

2016 Soybean Field Crop Trials Results



Minnesota Agricultural Experiment Station and the College of Food, Agricultural and Natural Resource Sciences

Each year Minnesota Agricultural Experiment Station scientists conduct performance tests of appropriately adapted public and private soybean entries. Companies are charged a fee for each entry they enter to partially cover the costs of conducting these tests. One of the stipulations of the testing program is that the company is marketing or intends to begin marketing the entry in the next growing season. This information is also available electronically at www.soybeans.umn.edu or www.mnsoybean.org.

The 2016 growing conditions were near ideal during most of the season. Planting was generally earlier than during the last five years. The 2016 crop of soybeans in Minnesota generally matured and were harvested at the same time as they have been during the last five years. Harvesting of the variety trials was accomplished with little delay and was mainly finished by the third week of October.

Tables 1 to 4 provide results from tests of available conventional, special purpose, and transgenic entries adapted to the far northern, northern, central and southern production zones. The map shows test locations and zone boundaries. All of these tests were planted between May 2 and June 1 at planting rates of 160,000 seeds/acre.

Herbicides were used as necessary for good weed control. Row spacings were 10 inches at Roseau, Callaway, Downer, Gary, Moorhead, Shelly, Thief River Falls; 12 inches at

Location	2016 Planting Date
Becker	May 2
Callaway	May 14
Crookston	May 11
Danvers	May 16
Downer	May 12
Fairfax	May 26
Gary	May 14
Lamberton	May 23
Moorhead	May 13
Morris	May 10
Roseau	May 18
Rosemount	June 1
Shelly	May 13
Thief River Falls	May 14
Waseca	May 23
Westbrook	May 24

Crookston; and 30 inches at all other locations. Plots were machine harvested using a small plot combine. The trials at Thief River Falls were lost due to excessive rainfall.

Tables 5 to 10 provide characteristics and performance data from special-purpose soybean entry tests. These tests were conducted to provide reliable data for growers who are interested in producing special-purpose soybeans, which are typically grown under contract.

Table 11 provides important characteristics of publicly developed entries in the 2016 tests as well as those for which seed is available.

Tables 12 to 14 provide results from the performance tests of soybean cyst nematode (SCN) resistant entries in infested field sites near Callaway, Danvers, Downer, Gary, Fairfax, Lamberton, Rosemount, and Waseca. Egg

counts for the fields were not available at the time of publication. SCN pressure should be gauged by comparing a susceptible check to resistant varieties within that same range of maturity (+/- 5 days).

Table 15 displays results from greenhouse tests conducted by the Nematology Laboratory at the University of Minnesota Southern Research and Outreach Center in Waseca, MN. Plants were grown in soil inoculated with an HG type 0 (race 3) population of soybean cyst nematode.

To better understand and use the data provided in these tables, please carefully read the following additional information.



Locations of 2016 soybean trials.

Relative Maturity and Calendar Dates of Maturity

Soybeans are photoperiod sensitive; that is, they respond to changing day length. The actual calendar date of maturity achievement is affected by latitude. Each entry has a narrow range (about 100 miles) of north-south adaptation. Soybean yield and quality are best achieved when physiological maturity occurs before a hard frost. Maturity is determined visually by noting the calendar date when 95 percent of the pods show their genetically programmed mature color. The dates for 2016 are provided in the tables under the column heading "Maturity Date." Harvest dates are typically 7 to 14 days later depending upon drying conditions. Almost all entries were essentially mature before a hard frost.

Relative maturity ratings are also provided for each entry. These ratings consist of a number for the maturity group designations (000, 00, 0, 1, 2) followed by a decimal and another number, ranging from 0-9, which indicates a ranking within each maturity group. For example the entry MN0101 indicates a 0.1, making it an early group 0, while MN0901, with a 0.9 rating, is the latest group 0. The values for public entries are developed after observing them for several years in many locations. Relative maturity ratings for private entries in these tables were provided by their originators and were developed in a similar manner.

Yield

Because maturity is a very important attribute, entries are arranged in the tables in order of their actual or estimated 2016 calendar date of maturity and not yield performance.

Later maturing entries usually can be expected to have higher yields than earlier maturing types. If you wish to compare yields, do so only between entries with similar calendar dates of maturity, usually within 3 to 5 days. More reliable comparisons can

be made using yields from several consecutive years. All yield determinations were made from replicated tests harvested with a plot combine.

