdef
——	Century	2.9 abc	3.1 abcdef	2.7 abcdefghi	33.8 abcdef
MSR	Royal II	3.6 bcdefg	3.6 abcdefghij	2.8 abcdefghi	33.5 abcdefg
Hofler	Gem	3.4 abcdefg	3.2 abcdefg	2.3 abcdefg	33.3 abcdefg
Jacques	J103	3.3 abcdef	3.3 abcdefgh	2.8 abcdefghij	32.7 abcdefgh
Superior	SPB340	3.0 abcd	3.3 abcdefghi	2.3 abcdefg	32.4 abcdefgh
Jacques	J105	3.2 abcde	3.3 abcdefghi	2.4 abcdefg	31.8 abcdefgh
L O'Lakes	L4106	3.3 abcdefg	3.3 abcdefghi	2.3 abcdef	31.4 abcdefgh
Stock	SS462A	3.5 bcdefg	3.7 bcdefghij	3.1 bcdefghijk	31.3 abcdefgh
——	Weber	3.4 abcdefg	3.0 abcde	2.2 abcde	29.1 bcdefghi
L O'Lakes	L4207	3.3 abcdef	3.7 bcdefghij	2.6 abcdefgh	28.8 bcdefghi
——	Corsoy 79	3.7 cdefgh	3.7 bcdefghij	3.1 bcdefghijk	26.8 cdefghij
Dek-Pfizer	CX350	3.1 abcde	3.1 abcdef	2.0 abc	25.6 defghij
Diamond	TC204A	3.4 abcdefg	3.4 abcdefghi	2.7 abcdefghi	25.3 defghijk
Hoegemeyer	264	2.8 ab	3.2 abcdefg	2.8 abcdefghi	23.6 efghijkl
Midwest Oil	397	3.4 abcdefg	3.8 cdefghij	3.3 defghijk	22.7 fghijkl
——	Platte	3.8 defgh	3.8 defghij	3.7 hijkl	21.7 ghijklm
——	Mead	3.6 bcdefg	3.9 efghijk	3.5 fghijk	21.3 hijklm
Stine	3500	3.3 abcdefg	3.9 efghijk	3.3 cdefghijk	21.1 hijklmn
——	Elgin	3.8 efgh	3.9 efghijk	3.8 hijklm	19.5 ijklmn
——	Williams	3.3 abcdef	3.7 bcdefghij	3.4 efghijk	18.7 ijklmno
——	Williams 79	3.3 abcdefg	3.7 bcdefghij	3.6 ghijk	18.4 ijklmno
Stock	SS500	3.6 bcdefg	4.2 hijk	4.2 klmn	15.9 jklmnop
——	Winchester	3.6 bcdefg	4.0 fghijk	3.9 ijklmn	15.2 jklmnop
——	Harper	3.8 defgh	3.9 efghijk	3.9 ijklmn	15.2 jklmnop
——	Williams 82	3.8 efgh	4.3 ijk	4.0 jklmn	13.6 klmnop
——	Will	3.8 defgh	4.1 ghijk	4.3 klmn	13.0 lmnop
Hofler	Topaz	4.0 fgh	4.3 ijk	4.3 klmn	10.2 mnop
——	Cumberland	4.1 gh	4.4 jk	4.9 lmn	9.4 nop
L O'Lakes	L3665	4.0 fgh	4.5 jk	4.8 lmn	7.2 op
Diamond	D310	4.3 h	4.8 k	5.1 n	5.6 p
——	Nebsoy	4.1 gh	4.8 k	5.1 mn	5.3 p

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A10. Chlorosis score and seed yield of 46 soybean varieties, Lincoln County, 1984.

Brand	Entry	Chlorosis score, weeks after planting 4	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
L O'Lakes	L4106	3.0 abcdef*	4.2 abcdef*	22.7 a*
Stine	2920	2.9 abcde	3.9 abc	22.1 ab
Dek-Pfizer	CX283	3.1 abcdefg	3.7 ab	20.1 abc
G. Harvest	H1285	3.0 abcdef	4.2 abcdefg	19.3 abcd
Fontanelle	F4545	3.0 abcdef	3.7 ab	18.5 abcde
Hoegemeyer	205	2.9 abcd	4.2 abcdefg	17.7 abcdef
Dek-Pfizer	CX350	2.9 abcde	3.6 a	17.6 abcdef
L O'Lakes	L4207	3.0 abcdef	4.3 abcdefgh	17.5 abcdef
Jacques	J103	2.8 ab	3.9 abc	16.9 abcdefg
Stock	SS462A	3.0 abcdef	3.9 abc	16.7 abcdefg
Superior	SPB340	3.1 abcdef	4.1 abcdef	16.5 abcdefg
McCubbin	Taylor	2.9 abcdef	4.1 abcde	16.5 abcdefg
Jacques	J105	2.9 abcde	4.7 bcdefghi	16.2 abcdefgh
S Brand	S47B	3.1 abcdef	4.1 abcdef	15.9 abcdefgh
MSR	Royal	2.9 abcde	4.1 abcdef	15.5 abcdefgh
Stock	SS793	3.1 abcdef	4.4 abcdefgh	15.1 abcdefgh
Superior	SPB308	2.8 a	3.7 ab	14.9 abcdefgh
——	Weber	3.0 abcdef	3.7 ab	14.7 abcdefgh
NC+	2D90+	3.3 cdefghi	4.4 abcdefgh	14.7 abcdefgh
S Brand	S46D	3.1 abcdef	4.5 abcdefgh	14.3 abcdefgh
Hoegemeyer	200	3.0 abcdef	4.0 abcd	14.0 abcdefghi
Stine	2050+	3.0 abcdef	4.2 abcdefg	13.2 abcdefghij
——	Harper	2.8 ab	4.4 abcdefgh	12.8 abcdefghij
——	Elgin	3.1 abcdefg	4.6 abcdefgh	12.7 abcdefghij
Hoegemeyer	264	3.0 abcdef	3.9 abc	12.3 bcdefghij
Hofler	Gem	3.2 abcdefgh	4.4 abcdefgh	11.7 bcdefghij
Diamond	TC204A	3.4 defghi	5.0 efghij	10.8 cdefghijk
——	Century	2.9 abc	4.3 abcdefgh	10.4 cdefghijk
——	Williams 82	3.4 efghi	5.0 efghij	10.3 cdefghijk
Midwest Oil	397	3.2 abcdefgh	5.0 defghij	10.1 cdefghijk
——	Will	3.2 abcdefgh	4.6 abcdefghi	9.9 cdefghijk
G. Harvest	H1233	3.4 defghi	5.2 ghij	9.9 cdefghijk
S Brand	S44A	3.1 abcdef	4.4 abcdefgh	9.6 defghijk
Stock	SS500	3.0 abcdef	4.8 cdefghi	9.5 defghijk
——	Williams	3.2 abcdefgh	4.9 cdefghij	9.5 defghijk
——	Cumberland	3.4 fghi	5.2 fghij	9.4 defghijk
Hofler	Topaz	3.7 i	5.6 ij	8.6 efghijk
——	Williams 79	3.4 efghi	4.9 cdefghij	8.4 efghijk
MSR	Royal II	3.3 abcdefgh	5.1 fghij	7.9 fghijk
——	Mead	3.4 defghi	5.1 fghij	7.2 fghijk
——	Winchester	3.3 bcdefghi	5.2 fghij	6.9 ghijk
——	Platte	3.3 cdefghi	5.1 fghij	6.0 hijk
——	Corsoy 79	3.2 abcdefgh	5.1 fghij	3.9 ijk
Diamond	D310	3.6 hi	5.3 hij	3.4 jk
Stine	3500	3.3 bcdefgh	5.2 ghij	1.4 k
——	Nebsoy	3.6 ghi	5.8 j	0.7 k

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A11. Chlorosis score and seed yield of 46 soybean varieties, Merrick County, 1984.

Brand	Entry	Chlorosis score, weeks after planting 6	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
McCubbin	Taylor	2.6 ab*	2.4 a*	37.2 a*
L O'Lakes	L4207	2.6 ab	2.5 ab	35.7 ab
Hoegemeyer	205	2.7 abc	2.7 abcd	35.6 ab
Stine	3500	2.7 abc	2.9 bcde	34.9 abc
——	Century	2.6 ab	2.5 ab	33.9 abcd
G. Harvest	H1285	2.8 abcd	2.8 abcde	33.5 abcd
MSR	Royal	2.8 abcde	2.8 abcde	33.4 abcde
Stine	2050+	2.9 abcde	2.8 abcde	33.0 abcde
NC+	2D90+	2.8 abcde	2.9 bcde	32.5 abcdef
Superior	SPB340	2.8 abcde	2.5 ab	32.3 abcdef
Dek-Pfizer	CX283	2.8 abcd	2.7 abcd	32.3 abcdef
——	Corsoy 79	2.7 abc	2.6 abc	32.2 abcdef
S Brand	S46D	2.6 ab	2.8 abcde	32.1 abcdef
Fontanelle	F4545	2.6 ab	2.8 abcde	31.8 abcdef
——	Mead	2.8 abcde	2.6 abc	31.8 abcdef
Stock	SS462A	2.8 abcde	2.8 abcde	31.6 abcdef
Jacques	J105	2.7 abc	2.7 abcd	31.3 abcdefg
Stock	SS793	2.8 abcde	2.7 abcd	31.3 abcdefg
Hofler	Topaz	3.2 de	3.1 de	31.0 abcdefg
Hofler	Gem	2.8 abcd	2.8 abcde	30.3 abcdefgh
——	Elgin	2.8 abcde	2.8 abcde	30.0 abcdefgh
Superior	SPB308	2.8 abcd	2.6 abc	29.9 abcdefgh
——	Cumberland	2.9 abcde	2.8 abcde	29.3 abcdefghi
MSR	Royal II	2.8 abcde	2.7 abcd	28.2 abcdefghij
Hoegemeyer	200	2.8 abcde	2.6 abc	28.2 abcdefghij
L O'Lakes	L4106	2.8 abcde	2.8 abcde	27.4 abcdefghijk
Stine	2920	2.8 abcd	2.6 abc	27.1 bcdefghijk
Stock	SS500	3.1 cde	2.9 bcde	26.9 bcdefghijk
——	Harper	2.8 abcd	2.7 abcd	26.9 bcdefghijk
——	Will	3.0 bcde	2.9 bcde	26.5 bcdefghijk
S Brand	S47B	2.9 abcde	2.8 abcde	25.5 cdefghijkl
G. Harvest	H1233	2.6 ab	2.8 abcde	24.8 defghijkl
Hoegemeyer	264	2.7 abc	2.8 abcde	24.6 defghijkl
Jacques	J103	2.6 ab	2.7 abcd	24.5 defghijkl
Diamond	TC204A	2.8 abcd	2.8 abcde	24.3 defghijkl
S Brand	S44A	2.5 a	2.8 abcde	24.2 defghijkl
Dek-Pfizer	CX350	2.9 abcde	2.9 bcde	23.6 efghijkl
Diamond	D310	3.1 cde	2.8 abcde	23.0 fghijkl
——	Weber	2.8 abcde	2.8 abcde	21.6 ghijkl
——	Winchester	3.1 cde	3.0 cde	21.2 hijkl
——	Platte	3.2 de	3.2 e	20.2 ijkl
——	Williams 79	3.1 cde	3.0 cde	20.1 ijkl
——	Williams 82	3.2 de	3.0 cde	19.9 ijkl
——	Nebsoy	3.0 bcde	2.9 bcde	18.9 jkl
Midwest Oil	397	3.3 e	3.0 cde	18.1 kl
——	Williams	3.2 de	3.1 de	16.7 l

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A12. Chlorosis score and seed yield of 54 soybean varieties, Colfax County, 1985.