The yield information is presented as a percent of the mean of the test. The actual mean value is given at the bottom of each table. Values over 100 indicate the entry had a yield greater than the mean while those less than 100 have a yield less than the mean.

LSD values associated with data in these tables are measures of variability within the trials. The LSD numbers beneath the yield columns indicate whether the difference between yields is due to genetics or other factors, such as environmental variation and measurement error. If yield differences between two entries equals or exceeds the LSD value, the higher-yielding entry probably was superior in yield. A difference less than the LSD value is probably due to environmental and/or measurement factors. The LSD values are given on the percent of mean data, not the actual yields. A 20% level of significance is used in all these tables. This means that yield differences exceeding the stated LSD value are real 80% of the time.

Chlorosis

Chlorosis is a yield-limiting condition in soybeans grown in alkaline soils with high calcium carbonate or calcium sulfate ions present, making iron unavailable and causing the soybean plants to turn yellow. This yellowing is visually scored on a 1 to 5 scale, where 1 indicates no yellowing and 5 indicates severe yellowing and necrosis that may even include death of the plant.

Research has shown that for every unit increase in chlorosis, a 20% reduction in yield may occur. For example, a plot rated at 3 may yield 20% less than a plot given a rating of 2. All iron deficiency chlorosis (IDC) ratings in tables are from tests conducted on high lime (high pH) soils near Danvers,

MN in 2016. Comparing chlorosis scores of entries allows you to estimate how well they perform relative to each other. Actual chlorosis ratings can vary depending on the specific site and year of test. Because of this high level of variability, it is usually very difficult to identify the best performing entries. Producers with a known history of IDC problems may find it more useful to avoid entries with the most severe (4 or 5) IDC ratings. Different organizations may use different scales or descriptions. A comparison of three different chlorosis rating systems follows.

Numerical Score		Rating
1-5 scale	1-9 scale	
1 to 2	1 to 2.5	Tolerant (T)
2.1 to 3	2.6 to 5	Moderately Tolerant (MT)
3.1 to 4	5.1 to 7.5	Moderately Susceptible (MS)
4.1 to 5	7.5 to 9	Susceptible (S)

Protein and Oil

Protein and oil values were determined from mature seed using near infrared reflectance spectroscopy. **The tabled values are for the 2016 season only.** Protein and oil results are presented on a percent of the mean for each test. The actual mean values, expressed on a 13% moisture basis, are given at the bottom of each table. Values over 100 indicate the protein and/or oil contents of the entry are greater than the mean value while those less than 100 have protein and/or oil contents less than the mean. Absolute values of protein and oil can vary from year to year. The formula, on the next page, is used to adjust the protein and oil values to another moisture basis.

$$\frac{100 - \text{desired moisture}}{87} \times \text{protein or oil value given in the table}$$

The value of a bushel of soybeans (APV) based on its oil and protein content can be calculated by:

$$\text{APV} = 60 \left[\text{Po} (X) + \frac{\text{Pm} (Y)}{.44} \right]$$

Where:

APV = Approximate value of a bushel of soybeans
 Po = soybean oil price (in \$ per pound)
 Pm = price of 44% meal (in \$ per pound)*
 X = oil content at 13% moisture (in decimals)
 Y = protein content at 13% moisture (in decimals)

And:

$$\frac{\text{*price of meal \$ / ton}}{2,000} = \$ / \text{pound}$$

The value of an acre of soybeans can be calculated by multiplying the APV by the yield in bushels per acre.

Phytophthora

Phytophthora root rot is a soil-borne disease that occurs in heavy wet soils. Infection generally occurs during germination. Phytophthora root rot can cause significant yield reductions if susceptible varieties are planted in poorly drained, infested fields. Variety selection is the best defense against this yield reducing pathogen. There are several known races of this fungus, so it is important to know which are present in a particular field. Genes can be incorporated into varieties to provide resistance to specific races of this disease.

Genes for resistance to various races of Phytophthora root rot are listed in the following table.

Genes for resistance to various races of Phytophthora root rot.	
Gene	Races
Rps1-a	1, 2, 10, 11, 13, 15-18, 24, 26, 27
Rps1-b	1, 3-9, 13-15, 17, 18, 21, 22
Rps1-c	1-3, 6-11, 13, 15, 17, 21, 23, 24, 26
Rps1-k	1-11, 13-15, 17, 18, 21, 22, 24, 26
Rps3-a	1-5, 8, 9, 11, 13, 14, 16, 18, 23, 25
Rps4	1-4, 10, 12-16, 18-21, 25
Rps6	1-4, 10, 12, 14-16, 18-21, 25

Some published information refers to Phytophthora “tolerance” or “field resistance,” which is not race-specific and should not be confused with race specific resistance as indicated in the above table. Reliable tests for tolerance have not yet been fully developed.

Tables included in this report indicate which Phytophthora gene or genes is/are present in each entry. This information was provided by the originator. A “1” is inserted next to the Phytophthora gene claimed where the claimed resistance was not verified by greenhouse evaluation. A “NS” indicates that a Phytophthora gene was not specified by the originator.

Soybean Cyst Nematode

Soybean Cyst Nematode (SCN) is a microscopic round worm that infects and reproduces in soybean roots. It was first identified in Minnesota in 1978 and is now known to occur in most Minnesota counties where soybeans are grown. Both the area of infestation and number of nematodes per unit of soil appear to be increasing. Several HG types (or races) of this pest are known to occur in Minnesota. When SCN numbers are high (> than 5,000 eggs/100 cc soil), significant yield losses can occur. Rotations to non-host crops and planting of resistant entries can assist in reducing nematode populations as well as reducing its impact on yield.

Yield performance results of susceptible (S), moderately susceptible (MS), moderately resistant (MR) and resistant (R) entries planted in infested fields in northern, central and southern Minnesota are provided in Tables 12 to 14. The source for SCN resistance for each entry was supplied by the originator. In Table 15 the resistance ratings were given based on a greenhouse bioassay with five replicates using an HG Type 0 (Race 3) SCN population. Each container (one plant)

was inoculated with 4000 SCN eggs. After 30 days a female index (FI) was calculated for each entry using Lee 74 as the susceptible check. $FI = (\# \text{ of cysts on entry} / \# \text{ of cysts on Lee 74}) \times 100$. If the FI was < 10%, an entry was considered R. If the FI was 10 – 30%, it was considered MR. If the FI was 30-60%, it was considered MS, and greater than 60% S.

For proper management of fields with SCN, it is recommended that entries with an R rating be planted. If the SCN population numbers are relatively low (<1500) an entry with an MR rating might be considered. Entries with S and MS ratings should not be considered for planting in fields where SCN is present. Some entries are rated as tolerant, however no data from the northern United States has verified the usefulness of tolerant entries in maintaining yield and reducing SCN numbers.

Management information is available from the web site www.soybeans.umn.edu or from the Minnesota Soybean Research and Promotion Council, 151 St. Andrews Court, Suite 710, Mankato, MN 56001, 1-888-896-9678, www.mnsoybean.org.

White Mold

White mold, also known as Sclerotinia stem rot, develops in infested fields when high relative humidity and moderate temperatures occur during soybean flowering. Planting less susceptible entries in wider row spacings or at lower populations is the most effective method of reducing the severity of white mold. Accurate ratings for resistance to white mold are difficult to obtain because both infection and disease development are dependent on weather conditions. Because of this variability, performance can change significantly among locations and years depending on the interaction of plant development, precipitation, relative humidity and temperature. White mold severity also tends to be greater

if lodging occurs. Growers concerned about performance in the presence of white mold should select varieties that show consistently less white mold during several years of testing. MN0091 and MN0701 are public varieties with better than average resistance to white mold.

Brown Stem Rot

Brown stem rot (BSR) is a fungal disease that can cause yield losses in certain situations. The disease occurs most frequently when soybeans follow soybeans but can occur where soybeans are planted every other year. Resistant entries or longer rotations, assist in the management of this disease. MN0304, MN0902CN, MN1302, Freeborn and IA2008R are available public varieties with resistance to BSR. Some information refers to “tolerance” or “field resistance.” Reliable tests for tolerance or field resistance have not yet been developed.

Special-Use Entries

There continues to be increased interest in producing soybeans with special characteristics important to specialty food product manufacturers, such as

tofu, natto, miso and soy milk. Soybean scientists previously developed some of these special-purpose entries, which were general releases, but more recently entries have been released under exclusive or nonexclusive licenses to specific companies who then contract with growers for production. For further information contact Minnesota Crop Improvement Association at web site www.mncia@tc.umn.edu or telephone number 612-625-7766.