Brand	Entry	Chlorosis score, weeks after planting			Seed yield,
		4	6	8	bu/ac.
Jacques	J103	2.9 abcde*	2.9 a*	3.3 abc*	35.6 a*
Hoegemeyer	200	2.8 abcd	3.1 abc	3.1 ab	35.0 ab
Latham	650	2.8 abcd	2.9 a	3.1 ab	31.7 abc
S Brand	S44A	2.8 abcd	3.1 abc	3.0 a	31.0 abc
Dek-Pfizer	CX283	2.7 ab	3.0 ab	3.1 ab	30.4 abcd
MSR	Royal	2.8 abc	3.0 ab	3.1 ab	29.6 abcde
Ohlde	2193	2.9 abcde	3.2 abcd	3.5 abcdef	29.1 abcde
——	Weber	3.1 bcdef	3.0 ab	3.3 abc	28.4 abcde
Jacques	J231	3.1 bcdef	3.1 abc	3.5 abcdef	28.3 abcde
Profiseed	1152	2.9 abcde	3.1 abc	3.5 abcdef	28.2 abcde
Hofler	Gem	2.8 abc	2.9 a	3.1 ab	27.7 abcde
G. Harvest	H1285	2.8 abcd	3.0 ab	3.3 abc	27.2 abcde
NC+	2D90+	2.8 abcd	3.2 abcd	3.3 abcd	26.7 abcdef
S Brand	S46D	2.9 abcde	3.3 abcdef	3.4 abcde	26.3 abcdefg
N. K.	S23-03	2.9 abcde	3.0 ab	3.3 abcd	26.2 abcdefg
Hoegemeyer	205	2.6 a	3.0 ab	3.3 abc	25.4 abcdefgh
Fontanelle	F4646	3.3 defg	3.3 abcdef	3.4 abcde	25.1 abcdefgh
Fontanelle	F4545	2.8 abc	3.1 abc	3.3 abc	25.1 abcdefgh
S Brand	S47B	2.7 ab	3.4 abcdefg	3.5 abcdef	23.9 abcdefghi
Superior	SPB308	2.8 abc	3.2 abcd	3.3 abc	22.9 abcdefghij
Jacobsen	799	3.0 abcdef	3.4 abcdefg	3.4 abcde	22.8 abcdefghij
L O'Lakes	L4207	3.2 cdefg	3.4 abcdefg	3.5 abcdef	22.3 abcdefghijk
Diamond	TC204A	2.9 abcde	3.4 abcdefg	3.3 abcd	21.9 abcdefghijk
Latham	1010	3.0 abcdef	3.5 abcdefgh	3.6 abcdefg	21.8 abcdefghijk
MSR	Royal II	2.9 abcde	3.5 abcdefgh	3.3 abcd	21.6 abcdefghijk
G. Harvest	H1233	3.0 abcdef	3.3 abcde	3.6 abcdefg	21.5 abcdefghijkl
Asgrow	A2187	2.9 abcde	3.5 abcdefgh	3.7 abcdefg	20.7 abcdefghijkl
Stine	2050+	3.0 abcdef	3.2 abcd	3.5 abcdef	20.3 bcdefghijkl
Ohlde	2188	3.1 bcdef	3.5 abcdefgh	3.6 abcdefg	18.9 cdefghijklm
Riverside	4041	3.0 abcdef	3.4 abcdefg	3.8 abcdefgh	17.5 cdefghijklmn
McCubbin	Taylor	2.8 abcd	3.5 abcdefgh	3.8 abcdefgh	17.4 cdefghijklmn
Stine	2920	3.2 cdefg	3.6 abcdefgh	3.7 abcdefg	15.6 defghijklmno
Stock	SS462A	2.9 abcde	3.7 bcdefghi	3.8 bcdefghi	15.0 efghijklmnop
——	Lakota	2.8 abc	3.2 abcd	3.7 abcdefg	14.8 efghijklmnopq
Jacques	J105	3.3 efg	3.6 abcdefgh	3.8 bcdefghi	12.2 fghijklmnopq
Superior	SPB340	3.1 bcdef	3.6 abcdefgh	3.8 bcdefghi	11.8 ghijklmnopq
Stock	SS793	3.1 bcdef	3.8 cdefghij	3.9 cdefghi	10.7 hijklmnopq
G. Harvest	H1276	3.3 efg	3.9 efghijk	4.1 defghij	9.9 ijklmnopq
McCubbin	Ex40510	3.3 efg	3.8 defghij	4.1 defghij	9.6 ijklmnopq
——	Century	3.0 abcdef	3.9 efghijk	4.0 cdefghi	8.9 jklmnopq
L O'Lakes	L2330	3.2 cdefg	3.8 defghij	4.1 defghij	8.3 jklmnopq
Jacques	J271	2.9 abcde	3.8 defghij	4.1 defghij	8.3 jklmnopq
——	Century 84	2.9 abcde	4.0 fghijk	4.2 efghijk	7.5 klmnopq
Dek-Pfizer	CX350	3.3 defg	3.9 efghijk	3.9 cdefghi	6.9 lmnopq
L O'Lakes	L2456	3.3 efg	3.8 defghij	4.3 fghijk	6.8 lmnopq
——	Zane	3.3 efg	4.2 hijkl	4.5 hijkl	5.4 mnopq
——	Mead	3.0 abcdef	4.0 fghijk	4.5 hijkl	4.0 nopq
——	Logan	3.3 defg	4.3 ijklm	4.6 ijkl	3.2 nopq
——	Platte	3.1 bcdef	4.1 ghijkl	4.3 fghijk	3.1 nopq
——	Fremont	3.4 fg	4.3 jklm	4.8 jklm	1.1 opq
——	Hack	3.3 efg	4.5 klmn	4.8 klm	0.4 pq
Dek-Pfizer	CX324	3.3 defg	4.7 lmn	5.2 lm	0.1 q
——	Nebsoy	3.6 g	4.8 mn	5.3 m	0.0 q
N. K.	S27-10	3.4 fg	5.0 n	5.4 m	0.0 q

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A13. Chlorosis score and seed yield of 54 soybean varieties, Douglas County, 1985.

Brand	Entry	Chlorosis score, weeks after planting			Seed yield,
		4	6	8	bu/ac.
N. K.	S23-03	3.4 a*	2.9 a*	2.6 ab*	40.6 a*
Ohlde	2193	3.5 ab	3.2 abc	2.5 a	40.1 ab
G. Harvest	H1285	3.7 abc	3.4 abcd	2.8 abc	38.3 abc
Profiseed	1152	3.7 abc	3.4 abcd	3.0 abcde	37.4 abcd
Latham	650	3.7 abc	3.5 abcd	3.2 abcdefg	36.8 abcde
Fontanelle	F4545	3.8 abcde	3.5 abcd	3.3 abcdefg	35.6 abcdef
——	Lakota	3.7 abc	3.6 abcde	3.1 abcdef	34.4 abcdefg
Superior	SPB308	3.6 abc	3.3 abc	3.0 abcde	34.0 abcdefgh
S Brand	S44A	3.7 abc	3.7 abcde	3.3 abcdefgh	33.9 abcdefgh
Stock	SS462A	3.6 abc	3.3 abc	2.9 abcd	33.9 abcdefgh
Jacques	J103	3.7 abc	3.6 abcde	3.1 abcdef	33.7 abcdefgh
S Brand	S46D	3.6 abc	3.3 abc	2.8 abcd	33.1 abcdefghi
L O'Lakes	L4207	3.8 abcde	3.6 abcde	3.3 abcdefg	32.8 abcdefghij
G. Harvest	H1276	3.7 abc	3.4 abcd	3.2 abcdefg	32.6 abcdefghij
L O'Lakes	L2330	4.0 abcdef	3.5 abcd	3.3 abcdefg	32.5 abcdefghij
G. Harvest	H1233	3.8 abcd	3.7 abcde	3.3 abcdefg	31.1 abcdefghij
McCubbin	Taylor	3.7 abc	3.4 abcd	3.3 abcdefg	31.0 abcdefghij
——	Century 84	3.9 abcdef	3.3 abc	3.2 abcdefg	30.6 abcdefghijk
Fontanelle	F4646	3.7 abc	3.3 abc	3.0 abcde	30.4 abcdefghijk
Jacques	J231	3.9 abcdef	3.5 abcd	3.2 abcdefg	29.7 abcdefghijk
Jacobsen	799	3.4 a	3.1 ab	2.8 abcd	29.6 abcdefghijk
Stine	2920	3.8 abcde	3.4 abcd	3.0 abcde	29.4 abcdefghijk
L O'Lakes	L2456	3.9 abcdef	3.7 abcde	3.6 bcdefghi	29.3 abcdefghijk
Asgrow	A2187	3.8 abcd	3.6 abcde	3.4 abcdefgh	29.2 abcdefghijk
——	Weber	3.7 abc	3.5 abcd	3.1 abcdef	29.2 abcdefghijkl
Jacques	J271	4.1 abcdef	3.7 abcde	3.5 abcdefgh	29.1 abcdefghijkl
Riverside	4041	3.8 abcde	3.6 abcde	3.1 abcdef	28.7 abcdefghijkl
Dek-Pfizer	CX283	3.4 a	3.6 abcde	3.3 abcdefg	28.4 abcdefghijkl
MSR	Royal II	4.0 abcdef	3.8 abcde	3.5 abcdefgh	28.3 abcdefghijkl
MSR	Royal	4.2 bcdef	3.8 bcdef	3.6 bcdefghi	28.2 abcdefghijkl
Hofler	Gem	4.1 abcdef	3.8 bcdef	3.6 bcdefghi	27.9 abcdefghijklm
NC+	2D90+	3.8 abcd	3.8 abcde	3.4 abcdefgh	27.5 abcdefghijklm
——	Logan	3.7 abc	3.8 abcde	3.4 abcdefgh	27.4 abcdefghijklm
Superior	SPB340	3.9 abcdef	3.7 abcde	3.4 abcdefgh	27.4 abcdefghijklm
Hoegemeyer	200	3.8 abcde	3.7 abcde	3.5 abcdefgh	27.2 abcdefghijklm
Ohlde	2188	3.7 abc	3.3 abc	3.1 abcdef	26.9 abcdefghijklm
N. K.	S27-10	3.8 abcd	3.9 bcdef	3.8 defghi	26.9 abcdefghijklm
S Brand	S47B	3.8 abcd	3.8 abcde	3.3 abcdefgh	26.8 bcdefghijklm
Hoegemeyer	205	3.8 abcde	3.8 bcdef	3.4 abcdefgh	25.7 cdefghijklm
Stock	SS793	3.8 abcde	3.5 abcd	3.3 abcdefg	25.2 cdefghijklmn
Stine	2050+	3.8 abcde	3.9 bcdef	3.3 abcdefgh	25.1 cdefghijklmn
Diamond	TC204A	4.0 abcdef	3.9 bcdef	3.6 bcdefghi	24.5 cdefghijklmn
Jacques	J105	3.8 abcde	3.7 abcde	3.5 abcdefgh	24.1 defghijklmn
——	Century	4.0 abcdef	3.5 abcd	3.4 abcdefgh	23.5 efghijklmn
McCubbin	Ex40510	4.1 abcdef	3.8 bcdef	3.7 cdefghi	23.0 fghijklmn
——	Zane	3.8 abcde	4.0 cdef	3.6 bcdefghi	22.9 fghijklmn
——	Fremont	4.1 abcdef	3.9 bcdef	4.0 efghij	21.1 ghijklmn
Latham	1010	4.1 abcdef	4.0 cdef	3.8 cdefghi	19.5 ijklmn
Dek-Pfizer	CX350	3.8 abcd	3.8 abcde	3.3 abcdefgh	19.2 jklmn
——	Hack	4.2 bcdef	4.4 efg	4.3 hij	17.0 klmn
——	Platte	4.0 abcdef	4.3 defg	4.2 ghij	15.6 lmno
Dek-Pfizer	CX324	4.6 f	4.7 fg	4.6 ij	14.5 mno
——	Mead	4.5 ef	4.3 defg	4.3 hij	12.1 no
——	Nebsoy	4.4 def	4.9 g	4.9 j	4.8 o

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A14. Chlorosis score and seed yield of 53 soybean varieties, MadisonCounty, 1985.

Brand	Entry	Chlorosis score, weeks after planting			Seed yield,
		4	6	8	bu/ac.
Superior	SPB308	2.8 abcdef*	3.1 abcde*	2.1 ab*	54.3 a*
Latham	1010	2.8 abcde	3.0 abcd	2.3 abcde	54.0 ab
N. K.	S23-03	2.6 abcd	2.9 abc	2.3 abcd	53.9 ab
Fontanelle	F4545	2.8 abcdef	3.1 abcde	2.2 abc	53.8 abc
NC+	2D90+	2.8 abcdef	3.0 abcd	2.2 abc	52.8 abcd
Latham	650	2.8 abcde	3.1 abcde	2.1 ab	52.7 abcd
Hoegemeyer	205	2.8 abcdef	3.6 cdefg	2.3 abcde	52.6 abcd
Jacobsen	799	2.4 ab	2.7 ab	2.0 a	52.5 abcd
MSR	Royal II	2.8 abcdef	3.3 bcdefg	2.3 abcde	52.5 abcd
Ohlde	2193	2.8 abcdef	3.3 bcdefg	2.2 abc	52.1 abcd
Hoegemeyer	200	2.8 abcde	3.3 bcdefg	2.3 abcde	51.9 abcd
G. Harvest	H1276	2.5 abc	2.9 abc	2.2 abc	51.8 abcd
MSR	Royal	3.0 bcdef	3.5 cdefg	2.4 abcdef	51.6 abcde
G. Harvest	H1285	2.8 abcdef	3.1 abcde	2.3 abcd	50.7 abcdef
Fontanelle	F4646	2.3 a	2.4 a	2.0 a	50.7 abcdef
Hofler	Gem	2.9 abcdef	3.2 abcdef	2.3 abcde	50.6 abcdef
Stine	2920	2.8 abcde	2.9 abc	2.2 abc	50.5 abcdef
L O'Lakes	L4207	3.3 ef	3.6 cdefg	2.7 abcdefg	50.4 abcdefg
Dek-Pfizer	CX283	3.0 bcdef	3.3 bcdefg	2.4 abcdef	50.4 abcdefg
S Brand	S47B	2.9 abcdef	3.2 abcdef	2.3 abcd	50.4 abcdefg
N. K.	S27-10	3.4 ef	3.6 cdefg	3.1 fg	50.2 abcdefg
Diamond	TC204A	2.8 abcdef	3.3 bcdefg	2.4 abcdef	49.7 abcdefg
S Brand	S44A	3.1 bcdef	3.0 abcd	2.1 ab	49.2 abcdefgh
Jacques	J231	2.8 abcdef	3.3 bcdefg	2.3 abcd	48.9 abcdefghi
Jacques	J271	3.0 bcdef	3.6 cdefg	2.7 abcdefg	48.6 abcdefghi
McCubbin	Taylor	3.2 cdef	3.2 abcdef	2.4 abcdef	48.4 abcdefghi
Profiseed	1152	2.8 abcde	3.0 abcd	2.2 abc	48.4 abcdefghi
Stock	SS793	3.2 cdef	3.5 cdefg	2.6 abcdefg	48.2 abcdefghi
G. Harvest	H1233	2.9 abcdef	3.5 cdefg	2.4 abcdef	48.2 abcdefghi
Superior	SPB340	2.9 abcdef	3.3 bcdefg	2.3 abcd	48.1 abcdefghi
Ohlde	2188	3.1 bcdef	3.1 abcde	2.3 abcde	48.1 abcdefghi
McCubbin	Ex40510	2.9 abcdef	3.1 abcde	2.3 abcde	47.9 abcdefghi
Riverside	4041	3.0 bcdef	3.4 bcdefg	2.3 abcd	47.5 abcdefghi
——	Logan	3.3 def	3.8 efg	3.2 g	47.4 abcdefghi
——	Zane	2.8 abcdef	3.5 cdefg	2.6 abcdefg	47.0 abcdefghi
S Brand	S46D	3.0 bcdef	3.5 cdefg	2.5 abcdefg	46.3 abcdefghi
Stock	SS462A	3.4 ef	3.8 defg	2.8 bcdefg	46.3 abcdefghi
Dek-Pfizer	CX324	3.1 bcdef	3.4 bcdefg	2.8 bcdefg	46.1 abcdefghi
Jacques	J105	2.8 abcdef	3.0 abcd	2.4 abcdef	46.0 abcdefghi
——	Nebsoy	3.2 cdef	3.6 cdefg	2.8 cdefg	46.0 abcdefghi
——	Century	3.1 bcdef	3.7 cdefg	2.8 bcdefg	45.5 abcdefghi
Asgrow	A2187	2.8 abcde	3.3 bcdefg	2.4 abcdef	45.5 abcdefghi
——	Hack	3.3 ef	3.3 bcdefg	2.5 abcdefg	45.2 bcdefghi
Stine	2050+	2.9 abcdef	3.3 bcdefg	2.5 abcdefg	45.0 cdefghi
——	Weber	3.2 cdef	3.2 abcdef	2.4 abcdef	45.0 cdefghi
L O'Lakes	L2456	3.1 bcdef	3.3 bcdefg	2.4 abcdef	44.6 defghi
——	Fremont	3.1 bcdef	3.9 fg	3.0 efg	44.0 defghi
Jacques	J103	2.8 abcdef	3.2 abcdef	2.2 abc	43.9 defghi
Dek-Pfizer	CX350	3.3 ef	3.8 defg	2.8 bcdefg	42.8 efghi
——	Century 84	2.9 abcdef	3.3 bcdefg	2.3 abcde	42.6 fghi
——	Lakota	3.4 ef	3.9 fg	2.9 defg	41.6 ghi
——	Mead	3.2 cdef	3.6 cdefg	3.0 efg	40.5 hi
L O'Lakes	L2330	3.5 f	4.0 g	3.0 efg	40.3 i

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A15. Chlorosis score and seed yield of 53 soybean varieties, MerrickCounty, 1985.