Seed Treatments

Entrants were allowed to enter treated seed in 2016. The type of seed treatment, as provided by the originator, is designated as follows:

- AC = Acceleron
- ARTA = ApronMaxx RTA
- CC=Clariva Complete
- CM = Cruiser Maxx
- CMO = Cruiser Maxx w/OPTIMIZE
- CMVC = Cruiser Maxx + Vibrance + Clariva pn
- EPVI=EverGol + Poncho/VOTiVO + ILeVO
- MA=Maximum ArmourGuard
- SCS=SmartCote Supreme

Research indicates that under some conditions seed treatments can affect the final yield. The exact situations are not always clear but when comparing entries note if a seed treatment was used on the seed being tested.

In some tables the transgenic trait is indicated in a separate column using the following designations:

- CV = conventional variety (non-transgenic)
- LL = LibertyLink (glufosinate resistant)
- GT = glyphosate tolerant
- R2 = Roundup Ready 2 Yield (glyphosate resistant)
- R2-Ext = Roundup Ready 2 Xtend
- STS = sulfonylurea tolerant

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Test Plot Research

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Names and email addresses of seed company representatives that entered varieties into the 2016 trials.

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Titan Pro SCI	Darren Bakken	darrenbakken@titanprosci.com
Viking Seed	Jake Hansen	jake@alseed.com

Soybean	
Planting Rate and Date	
Bushel Weight, Pounds.....	60
Seeds/Pound.....	2,800
Seeds/Acre.....	160,000
Planting Rate, Seeds/Ft. of Row	
7-inch rows.....	2
10-inch rows.....	3
20-inch rows.....	6
22-inch rows.....	7
30-inch rows.....	9
Planting Date.....	May 2 to June 1

Table 1. Performance and characteristics of conventional, special purpose and transgenic soybean entries, far northern zone; Crookston and Roseau.

Entry	Originator	Maturity Date	Yield % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil					
PB-00727R2	Prairie Brand Seeds	9/9	—	84	98	101	00.7	Rps3a+Rps1c	2.0	CC	R2
5601RR2Y	Dahlman	9/14	—	104	99	107	0.1	Rps1c	2.0	None	R2
67009X	Dahlman	9/14	—	104	99	95	00.9	Rps1k	1.8	None	R2-Ext
DSR-0225/R2Y	Dairyland Seed	9/14	—	96	99	105	0.2	Rps1c	2.5	CMO	R2
Integra 50098	Integra Seed	9/14	—	95	99	97	00.9	Rps1c	2.8	CM	R2-Ext
Integra 20126	Integra Seed	9/15	—	107	100	99	0.1	Rps3a	2.0	CM	R2
PB-0146R2	Prairie Brand Seeds	9/15	103	90	99	106	0.1	Rps3a+Rps1c1	2.8	CC	R2
Integra 20097	Integra Seed	9/16	—	102	98	106	00.9	Rps1c	2.0	CM	R2
DSR-C918/R2Y	Dairyland Seed	9/16	109	101	101	99	00.9	Rps1k	2.8	CMO	R2
17X03	Peterson Farms Seed	9/16	—	100	101	99	0.3	Rps1c	3.0	None	R2-Ext
XT604	Proseed	9/17	—	105	102	97	0.4	Rps3a	1.3	CM	R2-Ext
PB-00856R2	Prairie Brand Seeds	9/17	92	102	101	100	00.9	Rps3a+Rps1c	3.0	CC	R2
XT603	Proseed	9/17	—	101	98	100	0.3	Rps1c	2.8	CM	R2-Ext
56009NRR2Y	Dahlman	9/17	—	98	102	100	00.9	Rps1c+Rps3a	2.5	None	R2
DSR-0305/R2Y	Dairyland Seed	9/18	—	106	100	100	0.3	Rps1k	2.3	CMO	R2+STS
Integra 20087	Integra Seed	9/19	—	102	101	100	00.8	Rps1k	3.0	CM	R2
16R06N	Peterson Farms Seed	9/20	—	105	104	97	0.6	Rps3a	2.3	None	R2
PB-0397R2	Prairie Brand Seeds	9/20	—	100	100	97	0.1	NS	2.0	CC	R2
11 50	Proseed	9/21	—	97	99	99	0.5	NS	1.5	CM	R2
Mean		9/16	41 bu/a	63 bu/a	34%	19%			2.3		
LSD 20%		1 d	11%	7%	2%	3%			0.9		

Table 2. Performance and characteristics of conventional, special purpose and transgenic soybean entries, northern zone; Crookston, Moorhead and Shelly.

Entry	Originator	Maturity Date	Yield % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil					
ND Henson	NDSU	9/10	—	90	100	103	00.9	Rps3a+Rps4	3.3	ARTA	CV
CZ 0201 LL	Bayer Crop Science	9/11	—	88	97	107	0.2	Rps1a	3.5	EPVI	LL
DSR-C918/R2Y	Dairyland Seed	9/12	—	88	102	100	00.9	Rps1k	3.0	CMO	R2
CZ 0121 LL	Bayer Crop Science	9/13	—	95	98	104	0.1	Rps1k	3.0	EPVI	LL
DSR-0225/R2Y	Dairyland Seed	9/13	—	97	99	107	0.2	Rps1c	3.0	CMO	R2
17X03	Peterson Farms Seed	9/15	—	97	98	101	0.3	Rps1c	4.5	None	R2-Ext
MK0249*	Richland IFC, Inc	9/15	75	91	95	98	0.2	Rps1a	3.5	None	CV
XT603	Proseed	9/15	—	94	101	100	0.3	Rps1c	3.0	CM	R2-Ext
XT604	Proseed	9/15	—	101	100	98	0.4	Rps3a	4.3	CM	R2-Ext
DSR-0305/R2Y	Dairyland Seed	9/16	105	104	100	100	0.3	Rps1k	4.3	CMO	R2+STS
PB-0397R2	Prairie Brand Seeds	9/17	—	100	102	98	0.1	NS	2.3	CC	R2
16R06N	Peterson Farms Seed	9/18	112	111	102	99	0.6	Rps3a	3.0	None	R2
DSR-0619/R2Y	Dairyland Seed	9/18	110	111	104	97	0.6	Rps3a	3.8	CMO	R2
MK9404CN*	Richland IFC, Inc	9/18	—	92	101	109	0.6	Rps1k	4.8	None	CV
PB-0598R2	Prairie Brand Seeds	9/18	108	102	102	96	0.5	Rps3a	3.3	CC	R2
PB-0676R2	Prairie Brand Seeds	9/18	105	111	105	98	0.6	Rps3a	2.5	CC	R2
X16051R2	Prairie Brand Seeds	9/18	—	103	100	98	0.4	NS	2.8	CC	R2
11 50	Proseed	9/19	—	105	100	96	0.5	NS	4.5	CM	R2
50-60N	Proseed	9/19	—	100	103	99	0.6	Rps3a	3.8	CM	R2
CZ 0525 LL	Bayer Crop Science	9/19	102	112	102	102	0.5	NS	3.8	EPVI	LL
FG0822CN*	NFGSA	9/19	—	103	102	99	0.8	NS	3.8	None	CV
MK0603*	Richland IFC, Inc	9/19	—	93	100	93	0.6	Rps1a	3.3	None	CV
MK0508*	Richland IFC, Inc	9/20	74	85	96	98	0.8	Rps1a	4.3	None	CV
DSR-0807/R2Y	Dairyland Seed	9/21	—	102	102	97	0.8	Rps1c	3.0	CMO	R2
15R07N	Peterson Farms Seed	9/22	107	110	99	102	0.7	Rps1c	2.8	None	R2
DSR-0711/R2Y	Dairyland Seed	9/22	—	109	97	102	0.7	Rps1k	3.5	CMO	R2
PB-0777R2	Prairie Brand Seeds	9/22	117	105	99	99	0.6	Rps1c	2.5	CC	R2
DSR-0988/R2Y	Dairyland Seed	9/24	—	98	98	98	0.9	Rps1c	2.8	CMO	R2
Mean		9/17	52 bu/a	68 bu/a	34%	19%			3.3		
LSD 20%		1 d	8%	6%	2%	2%			1.3		

*Designates Special Purpose Variety.

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value, the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 3. Performance and characteristics of conventional, special purpose and transgenic soybean entries, central zone; Becker, Morris and Rosemount.