Brand	Entry	Chlorosis score, weeks after planting			Seed yield,
		4	6	8	bu/ac.
Jacques	J231	1.9 abcd*	1.7 ab*	1.4 a*	38.8 a*
Ohlde	2193	1.9 abcd	2.2 abcde	1.7 abc	38.6 a
Latham	1010	2.1 abcdef	2.3 abcde	1.7 abc	38.0 ab
Asgrow	A2187	2.1 abcdef	2.1 abcde	1.6 abc	37.7 ab
McCubbin	Taylor	2.0 abcde	2.0 abcde	1.8 abcd	37.3 abc
——	Century 84	2.0 abcde	1.9 abcde	1.4 a	37.3 abc
Jacques	J103	1.9 abcd	1.8 abcd	1.6 abc	37.2 abc
Fontanelle	F4646	1.8 ab	1.5 a	1.5 ab	36.6 abcd
Jacques	J271	2.3 abcdef	2.2 abcde	1.5 ab	36.1 abcd
S Brand	S44A	1.8 ab	1.7 ab	1.8 abcd	35.8 abcd
Superior	SPB308	1.9 abcd	2.1 abcde	1.7 abc	35.4 abcd
Hoegemeyer	205	1.9 abcd	1.8 abc	1.8 abcd	35.2 abcd
Ohlde	2188	2.4 cdef	2.3 bcdef	1.6 abc	35.2 abcd
MSR	Royal	1.8 abc	1.9 abcde	1.8 abcd	34.8 abcd
Jacobsen	799	2.2 abcdef	1.7 ab	1.4 a	34.7 abcd
Dek-Pfizer	CX283	2.0 abcde	1.9 abcde	1.6 abc	34.6 abcd
G. Harvest	H1276	2.5 def	2.0 abcde	1.6 abc	34.5 abcd
MSR	Royal II	2.0 abcde	2.2 abcde	1.6 abc	34.5 abcd
——	Century	2.2 abcdef	2.2 abcde	1.7 abc	34.4 abcd
G. Harvest	H1285	1.7 a	1.7 ab	1.8 abcd	34.4 abcd
G. Harvest	H1233	2.1 abcdef	2.1 abcde	1.7 abc	34.0 abcde
L O'Lakes	L4207	2.0 abcde	2.1 abcde	1.5 ab	33.8 abcde
——	Weber	2.0 abcde	1.7 ab	1.7 abc	33.8 abcde
N. K.	S23-03	1.9 abcd	2.3 abcde	1.5 ab	33.7 abcde
Jacques	J105	2.3 bcdef	1.9 abcde	1.6 abc	33.4 abcdef
Stine	2050+	1.8 ab	1.8 abc	1.7 abc	33.1 abcdefg
S Brand	S47B	2.2 abcdef	2.3 bcdef	1.5 ab	32.9 abcdefg
——	Fremont	2.4 cdef	2.4 bcdef	2.2 cd	32.8 abcdefg
Stine	2920	1.9 abcd	1.8 abc	1.4 a	32.7 abcdefg
S Brand	S46D	2.2 abcdef	1.8 abc	1.4 a	32.7 abcdefg
Profiseed	1152	2.2 abcdef	2.1 abcde	1.7 abc	32.6 abcdefg
Diamond	TC204A	2.1 abcdef	1.8 abcd	1.8 abcd	32.5 abcdefg
——	Hack	2.6 ef	2.7 ef	2.0 abcd	32.4 abcdefg
Hoegemeyer	200	2.1 abcdef	2.1 abcde	1.6 abc	32.2 abcdefg
Fontanelle	F4545	1.8 ab	1.9 abcde	1.7 abc	32.1 abcdefg
Hofler	Gem	1.9 abcd	2.2 abcde	1.8 abcd	31.9 abcdefgh
Riverside	4041	2.3 abcdef	2.0 abcde	1.6 abc	31.5 abcdefgh
Superior	SPB340	2.5 def	2.1 abcde	1.6 abc	31.4 abcdefgh
Latham	650	1.8 abc	1.8 abc	1.5 ab	31.1 abcdefgh
L O'Lakes	L2330	2.6 ef	2.2 abcde	1.6 abc	31.0 abcdefgh
McCubbin	Ex40510	2.1 abcdef	2.3 abcde	2.0 abcd	30.9 abcdefghi
Dek-Pfizer	CX324	2.5 def	2.5 cdef	2.3 d	30.7 abcdefghi
——	Zane	2.5 def	2.4 bcdef	1.7 abc	30.0 bcdefghi
——	Logan	2.4 cdef	2.6 def	1.9 abcd	29.9 bcdefghi
L O'Lakes	L2456	2.4 cdef	2.5 cdef	1.9 abcd	29.1 cdefghi
NC+	2D90+	2.2 abcdef	2.3 bcdef	1.8 abcd	28.4 defghi
Stock	SS462A	2.1 abcdef	2.3 bcdef	1.9 abcd	28.4 defghi
Dek-Pfizer	CX350	2.6 ef	2.5 cdef	1.7 abc	26.1 efghij
——	Mead	2.6 ef	3.1 fg	2.1 bcd	25.3 fghij
——	Platte	2.6 ef	2.7 ef	2.2 cd	24.9 ghij
Stock	SS793	2.7 f	2.5 cdef	2.0 abcd	23.9 hij
N. K.	S27-10	3.2 g	3.1 fg	3.3 e	23.0 ij
——	Nebsoy	3.5 g	3.7 g	3.2 e	18.7 j

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A16. Chlorosis score and seed yield of 49 soybean varieties, Colfax County, 1986.

Brand	Entry	Chlorosis score, weeks after planting 6	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
——	BSR 101	3.0 a*	2.3 a*	39.2 a*
Asgrow	A2187	3.2 ab	2.6 ab	36.9 ab
Latham	1010	3.7 abcde	3.2 abcdef	36.3 abc
G. Harvest	H1276	3.7 abcde	3.1 abcdef	34.1 abc
Hoegemeyer	200	3.4 abc	2.8 abcd	33.3 abcd
NC+	2D90+	3.5 abcd	2.9 abcde	32.4 abcde
Fontanelle	F4646	3.8 abcdef	3.3 abcdefg	32.1 abcde
Horizon	H29	3.8 abcdef	3.3 abcdefg	31.5 abcde
Stine	2050+	4.1 bcdefg	3.5 abcdefgh	30.3 abcdef
——	Lakota	3.7 abcde	3.3 abcdefg	29.8 abcdef
S Brand	S44A	3.8 abcdef	3.4 abcdefgh	29.7 abcdef
S Brand	S46D	3.8 abcdef	3.3 abcdefg	29.4 abcdef
Jacques	J103	4.0 abcdefg	3.4 abcdefgh	29.0 abcdefg
MCubbin	Troy	3.8 abcdef	3.5 abcdefgh	28.6 abcdefg
MSR	Royal	4.3 cdefg	3.5 abcdefgh	27.9 abcdefg
——	Amcor	4.1 bcdefg	3.8 bcdefgh	27.8 abcdefg
Profiseed	1350	3.8 abcdef	3.3 abcdefg	27.6 abcdefgh
Stine	2330	3.6 abcd	3.3 abcdefg	27.5 abcdefgh
Hoegemeyer	205	4.3 cdefg	3.8 bcdefgh	27.0 abcdefgh
Jacques	J105	3.8 abcdef	3.5 abcdefgh	26.7 abcdefgh
Ohlde	2193	4.1 bcdefg	3.4 abcdefgh	26.0 abcdefgh
Fontanelle	F4545	3.9 abcdefg	3.6 abcdefgh	25.6 abcdefgh
McCubbin	Taylor	3.8 abcdef	3.4 abcdefgh	25.4 abcdefgh
——	Amsoy 71	3.7 abcde	3.0 abcdef	25.0 abcdefgh
Jacobsen	799	3.9 abcdefg	3.6 abcdefgh	25.0 abcdefgh
S Brand	S47B	4.1 bcdefg	3.8 bcdefgh	24.8 abcdefgh
——	Weber	4.0 abcdefg	3.8 bcdefgh	24.6 abcdefgh
G. Harvest	H1285	4.1 bcdefg	3.7 bcdefgh	24.5 abcdefgh
Jacques	J231	4.0 abcdefg	3.5 abcdefgh	24.1 abcdefgh
Dek-Pfizer	CX283	4.3 cdefg	3.8 bcdefgh	23.9 abcdefgh
N. K.	S29-20	4.3 cdefg	4.1 defgh	23.0 abcdefgh
Profiseed	1152	3.9 abcdefg	2.8 abc	23.0 abcdefgh
Stine	2920	4.1 bcdefg	3.7 bcdefgh	22.8 abcdefgh
Horizon	H25	4.2 bcdefg	3.7 bcdefgh	22.1 bcdefgh
Superior	SPB308	4.5 defg	4.3 fgh	21.9 bcdefgh
Latham	650	4.3 cdefg	3.8 bcdefgh	20.5 bcdefgh
Pioneer	9271	4.5 defg	4.5 ghi	20.2 bcdefgh
G. Harvest	H1233	4.4 cdefg	4.3 fgh	19.9 cdefgh
Pioneer	9292	4.3 cdefg	4.2 efgh	19.5 cdefgh
Asgrow	A3427	4.3 cdefg	3.9 cdefgh	19.5 cdefgh
Superior	EX250	4.3 cdefg	3.9 cdefgh	17.0 defgh
N. K.	S23-03	4.2 bcdefg	3.8 bcdefgh	16.5 defgh
——	Century 84	4.3 cdefg	4.2 efgh	16.1 efgh
N. K.	S30-31	4.8 fgh	.5 ghi	15.5 efgh
Dek-Pfizer	CX264	4.9 gh	4.5 ghi	13.4 fghi
MSR	X5557	4.7 efg	4.6 hi	12.5 ghi
——	Nebsoy	4.8 fgh	4.6 hi	11.0 hi
——	Mead	4.3 cdefg	4.5 ghi	10.9 hi
Ohlde	3000	5.6 h	5.7 i	0.2 i

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A17. Chlorosis score and seed yield of 47 soybean varieties, Dawson County, 1986.

Brand	Entry	Chlorosis score, weeks after planting 6	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
Fontanelle	F4646	3.3 bcdefg*	2.1 abc*	51.8 a*
Horizon	H29	3.2 abcdefg	2.2 abcd	51.8 a
Asgrow	A3427	3.1 abcdefg	2.8 cdef	51.5 a
——	BSR 101	3.2 abcdefg	2.2 abcd	49.6 ab
Dek-Pfizer	CX283	3.1 abcdef	2.4 abcd	49.3 abc
McCubbin	Taylor	3.1 abcdefg	2.4 abcd	49.3 abc
NC+	2D90+	3.2 abcdefg	2.4 abcd	49.2 abc
N. K.	S29-20	3.4 cdefg	2.5 abcde	49.2 abc
Jacobsen	799	3.4 cdefg	2.1 abc	48.1 abcd
——	Mead	3.6 gh	2.7 cdef	47.5 abcde
McCubbin	Troy	3.4 cdefg	2.4 abcd	47.1 abcde
S Brand	S46D	3.0 abcde	2.2 abcd	47.1 abcde
S Brand	S47B	3.1 abcdef	2.3 abcd	47.0 abcde
G. Harvest	H1276	3.3 bcdefg	2.4 abcd	46.8 abcde
Jacques	J105	3.1 abcdefg	2.3 abcd	46.7 abcde
Asgrow	A2187	2.8 ab	1.9 a	46.1 abcdef
Jacques	J231	2.7 a	1.9 ab	45.8 abcdefg
G. Harvest	H1285	3.6 gh	2.9 def	45.3 abcdefg
Ohlde	2193	3.2 abcdefg	2.4 abcd	45.2 abcdefg
Superior	SPB308	3.4 cdefg	2.8 cdef	43.4 bcdefgh
Stine	2050+	3.6 fgh	2.9 def	43.4 bcdefgh
MSR	Royal	3.4 defgh	2.6 cdef	43.3 bcdefgh
Fontanelle	F4545	3.3 bcdefg	2.7 cdef	42.9 bcdefgh
Hoegemeyer	205	3.4 cdefg	2.8 cdef	42.0 bcdefgh
Latham	1010	3.3 bcdefg	2.6 bcdef	41.8 bcdefgh
Horizon	H25	3.2 abcdefg	2.7 cdef	41.6 bcdefgh
——	Century 84	3.0 abcde	2.3 abcd	41.5 bcdefgh
Stine	2920	3.9 hi	3.2 fg	41.2 cdefgh
N. K.	S30-31	4.3 ij	3.7 gh	41.2 cdefgh
Profiseed	1350	3.5 efgh	2.7 cdef	40.9 defgh
Hoegemeyer	200	2.9 abc	2.3 abcd	40.8 defgh
Jacques	J103	2.9 abc	2.3 abcd	40.4 defgh
——	Weber	3.3 bcdefg	2.5 abcde	40.2 defgh
N. K.	S23-03	3.0 abcde	2.2 abcd	40.1 defgh
Profiseed	1152	3.3 bcdefg	2.6 bcdef	40.0 defgh
——	Lakota	3.0 abcde	2.5 abcde	40.0 defgh
Superior	EX250	2.9 abcd	2.4 abcd	39.3 efgh
S Brand	S44A	3.1 abcdefg	2.4 abcd	39.2 efgh
Pioneer	9292	3.6 gh	3.1 ef	38.4 fgh
G. Harvest	H1233	3.6 fgh	2.8 cdef	38.2 fgh
Dek-Pfizer	CX264	3.6 fgh	2.7 cdef	37.8 ghi
Stine	2330	3.2 abcdefg	2.6 bcdef	37.7 ghi
Latham	650	3.6 fgh	2.9 def	36.9 hi
Ohlde	3000	4.6 j	4.4 i	30.5 ij
Pioneer	9271	4.2 ij	4.1 hi	30.5 ij
MSR	X5557	4.6 j	4.6 i	26.6 j
——	Nebsoy	5.2 k	5.4 j	8.1 k

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A18. Chlorosis score and seed yield of 50 soybean varieties, Dawson County, 1987.