Entry	Originator	Maturity Date	Yield % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil					
ND Henson	NDSU AES	9/1	—	64	100	105	00.9	Rps3a+Rps4	4.3	ARTA	CV
Ashtabula	NDSU AES	9/7	—	68	98	106	0.4	Rps3a+Rps4	4.5	ARTA	CV
MK0508*	Richland IFC, Inc	9/9	61	56	98	97	0.8	Rps1a	3.0	None	CV
MK0603*	Richland IFC, Inc	9/10	—	62	104	91	0.6	Rps1a	3.5	None	CV
MK42*	Richland IFC, Inc	9/11	71	62	108	96	0.7	Rps1c1	2.5	None	CV
CZ 0525 LL	Bayer Crop Science	9/12	88	86	101	104	0.5	NS	3.3	EPVI	LL
MK1016*	Richland IFC, Inc	9/12	55	57	102	96	1.0	Rps1a	4.3	None	CV
MK9404CN*	Richland IFC, Inc	9/12	—	73	102	103	0.6	Rps1k	4.3	None	CV
XT607	Proseed	9/12	—	89	99	104	0.7	Rps3a	3.3	CM	R2-Ext
CZ 0767 RY	Bayer Crop Science	9/13	90	93	101	101	0.7	Rps1c	2.8	EPVI	R2
MK808CN*	Richland IFC, Inc	9/13	—	83	100	101	0.8	Rps1c	4.3	None	CV
Codington	So Dakota AES	9/14	74	80	103	100	0.9	Rps1k1	3.8	None	CV
DSR-0711/R2Y	Dairyland Seed	9/14	101	89	99	101	0.7	Rps1k	3.5	CMO	R2
FG0822CN*	NFGSA	9/14	—	97	104	98	0.8	NS	4.3	None	CV
Roberts	So Dakota AES	9/14	70	82	102	102	0.6	Rps1k	5.0	None	CV
30-80	Proseed	9/15	—	93	100	100	0.8	NS	2.8	CM	R2
DSR-0807/R2Y	Dairyland Seed	9/15	—	91	102	97	0.8	Rps1c	3.0	CMO	R2
TP-09X25	Titan Pro SCI	9/15	—	101	102	99	0.9	Rps3a	4.5	None	R2-Ext
AG0835	Monsanto-Asgrow	9/16	107	100	99	101	0.8	Rps1c	2.3	AC	R2
AG0934	Monsanto-Asgrow	9/16	104	104	100	100	0.9	Rps3a	4.5	AC	R2
DSR-0988/R2Y	Dairyland Seed	9/16	—	98	98	99	0.9	Rps1c	2.8	CMO	R2
PB-0987R2	Prairie Brand Seeds	9/16	—	105	97	100	0.8	Rps1c	1.5	CC	R2
XT610	Proseed	9/16	—	96	100	99	0.7	Rps3a+Rps1c	3.8	CM	R2-Ext
MK9101*	Richland IFC, Inc	9/17	75	79	106	98	1.0	Rps1a	5.0	None	CV
DSR-1120/R2Y	Dairyland Seed	9/18	92	90	99	103	1.1	Rps1k	4.8	CMO	R2
MK41*	Richland IFC, Inc	9/18	85	88	105	92	1.1	Rps1c	5.0	None	CV
CZ 1332 LL	Bayer Crop Science	9/19	104	106	104	95	1.3	NS	3.5	EPVI	LL
DSR-1313/R2Y	Dairyland Seed	9/19	—	107	101	101	1.3	Rps1c	4.0	CMO	R2
TP-12X55	Titan Pro SCI	9/19	—	110	103	97	1.2	Rps3a	3.8	None	R2-Ext
PB-1376R2	Prairie Brand Seeds	9/20	—	110	99	100	1.3	Rps1c	4.0	CC	R2
15M22	Titan Pro SCI	9/21	—	111	99	104	1.5	Rps1c	4.5	None	R2
17X14N	Peterson Farms	9/21	—	105	97	101	1.4	Rps1c	4.3	None	R2-Ext
AG1435	Monsanto-Asgrow	9/21	111	112	101	101	1.4	Rps1c	3.3	AC	R2
DSR-1526/R2Y	Dairyland Seed	9/21	—	106	97	104	1.5	Rps1c	3.0	CMO	R2
O.2188AT12N	Viking	9/21	—	106	101	97	2.1	NS	4.5	None	CV
PB-1257R2	Prairie Brand Seeds	9/21	—	111	97	100	1.2	Rps1c	2.8	CC	R2
PB-1466R2	Prairie Brand Seeds	9/21	102	107	102	99	1.4	Rps1k	4.0	CC	R2
17X18N	Peterson Farms	9/22	—	89	99	102	1.8	Rps1c	5.0	None	R2-Ext
NS61882N XR2	NorthStar Genetics	9/22	—	103	97	101	1.8	Rps1c	4.5	None	R2-Ext
AG1636	Monsanto-Asgrow	9/22	—	111	101	101	1.6	Rps1c	3.5	AC	R2
CZ 1201 LL	Bayer Crop Science	9/22	—	103	103	96	1.2	Rps1c	2.5	EPVI	LL
Davison	So Dakota AES	9/22	85	93	101	95	2.2	Rps1k	5.0	None	CV
1518N	Viking	9/23	87	102	98	100	1.5	NS	4.5	None	CV
153R2Y	Anderson Seeds	9/23	111	111	98	104	1.5	Rps1c	4.3	None	R2
NS1916NR2	NorthStar Genetics	9/23	107	108	101	101	2.0	Rps1k	4.0	None	R2
CZ 1787 RY	Bayer Crop Science	9/23	102	102	98	100	1.7	Rps1c	4.0	EPVI	R2
NS1528NR2	NorthStar Genetics	9/24	109	109	99	104	1.5	Rps1c	4.5	None	R2
167RXT	Anderson Seeds	9/24	—	107	102	97	1.6	Rps1c	4.5	None	R2-Ext
Brookings	So Dakota AES	9/24	84	90	99	98	1.7	Rps1k	4.5	None	CV
TP-16X36	Titan Pro SCI	9/24	—	98	101	98	1.6	Rps1c	4.8	None	R2-Ext
AG1733	Monsanto-Asgrow	9/25	111	117	98	102	1.7	Rps1c	3.8	AC	R2
CZ 1623 LL	Bayer Crop Science	9/25	103	104	103	98	1.6	NS	4.8	EPVI	LL
DSR-1721/R2Y	Dairyland Seed	9/25	109	110	100	102	1.7	Rps1k	4.8	CMO	R2
DSR-1870/R2Y	Dairyland Seed	9/25	—	111	100	101	1.8	Rps1c	3.3	CMO	R2
e1993*	Schillinger Genetics	9/25	—	97	96	99	1.9	Rps1c	3.8	CM	CV
185R2Y	Anderson Seeds	9/26	114	109	99	102	1.8	Rps1k	4.8	None	R2
PB-1787R2	Prairie Brand Seeds	9/26	—	120	99	100	1.7	Rps1c	4.0	CC	R2
PB-1822R2	Prairie Brand Seeds	9/26	110	114	97	101	1.8	Rps1k	4.3	CC	R2
TP-18R24	Titan Pro SCI	9/26	—	118	97	102	1.8	Rps1k	4.5	None	R2