Brand	Entry	Chlorosis score, weeks after planting 6	8	Seed yield, bu/ac.
S Brand	S46D	1.3 ab*	2.3 abcde*	71.7 a*
Jacques	J103	1.3 a	2.0 a	66.5 ab
Stine	2920	1.3 a	2.3 abcd	66.5 ab
Ohlde	2190	1.5 ab	2.5 bcde	66.3 abc
G. Harvest	X277	1.5 ab	2.4 bcde	65.7 abcd
Asgrow	A3427	1.6 ab	2.3 abcde	64.9 abcde
G. Harvest	H1285	1.5 ab	2.5 bcde	64.9 abcde
NC+	2D90+	1.6 ab	2.5 bcde	64.7 abcde
Superior	SPB308T	1.4 ab	2.3 abcde	64.0 bcdef
Horizon	H29	1.3 ab	2.3 abcde	62.8 bcdefg
MSR	Royal	1.6 ab	2.5 bcde	62.8 bcdefgh
Dek-Pfizer	CX174	1.5 ab	2.3 abcd	62.6 bcdefghi
Stine	2330	1.6 ab	2.3 abcde	62.5 bcdefghi
MSR	6666	1.4 ab	2.6 cdef	62.5 bcdefghi
McCubbin	Troy	1.4 ab	2.5 bcde	62.1 bcdefghij
NC+	3H49	1.6 ab	2.5 bcde	61.8 bcdefghij
S Brand	S67	1.6 ab	2.5 bcde	61.7 bcdefghij
Jacobsen	824	1.6 ab	2.5 bcde	61.6 bcdefghij
Horizon	H21	1.6 ab	2.5 bcde	61.5 bcdefghij
Ohlde	2193	1.5 ab	2.4 bcde	61.2 bcdefghij
Jacques	J231	1.3 a	2.2 abc	61.1 bcdefghij
Horizon	H25	1.4 ab	2.4 bcde	60.7 bcdefghij
N. K.	23-03	1.3 a	2.0 a	60.7 bcdefghij
S Brand	S44A	1.4 ab	2.5 bcde	60.6 bcdefghij
Asgrow	A2187	1.3 a	2.0 a	60.1 bcdefghij
Jacques	J201	1.3 ab	2.1 ab	59.9 bcdefghij
Superior	SPB308	1.5 ab	2.4 bcde	59.9 bcdefghij
Profiseed	PS1152	1.5 ab	2.3 abcde	59.8 bcdefghij
Hoegemeyer	200	1.3 a	2.5 bcde	59.8 bcdefghij
McCubbin	Taylor	1.7 b	2.6 cdef	59.1 bcdefghijk
Dek-Pfizer	CX283	1.5 ab	2.5 bcde	59.0 bcdefghijk
Jacobsen	771	1.4 ab	2.4 bcde	58.9 bcdefghijk
——	BSR 101	1.6 ab	2.5 bcde	58.8 bcdefghijk
N. K.	29-20	1.4 ab	2.5 bcde	58.7 bcdefghijk
Hoegemeyer	205	1.5 ab	2.8 ef	58.6 cdefghijk
Stine	2050+	1.6 ab	2.6 cdef	58.3 defghijk
——	Century 84	1.3 a	2.3 abcde	58.1 defghijk
L O'Lakes	L3145	1.4 ab	2.7 def	58.0 defghijk
——	Mead	1.6 ab	2.5 bcde	57.9 defghijk
Lynks	8252	1.4 ab	2.4 bcde	57.7 efghijk
Fontanelle	F4545	1.7 b	2.6 cdef	56.9 fghijk
Fontanelle	X5003	1.5 ab	2.5 bcde	56.9 fghijk
S Brand	S47B	1.5 ab	2.6 cdef	56.6 fghijk
Profiseed	PS1350	1.6 ab	2.4 bcde	55.9 ghijk
Lynks	8165	1.5 ab	2.4 bcde	55.7 ghijk
Pioneer	9181	1.3 ab	2.3 abcd	55.0 hijk
G. Harvest	X257	1.6 ab	2.5 bcde	54.8 ijk
Jacobsen	679	1.6 ab	2.6 cdef	54.4 jk
——	Nebsoy	1.6 ab	2.9 f	51.6 k
Pioneer	1082	1.4 ab	2.3 abcde	43.4 l

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A19. Chlorosis score and seed yield of 50 soybean varieties, Dodge County, 1987.

Brand	Entry	Chlorosis score, weeks after planting 6	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
MSR	6666	1.6 bcd*	1.5 cde*	50.0 a*
G. Harvest	X277	1.7 bcde	1.6 de	49.4 ab
Jacques	J103	1.4 ab	1.4 bcd	48.3 abc
G. Harvest	X257	1.7 bcde	1.6 de	47.2 abcd
N. K.	23-03	1.4 ab	1.4 cde	47.1 abcde
Profiseed	PS1152	1.6 bcd	1.5 cde	47.1 abcde
S Brand	S44A	1.5 abcd	1.5 cde	47.0 abcdef
S Brand	S47B	1.5 abcd	1.5 cde	46.5 abcdefg
Hoegemeyer	200	1.6 bcd	1.5 cde	46.4 abcdefg
Stine	2330	1.5 abcd	1.5 cde	46.3 abcdefgh
Ohlde	2193	1.7 bcde	1.6 de	46.2 abcdefgh
McCubbin	Taylor	1.6 bcd	1.5 cde	45.9 abcdefghi
S Brand	S46D	1.4 ab	1.5 cde	45.7 bcdefghi
Horizon	H29	1.4 abc	1.6 de	45.6 bcdefghi
Horizon	H21	1.6 bcd	1.5 cde	45.6 bcdefghi
NC+	2D90+	1.6 bcd	1.5 cde	45.5 bcdefghi
G. Harvest	H1285	1.6 bcd	1.6 de	45.5 bcdefghi
Jacques	J201	1.4 ab	1.2 ab	45.4 bcdefghi
Horizon	H25	1.6 bcd	1.5 cde	45.4 bcdefghij
N. K.	29-20	1.1 a	1.4 cde	45.4 bcdefghij
Jacques	J231	1.5 abcd	1.3 abc	45.3 bcdefghij
——	BSR 101	1.5 abcd	1.4 cde	45.3 bcdefghij
Superior	SPB308T	1.4 abc	1.5 cde	45.2 bcdefghijk
Stine	2920	1.5 abcd	1.5 cde	45.1 bcdefghijk
Dek-Pfizer	CX283	1.6 bcd	1.5 cde	45.0 cdefghijk
Lynks	8252	1.4 ab	1.5 cde	44.8 cdefghijk
Superior	SPB308	1.6 bcd	1.5 cde	44.5 cdefghijk
Jacobsen	824	1.9 def	1.5 cde	44.1 cdefghijk
Jacobsen	771	1.4 abc	1.5 cde	44.0 cdefghijk
McCubbin	Troy	1.6 bcd	1.5 cde	43.5 defghijkl
Ohlde	2190	2.1 f	2.0 h	43.2 defghijkl
Asgrow	A2187	1.6 bcd	1.1 a	43.1 defghijklm
Dek-Pfizer	CX174	1.5 abcd	1.5 cde	43.0 defghijklm
Fontanelle	F4545	1.6 bcd	1.6 ef	42.9 defghijklm
Hoegemeyer	205	1.8 cdef	1.6 de	42.9 defghijklm
Stine	2050+	1.9 def	1.6 de	42.8 defghijklm
Pioneer	9181	1.6 bcd	1.5 cde	42.8 defghijklm
——	Century 84	1.4 ab	1.6 de	42.7 efghijklm
Profiseed	PS1350	1.9 def	1.5 cde	42.7 efghijklm
MSR	Royal	1.6 bcd	1.5 cde	42.6 fghijklm
NC+	3H49	1.8 cdef	1.6 ef	42.2 ghijklm
——	Mead	1.9 def	1.9 gh	41.8 hijklm
Lynks	8165	1.5 abcd	1.5 cde	41.6 ijklmn
L O'Lakes	L3145	1.5 abcd	1.5 cde	41.0 jklmn
——	Nebsoy	2.1 ef	2.1 h	40.8 klmn
S Brand	S67	1.6 bcd	1.5 cde	39.2 lmno
Jacobsen	679	1.5 abcd	1.5 cde	38.8 mno
Asgrow	A3427	1.1 a	1.4 cde	37.6 no
Fontanelle	X5003	1.7 bcde	1.8 fg	37.6 no
Pioneer	1082	1.5 abcd	1.4 cde	36.7 o

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A20. Chlorosis score and seed yield of 50 soybean varieties, Stanton County, 1987.

Brand	Entry	Chlorosis score, weeks after planting 6	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
Ohlde	2190	1.8 abc*	2.6 cd*	48.2 a*
MSR	6666	1.8 bcd	2.4 abc	46.0 ab
Horizon	H21	1.7 abc	2.4 abc	45.6 abc
G. Harvest	H1285	1.6 abc	2.5 bc	45.3 abcd
McCubbin	Taylor	1.5 abc	2.3 abc	45.0 abcde
Ohlde	2193	1.8 abc	2.4 abc	44.9 abcde
Stine	2330	1.6 abc	2.3 abc	44.7 abcde
Jacques	J103	1.3 a	2.0 a	44.7 abcde
Jacques	J231	1.3 ab	2.3 abc	44.7 abcdef
S Brand	S47B	1.4 ab	2.3 abc	44.7 abcdef
S Brand	S46D	1.3 ab	2.1 ab	44.4 abcdef
Profiseed	PS1152	1.5 abc	2.2 abc	44.3 abcdef
Jacobsen	824	1.6 abc	2.3 abc	44.2 abcdef
S Brand	S44A	1.3 ab	2.1 ab	43.9 abcdefg
Superior	SPB308T	1.5 abc	2.3 abc	43.8 abcdefg
Superior	SPB308	1.5 abc	2.3 abc	43.6 abcdefg
Asgrow	A2187	1.8 abc	2.3 abc	43.5 abcdefg
G. Harvest	X277	2.0 cd	2.6 cd	43.5 abcdefg
Dek-Pfizer	CX174	1.7 abc	2.2 abc	43.5 abcdefg
Profiseed	PS1350	1.6 abc	2.3 abc	43.3 abcdefg
Horizon	H25	1.5 abc	2.2 abc	43.3 abcdefg
G. Harvest	X257	1.5 abc	2.5 bc	43.1 abcdefgh
Hoegemeyer	205	1.6 abc	2.3 abc	43.1 abcdefgh
NC+	2D90+	1.7 abc	2.5 bc	43.1 abcdefgh
N. K.	23-03	1.6 abc	2.1 ab	42.9 abcdefgh
Dek-Pfizer	CX283	1.7 abc	2.3 abc	42.8 bcdefgh
Hoegemeyer	200	1.6 abc	2.3 abc	42.6 bcdefgh
Jacobsen	679	1.5 abc	2.2 abc	42.5 bcdefgh
——	Century 84	1.6 abc	2.6 cd	42.0 bcdefghi
——	BSR 101	1.8 abc	2.3 abc	41.8 bcdefghij
Horizon	H29	1.5 abc	2.3 abc	41.7 bcdefghijk
N. K.	29-20	1.5 abc	2.3 abc	41.7 bcdefghijk
Stine	2050+	1.8 bcd	2.3 abc	41.6 bcdefghijk
MSR	Royal	1.7 abc	2.3 abc	41.3 bcdefghijk
Fontanelle	F4545	1.5 abc	2.3 abc	41.0 bcdefghijk
Stine	2920	1.6 abc	2.3 abc	40.8 bcdefghijk
McCubbin	Troy	1.6 abc	2.5 bc	40.6 cdefghijk
Lynks	8252	1.8 abc	2.4 abc	40.4 cdefghijk
NC+	3H49	2.3 d	2.4 abc	40.4 cdefghijk
Jacques	J201	1.8 abc	2.0 a	40.2 defghijk
Lynks	8165	1.8 abc	2.2 abc	40.0 defghijk
Jacobsen	771	1.6 abc	2.4 abc	39.9 efghijk
S Brand	S67	1.8 abc	2.6 cd	39.8 efghijk
L O'Lakes	L3145	1.4 ab	2.5 bc	39.3 fghijk
——	Nebsoy	2.0 cd	2.9 d	38.7 ghijk
——	Mead	1.7 abc	2.5 bc	37.9 hijk
Pioneer	9181	1.5 abc	2.1 ab	36.9 ijkl
Asgrow	A3427	1.7 abc	2.6 cd	36.7 jkl
Pioneer	1082	1.7 abc	2.3 abc	36.5 kl
Fontanelle	X5003	1.8 abc	2.6 cd	32.3 l

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A21. Chlorosis score and seed yield of 57 soybean varieties, Dodge County, 1988.

Brand	Entry	Chlorosis score, weeks after planting 6	Chlorosis score, weeks after planting 8	Seed yield, bu/ac.
Superior	SPB308	3.6 ab*	3.3 abcd*	21.5 a*
Dek-Pfizer	CX174	3.3 a	3.1 ab	20.7 ab
Jacques	J103	3.9 abcde	2.9 a	20.7 abc
SOI	226	3.8 abcd	3.1 ab	20.6 abc
McCubbin	Taylor	3.7 abc	3.2 abc	20.1 abcd
Horizon	H25	3.7 abc	3.0 a	19.8 abcd
NC+	2D90+	3.7 abc	3.4 abcde	19.3 abcde
Jacques	J231	3.8 abcd	3.3 abcd	19.2 abcde
Profiseed	PS1152	3.8 abcd	3.1 ab	19.2 abcde
Lynks	8280	3.9 abcde	3.3 abcd	19.1 abcde
Profiseed	PS1350	3.6 ab	2.9 a	19.1 abcde
S Brand	S44A	4.0 abcde	3.6 abcdefg	18.9 abcde
Dahlgren	DS-3285	3.8 abcd	3.2 abc	18.8 abcde
Jacobsen	824	3.8 abcd	3.0 a	18.7 abcde
Horizon	H21	4.3 abcdefg	3.7 abcdefg	18.6 abcde
Fontanelle	F4201	3.8 abcd	3.5 abcdef	18.4 abcdef
S Brand	S46D	4.4 bcdefg	3.7 abcdefg	18.1 abcdef
NC+	2K40	3.8 abcd	3.0 a	17.7 abcdefg
S Brand	S47B	4.3 abcdefg	4.1 bcdefghi	17.5 abcdefgh
Dek-Pfizer	CX283	4.2 abcdef	3.3 abcd	17.5 abcdefgh
Asgrow	A3427	3.8 abcd	3.9 abcdefgh	17.4 abcdefgh
Hoegemeyer	205	4.3 abcdefg	3.6 abcdefg	17.4 abcdefgh
Fontanelle	F4545	3.8 abcd	3.7 abcdefg	17.2 abcdefghi
Stine	2050+	4.3 abcdefg	4.1 bcdefghi	17.2 abcdefghi
G. Harvest	H1285	3.8 abcd	2.9 a	17.2 abcdefghi
Stine	2920	4.6 cdefgh	4.1 bcdefghi	16.6 abcdefghi
Horizon	H29	4.5 bcdefgh	3.8 abcdefgh	15.9 bcdefghi
Stine	2330	4.2 abcdef	3.8 abcdefgh	15.6 bcdefghi
Ohlde	2193	4.2 abcdef	3.4 abcde	15.4 bcdefghi
S Brand	S46J	4.3 bcdefg	3.7 abcdefg	15.2 bcdefghi
Stine	2070	4.4 bcdefg	3.3 abcd	15.2 cdefghi
Superior	SPB308T	4.3 abcdefg	4.1 bcdefghi	14.9 defghi
N. K.	29-20	4.5 bcdefgh	4.1 bcdefghi	14.2 efghij
Hoegemeyer	150	4.3 bcdefg	4.2 cdefghi	13.1 fghij
N. K.	X8821	4.7 defgh	4.1 bcdefghi	13.0 fghij
Asgrow	A2187	4.3 bcdefg	3.3 abcd	13.0 fghij
N. K.	23-03	4.1 abcde	3.8 abcdefgh	12.5 ghij
——	Mead	4.8 efghi	4.4 efghijk	12.2 hijk
Asgrow	A2234	4.6 cdefgh	4.4 efghijk	11.8 ijkl
SOI	268	4.5 bcdefgh	4.4 efghijk	9.4 jklm
SOI	285	4.8 efghi	4.6 ghijkl	9.2 jklm
——	Century 84	4.7 defgh	4.4 efghijk	9.2 jklm
——	BSR 101	3.8 abcd	4.1 bcdefghi	7.3 klmn
SRF	200	5.4 hi	5.3 klm	7.2 klmn
G. Harvest	X277	5.1 fghi	4.5 fghijk	7.1 klmn
Hoegemeyer	281	5.1 fghi	4.8 hijklm	6.7 lmn
Lynks	5234	4.6 cdefgh	4.8 hijklm	6.0 mno
SOI	166	4.7 defgh	4.3 defghij	5.8 mnop
Sexauer	SX2080	5.4 hi	5.1 ijklm	5.1 mnopq
Fontanelle	F3850	4.8 efghi	4.6 ghijkl	5.0 mnopq
——	Hoyt	5.2 ghi	5.2 jklm	2.8 nopq
MSR	6666	5.6 i	5.5 lm	2.3 nopq
G. Harvest	X308	5.8 i	5.4 klm	1.2 opq
Sexauer	SX2090	5.8 i	5.6 m	0.7 pq
Horizon	H28	5.8 i	5.4 klm	0.6 q
Jacobsen	972	5.7 i	5.4 klm	0.3 q
——	Nebsoy	5.7 i	5.5 lm	0.3 q

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A22. Chlorosis score and seed yield of 57 soybean varieties, Madison County, 1988.

Brand	Entry	Chlorosis score, weeks after planting		Seed yield,
		6	8	bu/ac.
G. Harvest	H1285	4.2 cdefghi*	3.3 abcdefg*	57.4 a*
Dahlgren	DS-3285	4.2 cdefgh	3.4 bcdefgh	57.0 a
Profiseed	PS1350	3.9 abcde	3.3 abcde	56.2 a
Horizon	H21	4.3 cdefghij	3.4 bcdefgh	55.9 a
Dek-Pfizer	CX283	3.9 abcd	3.3 abcdef	55.5 ab
Lynks	8280	4.1 cdefgh	3.3 abcdefg	55.4 ab
Horizon	H25	4.1 cdefgh	3.4 bcdefgh	54.4 abc
Dek-Pfizer	CX174	3.6 a	2.8 a	54.2 abc
S Brand	S46J	4.3 cdefghij	3.2 abcd	54.2 abc
NC+	2D90+	4.3 cdefghij	3.3 abcdefg	54.1 abc
Superior	SPB308	4.1 cdefgh	3.3 abcdefg	54.1 abc
S Brand	S47B	4.6 ghijklm	3.9 fghijkl	54.1 abc
Stine	2330	4.3 cdefghij	3.5 cdefgh	54.0 abc
Stine	2070	4.3 cdefghij	3.5 cdefgh	53.9 abc
McCubbin	Taylor	4.3 defghij	3.4 bcdefgh	53.7 abcd
Horizon	H29	4.3 defghij	3.3 abcdefg	53.6 abcd
SOI	226	3.9 abcd	3.3 abcde	53.5 abcd
Hoegemeyer	205	4.3 defghij	3.3 abcde	53.5 abcd
Jacques	J231	3.8 abc	2.9 abc	53.4 abcd
Stine	2920	4.4 defghijk	3.3 abcdef	52.9 abcde
Ohlde	2193	4.1 bcdefgh	3.3 abcde	52.8 abcde
Asgrow	A2187	4.1 bcdefgh	3.2 abcde	52.8 abcde
S Brand	S46D	4.3 cdefghij	3.2 abcd	52.6 abcde
Jacobsen	824	4.0 abcdefg	3.3 abcde	52.4 abcde
Stine	2050+	4.5 fghijklm	3.8 efghijk	52.2 abcde
Jacques	J103	3.6 ab	2.8 ab	51.8 abcde
S Brand	S44A	4.3 cdefghij	3.5 cdefghi	51.4 abcde
Superior	SPB308T	4.3 defghij	3.5 cdefghi	50.5 abcdef
Profiseed	PS1152	4.4 defghijk	3.6 defghi	50.4 abcdefg
Fontanelle	F4201	4.0 abcdef	3.1 abcd	50.4 abcdefg
N. K.	23-03	4.3 defghij	3.5 cdefghi	50.0 abcdefgh
Fontanelle	F4545	4.3 defghij	3.5 cdefgh	49.8 abcdefgh
N. K.	29-20	4.4 efghijkl	4.0 hijkl	49.3 abcdefgh
Hoegemeyer	150	4.6 ghijklm	3.4 cdefgh	46.6 bcdefghi
SOI	285	4.8 ijklmn	4.2 jklmn	46.5 bcdefghi
Asgrow	A2234	4.6 ghijklm	3.8 efghijk	45.4 cdefghi
Asgrow	A3427	4.2 cdefgh	3.6 defghi	44.7 defghi
NC+	2K40	4.3 cdefghij	3.8 defghij	44.7 defghi
SRF	200	4.6 hijklm	3.8 defghij	44.1 efghij
Lynks	5234	4.6 ghijklm	4.3 jklmno	42.4 fghij
——	Century 84	4.3 cdefghij	3.9 ghijkl	41.8 ghij
SOI	166	4.6 ghijklm	4.2 jklmn	41.5 hij
——	Mead	4.6 hijklm	4.2 jklmn	40.4 ij
Fontanelle	F3850	4.5 fghijklm	4.1 ijklm	40.1 ij
N. K.	X8821	4.8 ijklmn	4.2 jklmn	38.6 ijk
——	BSR 101	4.9 klmn	4.3 jklmno	36.1 jkl
Sexauer	SX2080	4.8 ijklmn	4.4 lmno	32.0 klm
——	Hoyt	4.8 jklmn	4.4 klmno	31.8 klm
SOI	268	5.0 mno	4.6 mno	30.9 klm
Hoegemeyer	281	5.0 mno	4.8 op	29.2 lm
G. Harvest	X277	5.0 mno	4.7 no	28.3 lmn
MSR	6666	5.0 lmno	4.7 mno	25.8 mn
Sexauer	SX2090	5.4 op	5.3 pqr	21.0 no
Horizon	H28	5.2 no	5.3 pq	17.4 o
G. Harvest	X308	5.7 p	5.8 qr	9.3 p
Jacobsen	972	5.7 p	5.8 r	6.5 p
——	Nebsoy	5.9 p	5.7 qr	4.5 p

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table A23. Chlorosis score and seed yield of 57 soybean varieties, Merrick County, 1988.

Brand	Entry	Chlorosis score, weeks after planting 6	8	Seed yield, bu/ac.
SOI	226	2.8 abcd*	2.4 abcde*	35.0 a*
Dek-Pfizer	CX174	2.3 a	1.8 a	32.6 ab
Jacques	J103	2.6 ab	1.8 ab	32.5 abc
Profiseed	PS1350	2.9 abcdef	2.4 abcde	32.5 abc
Dek-Pfizer	CX283	3.0 abcdef	2.3 abcd	32.3 abcd
Horizon	H21	3.4 cdefgh	2.6 abcde	31.9 abcde
Jacques	J231	2.7 abc	1.9 abc	31.3 abcdef
NC+	2D90+	2.9 abcdef	2.1 abcd	30.4 abcdefg
G. Harvest	H1285	2.9 abcdef	2.5 abcde	30.2 abcdefg
McCubbin	Taylor	3.1 bcdef	2.4 abcde	28.8 abcdefgh
Lynks	8280	2.6 abc	2.1 abcd	28.7 abcdefghi
S Brand	S44A	3.1 bcdef	2.5 abcde	28.4 abcdefghij
Dahlgren	DS-3285	3.1 bcdef	2.4 abcde	27.1 abcdefghij
Fontanelle	F4201	2.9 abcdef	2.5 abcde	27.0 abcdefghijk
SOI	166	2.9 abcde	2.1 abcd	26.9 abcdefghijk
Superior	SPB308	2.9 abcde	2.4 abcde	26.7 bcdefghijk
Stine	2330	3.2 bcdef	2.4 abcde	26.4 bcdefghijk
S Brand	S47B	3.3 bcdefg	2.4 abcde	26.4 bcdefghijk
Fontanelle	F4545	2.9 abcde	2.2 abcd	26.2 bcdefghijk
Hoegemeyer	150	3.3 bcdefg	2.8 cdefg	26.0 bcdefghijk
Fontanelle	F3850	2.9 abcdef	2.3 abcd	25.9 bcdefghijk
Superior	SPB308T	3.6 defgh	2.6 bcdef	25.7 bcdefghijk
Asgrow	A2187	3.1 bcdef	2.6 abcde	25.3 bcdefghijkl
Jacobsen	824	3.3 bcdefg	2.4 abcde	24.7 bcdefghijkl
Stine	2050+	3.2 bcdef	2.9 defg	24.6 bcdefghijkl
Ohlde	2193	2.6 ab	2.2 abcd	24.3 bcdefghijklm
Stine	2920	3.6 defgh	2.8 cdefg	24.3 bcdefghijklm
Hoegemeyer	205	2.9 abcde	2.3 abcd	24.1 bcdefghijklm
S Brand	S46D	3.7 fghi	2.9 defg	24.1 bcdefghijklm
Horizon	H25	3.1 bcdef	2.7 cdefg	24.1 cdefghijklm
Stine	2070	3.3 bcdefg	2.9 defg	24.0 defghijklm
NC+	2K40	3.4 cdefgh	2.6 abcde	23.7 efghijklm
Profiseed	PS1152	3.6 defgh	2.8 cdefg	23.6 efghijklm
Horizon	H29	4.1 hij	3.5 ghi	23.3 fghijklm
SOI	285	3.4 bcdefg	2.9 defg	22.8 fghijklmn
Asgrow	A2234	4.0 ghi	3.4 fgh	22.3 ghijklmn
N. K.	X8821	3.3 bcdefg	2.5 abcde	22.1 ghijklmn
S Brand	S46J	3.1 bcdef	2.3 abcd	22.0 ghijklmn
Lynks	5234	3.4 cdefgh	3.2 efgh	20.6 hijklmn
SOI	268	3.1 bcdef	2.6 bcdef	20.4 hijklmn
Asgrow	A3427	3.0 abcdef	2.7 cdefg	20.2 ijklmn
G. Harvest	X277	3.7 fghi	3.2 efgh	19.9 jklmn
——	Century 84	3.6 defgh	3.2 efgh	18.5 klmno
N. K.	23-03	2.7 abc	2.2 abcd	17.0 lmnop
Hoegemeyer	281	4.4 ijk	3.9 hij	16.2 mnop
N. K.	29-20	3.6 efghi	3.5 ghi	14.9 nop
SRF	200	4.8 jklm	4.2 ijk	11.3 opq
Sexauer	SX2080	4.9 klmn	4.9 klm	10.1 pqr
——	Mead	4.7 jkl	4.4 jkl	6.0 qrs
MSR	6666	4.9 klmn	5.2 mn	5.8 qrs
——	BSR 101	3.6 efghi	3.5 ghi	5.8 qrs
——	Hoyt	4.9 klmn	5.1 lmn	3.8 qrs
G. Harvest	X308	5.3 lmn	5.4 mn	3.4 rs
Horizon	H28	5.4 lmn	5.7 n	3.3 rs
Sexauer	SX2090	5.6 n	5.9 n	2.3 rs
Jacobsen	972	5.5 mn	5.8 n	0.7 s
——	Nebsoy	5.4 lmn	5.9 n	0.5 s

*Values within individual columns followed by the same letter are not significantly different @ .05.