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Table 3 (continued). Performance and characteristics of conventional, special purpose and transgenic soybean entries, central zone; Becker, Morris and Rosemount.

Entry	Originator	Maturity Date	Yield % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil					
NS1776NR2	NorthStar	9/27	109	114	98	102	1.7	Rps1k	3.3	None	R2
NS2031NR2	NorthStar Genetics	9/27	110	117	99	101	2.0	Rps1c	4.3	None	R2
NS62002NXR2	NorthStar Genetics	9/27	—	113	99	101	2.1	Rps1c	3.0	None	R2-Ext
217RXT	Anderson Seeds	9/27	—	118	99	100	2.1	Rps1c	4.5	None	R2-Ext
AG1935	Monsanto-Asgrow	9/27	—	103	99	102	1.9	Rps1c	2.3	AC	R2
CZ 1845 LL	Bayer Crop Science	9/27	96	99	98	102	1.8	Rps1k	3.8	EPVI	LL
PB-1947R2	Prairie Brand Seeds	9/27	113	116	97	99	1.9	Rps1c	4.8	CC	R2
TP-20R25	Titan Pro SCI	9/27	—	118	98	101	2.0	Rps1c	5.0	None	R2
17X17N	Peterson Farms Seed	9/28	—	105	101	100	1.7	Rps3a	3.5	None	R2-Ext
187RXT	Anderson Seeds	9/28	—	106	101	98	1.8	Rps3a	4.3	None	R2-Ext
2018N	Viking	9/28	—	111	98	101	2.0	Rps1a	4.8	None	CV
206R2Y	Anderson Seeds	9/28	113	119	98	102	2.0	Rps1c	4.3	None	R2
NS2282NR2	NorthStar Genetics	9/28	—	101	97	99	2.2	Rps1c	3.8	None	R2
DSR-2017/R2Y	Dairyland Seed	9/28	—	105	100	98	2.0	Rps1c	4.8	CMO	R2
DSR-2110/R2Y	Dairyland Seed	9/28	114	116	100	96	2.1	Rps1c	3.8	CMO	R2
PB-1956R2	Prairie Brand Seeds	9/28	112	125	100	100	1.9	Rps1c	5.0	CC	R2
TP-17X26	Titan Pro SCI	9/28	—	105	100	98	1.7	Rps3a	3.0	None	R2-Ext
TP-21R55	Titan Pro SCI	9/28	—	112	98	102	2.1	Rps1c	3.8	None	R2
TP-21X46	Titan Pro SCI	9/28	—	120	99	101	2.1	Rps1c	3.8	None	R2-Ext
Mean		9/21	61 bu/a	60 bu/a	35%	19%			3.9		
LSD 20%		1 d	6%	8%	2%	2%			1.2		

¹Greenhouse test results do not agree with originator's designation.