APPENDIX B

Table B1. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Colfax County, 1984.

Variety	Density, seed/foot of row 4.5	9.0	13.5	Mean	F-Test Probabilities Source	Prob.
			Score, 4 weeks after planting			
Century	2.7	2.5	2.3	2.5	Variety (V)	0.05
Nebsoy	3.2	2.7	2.9	2.9	Density (D)	0.39
Stine 2920	2.5	2.4	2.4	2.4	V X D	0.92
Mean	2.8	2.6	2.5	2.6		
			Score, 6 weeks after planting			
Century	3.5	3.5	3.0	3.3	Variety (V)	<0.01
Nebsoy	4.8	4.3	4.1	4.4	Density (D)	0.02
Stine 2920	3.1	2.9	1.8	2.6	V X D	0.67
Mean	3.8	3.6	3.0	3.4		
			Score, 8 weeks after planting			
Century	3.8	3.3	2.6	3.2	Variety (V)	<0.01
Nebsoy	5.2	4.6	4.4	4.7	Density (D)	0.02
Stine 2920	2.1	1.8	1.3	1.7	V X D	0.95
Mean	3.7	3.2	2.8	3.2		
			Seed yield, bushels/acre			
Century	9.9	13.4	21.3	14.9	Variety (V)	<0.01
Nebsoy	1.4	4.0	7.9	4.4	Density (D)	<0.01
Stine 2920	21.7	25.9	24.7	24.1	V X D	0.20
Mean	11.0	14.5	18.0	14.5		

Table B2. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Dixon County, 1984.

Variety	Density, seed/foot of row 4.5	9.0	13.5	Mean	F-Test Probabilities Source	Prob.
			Score, 4 weeks after planting			
Century	2.3	2.4	2.0	2.2	Variety (V)	<0.01
Nebsoy	2.8	2.7	2.7	2.7	Density (D)	0.22
Stine 2920	2.3	2.2	2.1	2.2	V X D	0.77
Mean	2.5	2.4	2.3	2.4		
			Score, 6 weeks after planting			
Century	2.3	2.2	2.0	2.2	Variety (V)	<0.01
Nebsoy	3.1	2.5	2.9	2.8	Density (D)	<0.01
Stine 2920	2.3	1.9	1.8	2.0	V X D	0.33
Mean	2.6	2.2	2.2	2.3		
			Score, 8 weeks after planting			
Century	2.4	2.2	2.2	2.3	Variety (V)	<0.01
Nebsoy	3.3	2.6	3.0	3.0	Density (D)	<0.01
Stine 2920	2.3	1.9	1.8	2.0	V X D	0.37
Mean	2.7	2.2	2.3	2.4		
			Seed yield, bushels/acre			
Century	10.8	14.5	17.6	14.3	Variety (V)	<0.01
Nebsoy	2.5	7.5	5.6	5.2	Density (D)	<0.01
Stine 2920	10.4	13.0	17.5	13.6	V X D	0.06
Mean	7.9	11.7	13.6	11.0		

Table B3. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Dodge County, 1984.

	Density, seed/foot of row				F-Test Probabilities	
Variety	4.5	9.0	13.5	Mean	Source	Prob.
			Score, 4 weeks after planting			
Century	3.6	3.5	3.1	3.4	Variety (V)	<0.01
Nebsoy	4.4	4.0	4.2	4.2	Density (D)	0.04
Stine 2920	3.7	2.7	2.6	3.0	V X D	0.45
Mean	3.9	3.4	3.3	3.5		
			Score, 6 weeks after planting			
Century	3.9	4.0	3.2	3.7	Variety (V)	<0.01
Nebsoy	4.9	4.6	4.9	4.8	Density (D)	0.03
Stine 2920	4.0	2.7	2.9	3.2	V X D	0.05
Mean	4.3	3.8	3.7	3.9		
			Score, 8 weeks after planting			
Century	3.5	3.6	2.5	3.2	Variety (V)	<0.01
Nebsoy	5.4	5.5	5.2	5.4	Density (D)	0.01
Stine 2920	3.6	2.2	2.1	2.6	V X D	0.10
Mean	4.2	3.8	3.3	3.7		
			Seed yield, bushels/acre			
Century	15.8	19.2	32.3	22.4	Variety (V)	<0.01
Nebsoy	2.7	3.7	2.3	2.9	Density (D)	<0.01
Stine 2920	12.2	34.0	37.2	27.8	V X D	<0.01
Mean	10.2	19.0	23.9	17.7		

Table B4. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Lincoln County, 1984.

	Density, seed/foot of row				F-Test Probabilities	
Variety	4.5	9.0	13.5	Mean	Source	Prob.
			Score, 4 weeks after planting			
Century	3.8	3.1	3.2	3.4	Variety (V)	<0.01
Nebsoy	3.8	3.7	3.8	3.8	Density (D)	<0.01
Stine 2920	3.6	3.5	3.1	3.4	V X D	<0.01
Mean	3.7	3.4	3.4	3.5		
			Score, 8 weeks after planting			
Century	4.8	4.0	4.0	4.3	Variety (V)	<0.01
Nebsoy	6.0	5.8	5.7	5.8	Density (D)	<0.01
Stine 2920	5.2	4.0	3.3	4.2	V X D	0.01
Mean	5.3	4.6	4.3	4.7		
			Seed yield, bushels/acre			
Century	6.0	14.2	14.9	11.7	Variety (V)	<0.01
Nebsoy	0.0	1.0	1.3	0.8	Density (D)	<0.01
Stine 2920	2.9	14.1	20.6	12.5	V X D	<0.01
Mean	3.0	9.8	12.3	8.3		

Table B5. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Merrick County, 1984.

	Density, seed/foot of row				F-Test Probabilities	
Variety	4.5	9.0	13.5	Mean	Source	Prob.
			Score, 6 weeks after planting			
Century	2.9	2.8	2.6	2.8	Variety (V)	0.12
Nebsoy	3.4	3.2	3.0	3.2	Density (D)	0.92
Stine 2920	2.6	2.8	3.1	2.8	V X D	0.44
Mean	3.0	2.9	2.9	2.9		
			Score, 8 weeks after planting			
Century	2.8	2.7	2.5	2.7	Variety (V)	<0.01
Nebsoy	3.6	3.2	3.0	3.3	Density (D)	0.29
Stine 2920	2.8	2.7	2.8	2.8	V X D	0.66
Mean	3.1	2.8	2.8	2.9		
			Seed yield, bushels/acre			
Century	15.2	22.6	33.8	23.9	Variety (V)	<0.01
Nebsoy	4.8	9.1	21.5	11.8	Density (D)	<0.01
Stine 2920	15.8	24.8	34.5	25.0	V X D	0.97
Mean	11.9	18.8	30.0	20.2		

Table B6. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Colfax County, 1985.

	Density, seed/foot of row				F-Test Probabilities	
Variety	4.5	9.0	13.5	Mean	Source	Prob.
			Score, 4 weeks after planting			
Century	3.2	2.7	2.7	2.8	Variety (V)	<0.01
Nebsoy	3.8	3.2	3.3	3.4	Density (D)	0.01
Stine 2920	3.2	3.0	2.8	3.0	V X D	0.72
Mean	3.4	2.9	2.9	3.1		
			Score, 6 weeks after planting			
Century	4.2	3.7	3.2	3.7	Variety (V)	<0.01
Nebsoy	5.0	4.5	4.5	4.7	Density (D)	<0.01
Stine 2920	3.8	3.7	3.3	3.6	V X D	0.40
Mean	4.3	3.9	3.7	4.0		
			Score, 8 weeks after planting			
Century	4.2	3.7	3.2	3.7	Variety (V)	<0.01
Nebsoy	5.7	5.2	4.8	5.2	Density (D)	<0.01
Stine 2920	3.7	3.7	3.5	3.6	V X D	0.24
Mean	4.5	4.2	3.8	4.2		
			Seed yield, bushels/acre			
Century	0.6	12.4	13.8	8.9	Variety (V)	<0.01
Nebsoy	0.0	0.6	0.0	0.2	Density (D)	0.09
Stine 2920	7.4	15.6	17.6	13.5	V X D	0.59
Mean	2.7	9.5	10.5	7.6		

Table B7. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Douglas County, 1985.

	Density, seed/foot of row				F-Test Probabilities	
Variety	4.5	9.0	13.5	Mean	Source	Prob.
			Score, 4 weeks after planting			
Century	4.5	4.1	4.4	4.3	Variety (V)	0.15
Nebsoy	4.8	4.8	4.3	4.6	Density (D)	0.26
Stine 2920	4.3	4.4	3.9	4.2	V X D	0.56
Mean	4.5	4.4	4.2	4.4		
			Score, 6 weeks after planting			
Century	4.9	4.4	4.4	4.5	Variety (V)	0.02
Nebsoy	5.4	5.4	4.5	5.1	Density (D)	0.06
Stine 2920	4.3	4.6	3.6	4.2	V X D	0.61
Mean	4.8	4.8	4.2	4.6		
			Score, 8 weeks after planting			
Century	4.8	4.3	4.5	4.5	Variety (V)	<0.01
Nebsoy	5.6	5.8	4.4	5.3	Density (D)	0.02
Stine 2920	4.8	4.4	3.4	4.2	V X D	0.32
Mean	5.0	4.8	4.1	4.6		
			Seed yield, bushels/acre			
Century	6.2	12.7	10.6	9.8	Variety (V)	0.03
Nebsoy	1.8	0.6	8.5	3.6	Density (D)	0.02
Stine 2920	6.5	8.2	26.3	13.7	V X D	0.21
Mean	4.8	7.2	15.1	9.0		

Table B8. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Madison County, 1985.

	Density, seed/foot of row				F-Test Probabilities	
Variety	4.5	9.0	13.5	Mean	Source	Prob.
			Score, 4 weeks after planting			
Century	3.3	3.3	2.8	3.1	Variety (V)	<0.01
Nebsoy	4.0	3.5	3.6	3.7	Density (D)	0.05
Stine 2920	3.2	3.3	2.8	3.1	V X D	0.47
Mean	3.5	3.4	3.1	3.3		
			Score, 6 weeks after planting			
Century	3.9	3.8	3.4	3.7	Variety (V)	<0.01
Nebsoy	4.7	4.1	4.1	4.3	Density (D)	0.03
Stine 2920	3.6	3.5	3.3	3.5	V X D	0.63
Mean	4.1	3.8	3.6	3.8		
			Score, 8 weeks after planting			
Century	3.2	2.9	2.3	2.8	Variety (V)	<0.01
Nebsoy	4.3	3.4	3.5	3.8	Density (D)	<0.01
Stine 2920	2.8	2.5	2.4	2.6	V X D	0.46
Mean	3.4	2.9	2.8	3.0		
			Seed yield, bushels/acre			
Century	41.4	45.2	52.8	46.8	Variety (V)	<0.01
Nebsoy	20.7	43.8	44.1	35.7	Density (D)	<0.01
Stine 2920	43.7	50.6	53.5	49.2	V X D	<0.01
Mean	34.9	46.4	50.5	43.9		

Table B9. Influence of variety and seeding density on chlorosis score and seed yield of soybeans, Merrick County, 1985.

	Density, seed/foot of row				F-Test Probabilities	
Variety	**4.5**	**9.0**	**13.5**	**Mean**	**Source**	**Prob.**
			Score, 4 weeks after planting			
Century	3.3	2.7	2.4	2.8	Variety (V)	<0.01
Nebsoy	3.8	3.5	3.2	3.5	Density (D)	<0.01
Stine 2920	3.3	3.0	2.5	2.9	V X D	0.88
Mean	3.5	3.1	2.7	3.1		
			Score, 6 weeks after planting			
Century	3.6	3.0	2.3	3.0	Variety (V)	<0.01
Nebsoy	4.2	4.3	3.6	4.0	Density (D)	<0.01
Stine 2920	3.5	3.0	2.0	2.8	V X D	0.26
Mean	3.8	3.4	2.6	3.3		
			Score, 8 weeks after planting			
Century	3.1	2.1	1.5	2.2	Variety (V)	<0.01
Nebsoy	4.2	3.8	3.0	3.7	Density (D)	<0.01
Stine 2920	2.8	1.6	1.7	2.0	V X D	0.24
Mean	3.4	2.5	2.1	2.6		
			Seed yield, bushels/acre			
Century	19.8	32.5	39.2	30.5	Variety (V)	<0.01
Nebsoy	7.1	12.6	24.5	14.7	Density (D)	<0.01
Stine 2920	25.9	35.6	39.6	33.7	V X D	0.49
Mean	17.6	26.9	34.4	26.3		

APPENDIX C

Table C1. Chlorosis score six weeks after planting of 18 soybean varieties grown with two rates of iron chelate (Fe-EDDHA), Colfax County, 1986.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
NC+	2D90+	3.5 a*	2.7 a*	3.1 a*
Hoegemeyer	200	3.4 a	2.8 a	3.1 a
S Brand	S46D	3.8 ab	2.6 a	3.2 a
Fontanelle	4545	3.9 ab	2.8 a	3.3 a
S Brand	S44A	3.8 ab	2.8 a	3.3 a
Jacques	J103	4.0 ab	2.8 a	3.4 a
Stine	2920	4.1 ab	2.7 a	3.4 a
G. Harvest	H1285	4.1 ab	2.7 a	3.4 a
Dek-Pfizer	CX283	4.3 ab	2.6 a	3.4 a
S Brand	S47B	4.1 ab	2.9 a	3.5 a
Stine	2050+	4.1 ab	3.0 a	3.5 a
——	Century 84	4.3 ab	2.8 a	3.5 a
McCubbin	Taylor	3.8 ab	3.0 a	3.5 a
——	Mead	4.7 b	3.0 a	3.7 a
Hoegemeyer	205	4.3 ab	3.2 a	3.7 a
MSR	Royal	4.3 ab	3.2 a	3.7 a
Superior	SPB308	4.5 b	3.0 a	3.8 a
——	Nebsoy	4.8 b	4.1 b	4.5 b

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C2. Chlorosis score eight weeks after planting of 18 soybean varieties grown with two rates of iron chelate (Fe-EDDHA), Colfax County, 1986.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
NC+	2D90+	2.9 ab*	2.1 a*	2.5 a*
Hoegemeyer	200	2.8 a	2.3 a	2.5 a
S Brand	S46D	3.3 abc	1.9 a	2.6 a
Jacques	J103	3.4 abcd	2.1 a	2.8 a
Dek-Pfizer	CX283	3.8 abcd	1.9 a	2.8 a
S Brand	S44A	3.4 abcd	2.3 a	2.8 a
G. Harvest	H1285	3.7 abcd	2.0 a	2.8 a
Fontanelle	4545	3.6 abcd	2.2 a	2.9 a
Stine	2920	3.7 abcd	2.3 a	3.0 a
MSR	Royal	3.5 abcd	2.5 a	3.0 a
S Brand	S47B	3.8 abcd	2.3 a	3.0 a
Stine	2050+	3.5 abcd	2.7 a	3.1 a
McCubbin	Taylor	3.4 abcd	2.5 a	3.1 a
Hoegemeyer	205	3.8 abcd	2.7 a	3.2 a
——	Mead	4.2 bcd	2.5 a	3.3 a
Superior	SPB308	4.3 cd	2.5 a	3.4 a
——	Century 84	4.2 bcd	2.7 a	3.4 a
——	Nebsoy	4.6 d	4.1 b	4.5 b

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C3. Seed yield (bu/ac) of 18 soybean varieties grown with two rates of iron chelate (Fe-EDDHA), Colfax County, 1986.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
Jacques	J103	29.0 ab*	49.0 a*	39.0 a*
NC+	2D90+	32.4 a	44.4 abc	38.4 ab
S Brand	S44A	29.7 ab	44.9 abc	37.3 abc
S Brand	S46D	29.4 ab	44.6 abc	37.0 abc
Hoegemeyer	200	33.3 a	40.0 abc	36.7 abc
Stine	2050+	30.3 ab	38.9 abc	34.6 abc
G. Harvest	H1285	24.5 abc	44.0 abc	34.2 abc
Superior	SPB308	21.9 abc	45.3 ab	33.3 abc
Stine	2920	22.8 abc	43.6 abc	33.2 abc
Fontanelle	4545	25.6 abc	39.9 abc	32.8 abc
Dek-Pfizer	CX283	23.9 abc	41.4 abc	32.7 abc
MSR	Royal	27.9 ab	37.2 abc	32.5 abc
S Brand	S47B	24.8 abc	35.6 abc	30.2 abc
Hoegemeyer	205	27.0 ab	32.4 bc	29.7 abc
——	Mead	10.9 c	41.9 abc	29.1 abc
McCubbin	Taylor	25.4 abc	30.8 c	26.4 bc
——	Century 84	16.1 bc	36.0 abc	26.0 c
——	Nebsoy	11.0 c	11.7 d	10.4 d

*Values within individual columns followed by the sameletter are not significantly different @ .05.

Table C4. Chlorosis score six weeks after planting of 18 soybean varieties grown with two rates of iron chelate (Fe-EDDHA), Dodge County, 1986.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
McCubbin	Taylor	4.0 a*	2.5 ab*	3.3 a*
Fontanelle	4545	4.0 a	2.7 abc	3.3 ab
Superior	SPB308	4.0 a	2.8 abcd	3.4 abc
S Brand	S46D	4.3 ab	2.7 abc	3.5 abc
Stine	2050+	4.8 ab	2.3 a	3.6 abc
Stine	2920	4.3 ab	2.8 abcd	3.6 abc
Hoegemeyer	200	4.7 ab	2.7 abc	3.7 abc
NC+	2D90+	4.5 ab	2.8 abcd	3.7 abc
Jacques	J103	4.2 a	3.3 cdef	3.8 abc
——	Century 84	4.2 a	3.5 def	3.8 abc
Hoegemeyer	205	4.8 ab	3.0 abcde	3.9 abc
G. Harvest	H1285	4.7 ab	3.3 cdef	4.0 abc
——	Mead	5.0 ab	3.2 bcde	4.1 abcd
Dek-Pfizer	CX283	4.8 ab	3.3 cdef	4.1 abcd
S Brand	S44A	5.2 ab	3.2 bcde	4.2 bcd
MSR	Royal	5.2 ab	3.3 cdef	4.3 cd
S Brand	S47B	4.8 ab	3.7 ef	4.3 cd
——	Nebsoy	5.7 b	4.0 f	4.8 d

*Values within individual columns followed by the sameletter are not significantly different @ .05.

Table C5. Chlorosis score eight weeks after planting of 18 soybean varieties grown with two rates of iron chelate (Fe-EDDHA), Dodge County, 1986.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
McCubbin	Taylor	2.8 a*	1.5 ab*	2.2 a*
Fontanelle	4545	3.2 abc	1.3 a	2.3 ab
S Brand	S46D	3.0 ab	1.7 abc	2.3 abc
NC+	2D90+	3.3 abc	1.5 ab	2.4 abcd
Superior	SPB308	2.8 a	2.0 abcd	2.4 abcd
Hoegemeyer	200	3.3 abc	1.8 abcd	2.6 abcd
Stine	2920	3.3 abc	2.2 abcd	2.8 abcde
Stine	2050+	3.8 abc	1.7 abc	2.8 abcde
Jacques	J103	3.0 ab	2.7 d	2.8 abcde
Dek-Pfizer	CX283	3.7 abc	2.2 abcd	2.9 abcde
Hoegemeyer	205	3.7 abc	2.2 abcd	2.9 abcde
——	Century 84	3.3 abc	2.7 d	3.0 abcde
G. Harvest	H1285	3.7 abc	2.5 cd	3.1 bcde
S Brand	S47B	3.8 abc	2.5 cd	3.2 cde
S Brand	S44A	4.0 abc	2.3 bcd	3.2 cde
——	Mead	4.2 bc	2.3 bcd	3.3 de
MSR	Royal	4.3 cd	2.7 d	3.5 e
——	Nebsoy	5.3 d	3.8 e	4.6 f

*Values within individual columns followed by the sameletter are not significantly different @ .05.

Table C6. Seed yield (bu/ac) of 18 soybean varieties grown with two rates of iron chelate (Fe-EDDHA), Dodge County, 1986.

		Fe-EDDHA, lbs/ac		
Brand	**Entry**	**0**	**5**	**Mean**
S Brand	S46D	36.4 a*	48.9 ab*	42.6 a*
Fontanelle	4545	33.3 ab	48.6 ab	40.9 ab
Jacques	J103	31.2 ab	50.7 a	40.9 ab
McCubbin	Taylor	33.5 ab	48.2 ab	40.9 ab
NC+	2D90+	28.8 abc	50.0 a	39.4 abc
Superior	SPB308	27.3 abc	48.2 ab	37.7 abcd
Stine	2920	26.6 abc	47.6 ab	37.1 abcd
Hoegemeyer	200	25.1 abc	49.0 ab	37.1 abcd
——	Century 84	32.1 ab	40.5 bc	36.3 abcd
G. Harvest	H1285	19.4 abcd	47.7 ab	33.6 abcd
Dek-Pfizer	CX283	21.6 abc	44.4 abc	33.0 abcde
Stine	2050+	15.3 bcd	49.6 a	32.5 abcde
S Brand	S47B	19.4 abcd	44.0 abc	31.7 bcde
Hoegemeyer	205	20.3 abc	42.7 abc	31.5 bcde
——	Mead	14.4 bcd	43.1 abc	28.8 cde
S Brand	S44A	14.0 bcd	40.8 bc	27.4 de
MSR	Royal	9.7 cd	36.5 c	23.1 e
——	Nebsoy	0.6 d	9.5 d	5.0 f

*Values within individual columns followed by the sameletter are not significantly different @ .05.

Table C7. Chlorosis score six weeks after planting of 18 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Colfax County, 1987.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
Stine	2330	4.0 a*	2.9 ab*	1.8 a*	2.9 a*
Dek-Pfizer	CX283	4.1 ab	2.9 ab	2.0 ab	3.0 ab
Jacques	J103	4.3 ab	2.7 a	2.3 abcde	3.1 abc
S Brand	S44A	4.3 ab	2.8 ab	2.2 abcd	3.1 abc
Hoegemeyer	200	4.1 ab	3.0 abc	2.4 bcde	3.2 abc
S Brand	S46D	4.4 ab	3.0 abc	2.1 abc	3.2 abc
Hoegemeyer	205	4.3 ab	3.3 bcd	2.3 abcde	3.3 abc
McCubbin	Taylor	4.3 ab	3.0 abc	2.6 bcde	3.3 abc
NC+	2D90+	4.5 ab	3.1 abc	2.5 bcde	3.4 bc
G. Harvest	H1285	4.8 abc	3.0 abc	2.4 bcde	3.4 bc
——	Century 84	4.3 ab	3.1 abc	2.8 de	3.4 bc
S Brand	S47B	4.3 ab	3.4 cd	2.6 bcde	3.4 bc
MSR	Royal	4.7 abc	3.3 bcd	2.4 bcde	3.4 bc
Fontanelle	4545	4.6 ab	3.2 bcd	2.7 cde	3.5 bc
Stine	2920	4.8 bc	3.2 bcd	2.5 bcde	3.5 cd
Stine	2050+	4.6 ab	3.3 bcd	2.8 de	3.5 cd
——	Mead	5.3 cd	3.6 d	2.8 e	3.9 d
——	Nebsoy	5.9 d	4.3 e	3.5 f	4.6 e

*Values within individual columns followed by the same letter are notsignificantly different @ .05.

Table C8. Chlorosis score eight weeks after planting of 18 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Colfax County, 1987.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
Stine	2330	3.6 a*	2.3 ab*	1.4 a*	2.4 a*
Jacques	J103	4.3 ab	2.2 a	1.5 ab	2.7 ab
Dek-Pfizer	CX283	4.3 ab	2.3 ab	1.8 abc	2.8 abc
S Brand	S44A	4.5 ab	2.3 ab	1.7 ab	2.8 abc
S Brand	S46D	4.4 ab	2.4 ab	1.8 abc	2.9 abc
McCubbin	Taylor	4.4 ab	2.3 ab	2.0 abc	2.9 abc
Stine	2920	5.0 bcd	2.5 abc	1.8 abc	3.1 abcd
Hoegemeyer	205	4.3 ab	3.0 abc	2.1 abc	3.1 abcd
Hoegemeyer	200	4.6 abc	2.8 abc	2.0 abc	3.1 abcd
S Brand	S47B	4.2 ab	3.1 bc	2.3 abc	3.2 abcd
——	Century 84	4.8 abc	2.7 abc	2.2 abc	3.2 abcd
NC+	2D90+	4.9 bcd	2.6 abc	2.3 abc	3.3 bcd
MSR	Royal	4.9 bcd	3.0 abc	2.3 abc	3.4 bcd
Fontanelle	4545	4.7 abc	2.9 abc	2.6 c	3.4 bcd
Stine	2050+	4.9 bcd	3.1 bc	2.3 bc	3.4 bcd
G. Harvest	H1285	5.2 bcd	3.0 abc	2.3 bc	3.5 cd
——	Mead	5.7 cd	3.3 c	2.6 c	3.9 d
——	Nebsoy	6.0 d	5.2 d	4.2 d	5.1 e

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C9. Seed yield (bu/ac) of 18 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Colfax County, 1987.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
Stine	2330	19.6 a*	40.4 abc*	42.2 ab*	34.1 a*
S Brand	S44A	13.1 abc	41.2 a	45.0 a	33.1 ab
Dek-Pfizer	CX283	15.9 ab	40.7 ab	42.1 ab	32.9 ab
McCubbin	Taylor	13.0 abc	38.4 abc	43.7 a	31.7 abc
Hoegemeyer	200	11.5 abcd	39.6 abc	42.4 ab	31.1 abc
S Brand	S46D	10.9 abcd	36.8 abc	42.7 a	30.1 abc
Jacques	J103	11.9 abcd	36.8 abc	41.4 ab	30.0 abc
Hoegemeyer	205	10.2 abcd	32.6 abc	42.5 a	28.4 abc
S Brand	S47B	13.2 abc	30.3 c	41.6 ab	28.4 abc
NC+	2D90+	6.2 bcd	36.4 abc	38.5 abc	27.0 abc
——	Century 84	6.3 bcd	34.8 abc	38.2 abc	26.4 bc
MSR	Royal	5.4 bcd	35.7 abc	37.9 abc	26.3 bc
Stine	2050+	4.5 bcd	30.9 bc	41.8 ab	25.7 bc
G. Harvest	H1285	2.2 cd	33.7 abc	39.5 ab	25.1 c
Fontanelle	4545	9.4 abcd	30.9 bc	34.3 bc	24.9 c
Stine	2920	0.7 d	33.1 abc	38.8 abc	24.2 c
——	Mead	0.2 d	19.5 d	31.5 c	17.1 d
——	Nebsoy	0.0 d	0.7 e	6.7 d	2.4 e

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C10. Chlorosis score six weeks after planting of 18 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Dawson County, 1987.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
Stine	2920	1.3 ab*	1.1 a*	1.1 a*	1.1 a*
——	Century 84	1.2 a	1.3 ab	1.2 ab	1.2 ab
Jacques	J103	1.2 a	1.3 ab	1.3 abc	1.2 abc
S Brand	S46D	1.3 ab	1.3 ab	1.3 abc	1.3 abcd
MSR	Royal	1.5 b	1.3 ab	1.1 a	1.3 abcd
Dek-Pfizer	CX283	1.4 ab	1.3 ab	1.3 abc	1.3 abcd
S Brand	S44A	1.3 ab	1.4 ab	1.3 abc	1.3 abcd
S Brand	S47B	1.5 b	1.4 ab	1.3 abc	1.4 bcd
Stine	2330	1.4 ab	1.4 ab	1.3 abcd	1.4 bcd
G. Harvest	H1285	1.3 ab	1.4 ab	1.4 bcd	1.4 bcd
Stine	2050+	1.3 ab	1.5 b	1.4 bcd	1.4 bcd
——	Mead	1.4 ab	1.4 ab	1.4 bcd	1.4 bcd
Hoegemeyer	200	1.4 ab	1.4 ab	1.4 bcd	1.4 bcd
NC+	2D90+	1.4 ab	1.4 ab	1.4 bcd	1.4 bcd
Hoegemeyer	205	1.4 ab	1.4 ab	1.5 cd	1.4 bcd
Fontanelle	4545	1.4 ab	1.4 ab	1.6 d	1.5 cd
McCubbin	Taylor	1.5 b	1.5 b	1.5 cd	1.5 d
——	Nebsoy	1.5 b	1.5 b	1.5 cd	1.5 d

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C11. Chlorosis score eight weeks after planting of 18 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Dawson County, 1987.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
Stine	2920	2.4 a*	2.3 a*	2.4 ab*	2.4 a*
Jacques	J103	2.4 a	2.3 ab	2.4 ab	2.4 a
NC+	2D90+	2.4 a	2.4 abc	2.5 abc	2.4 a
MSR	Royal	2.6 a	2.4 abc	2.3 a	2.4 a
S Brand	S46D	2.4 a	2.4 abc	2.5 abc	2.4 a
Hoegemeyer	200	2.5 a	2.4 abc	2.5 abc	2.5 a
——	Century 84	2.5 a	2.5 abcd	2.4 ab	2.5 a
S Brand	S44A	2.5 a	2.6 abcd	2.3 a	2.5 a
Dek-Pfizer	CX283	2.6 a	2.5 abcd	2.4 ab	2.5 a
——	Mead	2.6 a	2.4 abc	2.5 abc	2.5 a
Hoegemeyer	205	2.7 ab	2.4 abc	2.5 abc	2.5 a
S Brand	S47B	2.6 a	2.5 abcd	2.5 abc	2.5 a
Stine	2330	2.6 a	2.6 abcd	2.5 abc	2.6 a
G. Harvest	H1285	2.4 a	2.6 abcd	2.7 bc	2.6 a
McCubbin	Taylor	2.5 a	2.7 bcd	2.5 abc	2.6 a
Fontanelle	4545	2.7 ab	2.7 bcd	2.5 abc	2.6 ab
Stine	2050+	2.6 a	2.8 cd	2.6 abc	2.6 ab
——	Nebsoy	3.0 b	2.8 d	2.8 c	2.9 b

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C12. Seed yield (bu/ac) of 18 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Dawson County, 1987.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
——	Mead	54.0 a*	56.9 a*	56.9 a*	55.9 a*
G. Harvest	H1285	55.6 a	55.7 ab	52.5 abc	54.6 ab
S Brand	S47B	53.0 a	53.3 ab	54.4 ab	53.5 abc
McCubbin	Taylor	55.3 a	50.6 abc	52.5 abc	52.8 abc
Stine	2920	54.8 a	54.2 ab	48.5 bcd	52.5 abc
Hoegemeyer	200	51.6 a	53.0 ab	52.0 abcd	52.2 abc
NC+	2D90+	52.6 a	51.6 abc	51.9 abcd	52.0 abc
MSR	Royal	50.7 ab	53.1 ab	50.4 abcd	51.4 abc
Hoegemeyer	205	52.9 a	50.0 abc	50.7 abcd	51.2 abc
S Brand	S46D	53.1 a	49.5 abc	50.9 abcd	51.2 abc
Stine	2050+	52.1 a	51.1 abc	50.2 abcd	51.1 abc
S Brand	S44A	52.4 a	50.0 abc	50.9 abcd	51.1 abc
Jacques	J103	52.0 a	49.8 abc	49.6 abcd	50.4 abc
Dek-Pfizer	CX283	48.7 ab	51.9 abc	50.4 abcd	50.3 abc
Fontanelle	4545	48.4 ab	49.4 abc	50.1 abcd	49.3 bcd
——	Century 84	48.5 ab	48.6 abc	46.9 bcd	48.0 cd
Stine	2330	49.4 ab	47.0 bc	45.9 cd	47.4 cd
——	Nebsoy	44.4 b	43.8 c	44.5 d	44.2 d

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C13. Chlorosis score six weeks after planting of 27 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Colfax County, 1988.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
NC+	2D90+	5.2 ab*	3.6 ab*	3.3 abcd*	4.0 a*
G. Harvest	H1285	5.3 ab	3.6 a	3.8 bcdef	4.0 ab
Horizon	H25	5.2 ab	3.7 ab	3.1 ab	4.1 ab
Ohlde	2193	4.9 a	3.9 abcdef	3.6 abcdef	4.1 ab
Fontanelle	F4545	5.0 a	3.8 abcde	3.4 abcd	4.1 ab
McCubbin	Taylor	5.0 a	3.8 abcd	3.6 abcdef	4.1 ab
Jacques	J103	5.2 ab	3.8 abcd	3.0 a	4.1 ab
Jacques	J231	5.4 ab	3.8 abcd	3.4 abcd	4.1 abc
S Brand	S46D	5.4 ab	3.8 abcd	3.3 abcd	4.2 abc
——	BSR 101	5.4 ab	3.9 abcdef	3.3 abc	4.2 abc
Hoegemeyer	205	5.3 ab	4.1 abcdef	3.3 abcd	4.2 abc
Profiseed	PS1350	5.3 ab	3.7 abc	3.5 abcde	4.2 abc
Dek-Pfizer	CX283	4.9 a	4.1 abcdef	3.8 cdefg	4.2 abc
S Brand	S44A	5.2 ab	3.7 ab	3.8 bcdef	4.3 abcd
Profiseed	PS1152	5.2 ab	4.3 bcdefg	3.6 abcdef	4.3 abcd
Asgrow	A2187	5.4 ab	4.3 bcdefg	3.8 bcdef	4.3 abcd
N. K.	23-03	4.9 a	3.9 abcdef	4.0 defg	4.4 abcde
Stine	2050+	5.4 ab	4.0 abcdef	3.6 abcdef	4.4 abcde
Superior	SPB308	5.3 ab	3.9 abcdef	3.7 bcdef	4.4 abcde
S Brand	S47B	5.5 ab	4.1 abcdef	3.5 abcde	4.4 abcde
Stine	2330	5.5 ab	4.0 abcdef	3.7 bcdef	4.4 abcde
Asgrow	A3427	5.5 ab	4.4 defg	4.0 defg	4.5 abcde
Stine	2920	5.4 ab	4.4 cdefg	3.9 cdefg	4.6 bcde
Horizon	H29	5.3 ab	4.5 efg	3.9 cdefg	4.7 cde
——	Century 84	5.5 ab	4.4 cdefg	4.2 efg	4.7 cde
N. K.	29-20	5.8 b	4.6 fg	4.3 fg	4.8 de
——	Mead	5.7 b	4.8 g	4.4 g	5.0 e

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C14. Chlorosis score eight weeks after planting of 27 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Colfax County, 1988.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
Ohlde	2193	5.0 abc*	4.0 ab*	3.7 ab*	4.1 a*
NC+	2D90+	5.3 abc	3.8 a	3.6 ab	4.1 a
McCubbin	Taylor	4.9 ab	4.0 ab	3.8 abc	4.2 a
Dek-Pfizer	CX283	4.8 a	4.2 abcd	3.8 abc	4.2 a
Horizon	H25	5.1 abc	4.0 ab	3.5 ab	4.3 ab
S Brand	S46D	5.2 abc	4.2 abcd	3.8 abc	4.3 ab
Jacques	J103	5.2 abc	4.1 abc	3.3 a	4.3 ab
Profiseed	PS1350	5.1 abc	4.1 abc	3.8 abcd	4.3 abc
S Brand	S47B	5.3 abc	4.0 ab	3.6 ab	4.3 abc
Jacques	J231	5.4 abc	4.3 abcde	3.7 ab	4.4 abc
Asgrow	A2187	5.4 abc	4.4 abcde	3.8 abc	4.4 abc
Hoegemeyer	205	5.5 abc	4.2 abcd	3.7 ab	4.4 abc
G. Harvest	H1285	5.6 abc	3.8 a	4.3 bcdef	4.4 abc
Profiseed	PS1152	5.4 abc	4.3 abcde	3.7 ab	4.4 abcd
Fontanelle	F4545	5.2 abc	4.3 abcde	3.9 abcde	4.5 abcd
S Brand	S44A	5.3 abc	3.8 a	3.9 abcd	4.5 abcd
Stine	2330	5.6 abc	4.3 abcde	3.9 abcde	4.6 abcd
Superior	SPB308	5.4 abc	4.1 abc	4.1 bcdef	4.6 abcd
Stine	2050+	5.5 abc	4.4 abcde	4.0 abcdef	4.7 abcd
Stine	2920	5.4 abc	4.6 bcde	4.0 abcdef	4.7 abcd
N. K.	23-03	5.0 abc	4.4 abcde	4.5 cdef	4.7 abcd
——	BSR 101	5.4 abc	4.7 bcde	4.2 bcdef	4.8 abcd
Horizon	H29	5.5 abc	4.6 bcde	4.1 abcdef	4.8 abcd
Asgrow	A3427	5.6 abc	4.8 bcde	4.6 def	4.9 bcd
N. K.	29-20	5.8 c	4.8 cde	4.6 def	5.0 cd
——	Century 84	5.7 bc	4.9 de	4.7 ef	5.1 d
——	Mead	5.7 bc	5.0 e	4.8 f	5.1 d

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C15. Seed yield (bu/ac) of 27 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Colfax County, 1988.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
McCubbin	Taylor	12.3 a*	28.4 a*	31.3 a*	24.5 a*
Dek-Pfizer	CX283	10.1 abc	26.7 ab	30.6 a	23.7 ab
NC+	2D90+	8.8 abcd	27.5 ab	30.2 a	22.7 abc
Ohlde	2193	10.7 ab	23.4 abc	29.3 a	22.3 abc
Profiseed	PS1350	10.4 ab	25.5 abc	30.1 a	21.9 abc
S Brand	S46D	7.5 abcd	24.2 abc	30.0 a	21.4 abc
G. Harvest	H1285	5.6 abcd	27.7 ab	24.0 a	21.3 abc
Superior	SPB308	5.9 abcd	23.8 abc	28.9 a	20.2 abc
Fontanelle	F4545	10.0 abc	20.8 abc	27.8 a	20.0 abcd
S Brand	S44A	8.9 abcd	30.8 a	27.3 a	20.0 abcd
Asgrow	A2187	6.9 abcd	20.6 abc	28.7 a	19.9 abcd
Hoegemeyer	205	5.8 abcd	21.8 abc	29.0 a	19.6 abcd
S Brand	S47B	3.5 abcd	22.3 abc	31.2 a	18.6 abcde
Horizon	H25	7.6 abcd	24.2 abc	26.7 a	18.5 abcde
Profiseed	PS1152	8.2 abcd	19.7 abcd	27.9 a	18.4 abcde
Jacques	J103	7.0 abcd	23.1 abc	32.8 a	17.5 abcde
Jacques	J231	4.6 abcd	18.8 abcde	25.8 a	17.1 abcde
Stine	2330	0.0 d	22.5 abc	25.8 a	15.8 abcdef
Stine	2050+	4.8 abcd	16.3 bcdef	25.1 a	14.8 bcdef
Stine	2920	2.7 abcd	19.2 abcd	25.2 a	14.5 cdefg
Horizon	H29	2.7 abcd	8.8 def	22.1 a	11.0 defgh
N. K.	23-03	8.8 abcd	13.6 cdef	10.0 b	10.3 efgh
——	BSR 101	1.5 bcd	8.1 ef	12.6 b	7.6 fgh
N. K.	29-20	0.0 d	6.4 f	11.1 b	6.3 gh
Asgrow	A3427	0.0 d	5.3 f	8.4 b	5.4 h
——	Mead	0.4 cd	6.3 f	9.2 b	5.3 h
——	Century 84	1.9 bcd	5.1 f	9.0 b	5.1 h

*Values within individual columns followed by the same letter are not significantly different @ .05.

Table C16. Seed yield (bu/ac) of 27 soybean varieties grown with three rates of iron chelate (Fe-EDDHA), Merrick County, 1988.

		Fe-EDDHA, lbs/ac			
Brand	**Entry**	**0**	**2.5**	**5.0**	**Mean**
S Brand	S44A	43.5 a*	42.3 ab*	43.3 ab*	43.1 a*
Jacques	J103	42.2 ab	40.8 ab	43.8 a	42.3 ab
Hoegemeyer	205	40.9 abc	42.7 ab	42.5 ab	42.0 ab
Stine	2330	39.9 abc	42.4 ab	42.5 ab	41.6 abc
Profiseed	PS1350	43.5 a	38.7 abc	42.4 ab	41.5 abc
S Brand	S47B	37.9 abcde	43.5 a	43.1 ab	41.5 abc
NC+	2D90+	41.9 ab	38.9 abc	41.7 abc	40.8 abcd
Horizon	H25	42.5 ab	41.8 ab	37.7 abcd	40.7 abcd
Superior	SPB308	40.5 abc	40.7 ab	39.8 abc	40.3 abcd
G. Harvest	H1285	39.6 abcd	40.5 ab	40.6 abc	40.2 abcd
Ohlde	2193	40.9 abc	39.2 abc	39.6 abc	39.9 abcde
Stine	2050+	39.2 abcd	40.8 ab	39.0 abc	39.6 abcde
Profiseed	PS1152	40.3 abc	39.0 abc	39.0 abc	39.4 abcdef
Fontanelle	F4545	39.0 abcd	35.1 bcd	41.1 abc	38.3 abcdef
Horizon	H29	36.1 abcde	36.7 abc	41.2 abc	38.0 abcdef
Stine	2920	38.8 abcd	38.0 abc	36.1 abcde	37.6 abcdefg
Jacques	J231	36.1 abcde	38.1 abc	37.9 abcd	37.3 bcdefg
S Brand	S46D	35.8 abcde	36.1 abc	38.1 abc	36.7 bcdefg
McCubbin	Taylor	37.4 abcde	35.6 bcd	35.9 bcde	36.3 cdefg
N. K.	29-20	35.8 abcde	35.4 bcd	36.0 bcde	35.7 defg
Dek-Pfizer	CX283	31.3 def	39.4 abc	35.5 bcde	34.5 defg
——	Mead	32.6 cdef	35.4 bcd	34.1 cdef	34.0 fgh
Asgrow	A3427	34.8 bcde	32.5 cde	30.2 efg	32.5 ghi
Asgrow	A2187	30.2 ef	27.7 ef	30.7 defg	29.5 hij
N. K.	23-03	30.1 ef	25.0 f	28.3 fg	27.8 ij
——	BSR 101	26.4 f	28.8 def	25.7 g	27.0 j
——	Century 84	26.0 f	27.3 ef	26.3 g	26.5 j

*Values within individual columns followed by the same letter are not significantly different @ .05.