*Designates Special Purpose Variety.

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 4. Performance and characteristics of conventional, special purpose and transgenic soybean entries, southern zone; Waseca, Lamberton and Westbrook.

Entry	Originator	Maturity Date	Yield, % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil					
Ashtabula	NDSU	9/15	—	73	97	109	0.4	Rps3a+Rps4	1.8	ARTA	CV
MK1016*	Richland IFC, Inc	9/16	—	50	103	93	1.0	Rps1a	1.0	None	CV
ND Bison	NDSU	9/18	—	87	97	107	0.7	Rps3a+Rps4	1.3	ARTA	CV
CZ 0767 RY	Bayer Crop Science	9/18	—	102	101	106	0.7	Rps1c	1.8	EPVI	R2
MK9101*	Richland IFC, Inc	9/18	—	70	108	101	1.0	Rps1a	1.5	None	CV
MK41*	Richland IFC, Inc	9/22	96	87	103	94	1.1	Rps1c	1.3	None	CV
AG1636	Monsanto-Asgrow	9/24	—	109	99	105	1.6	Rps1c	2.3	AC	R2
CZ 1332 LL	Bayer Crop Science	9/24	—	101	104	97	1.3	NS	1.3	EPVI	LL
PB-1376R2	Prairie Brand Seeds	9/24	—	92	98	101	1.3	Rps1c	1.8	CC	R2
PB-1466R2	Prairie Brand Seeds	9/24	115	109	103	99	1.4	Rps1k	1.3	CC	R2
15M22	Titan Pro SCI	9/26	98	111	99	106	1.5	Rps1c	1.3	None	R2
1518N	Viking	9/27	—	96	96	102	1.5	NS	1.3	None	CV
153R2Y	Anderson Seeds	9/27	111	108	99	102	1.5	Rps1c	1.8	None	R2
167RXT	Anderson Seeds	9/27	—	107	102	100	1.6	Rps1c	3.3	None	R2-Ext
NS61882NXR2	NorthStar Genetics	9/27	—	99	98	101	1.8	Rps1c	3.0	None	R2-Ext
PB-1566R2	Prairie Brand Seeds	9/27	—	105	98	104	1.5	Rps1c	1.5	CC	R2
TP-16X36	Titan Pro SCI	9/27	—	100	101	98	1.6	Rps1c	1.3	None	R2-Ext
AG1733	Monsanto-Asgrow	9/28	104	109	97	103	1.7	Rps1c	1.0	AC	R2
Brookings	So Dakota AES	9/28	88	103	99	99	1.7	Rps1k	1.8	None	CV
CZ 1787 RY	Bayer Crop Science	9/28	104	101	100	98	1.7	Rps1c	1.0	EPVI	R2
Davison	So Dakota AES	9/28	95	83	102	94	2.2	Rps1k	2.8	None	CV
DSR-1721/R2Y	Dairyland Seed	9/28	106	104	100	100	1.7	Rps1k	1.0	CMO	R2
TP-19X06	Titan Pro SCI	9/28	—	102	99	104	1.9	Rps1c	1.0	None	R2-Ext
NS1916NR2	NorthStar Genetics	9/29	—	92	100	102	2.0	Rps1k	2.5	None	R2

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Table 4 (continued). Performance and characteristics of conventional, special purpose and transgenic soybean entries, southern zone; Waseca, Lamberton and Westbrook.

Entry	Originator	Maturity Date	Yield, % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil					
PB-1787R2	Prairie Brand Seeds	9/29	—	110	100	101	1.7	Rps1c	1.0	CC	R2
185R2Y	Anderson Seeds	9/30	102	102	99	99	1.8	Rps1k	1.8	None	R2
CZ 1623 LL	Bayer Crop Science	9/30	99	102	102	97	1.6	NS	1.3	EPVI	LL
DSR-1870/R2Y	Dairyland Seed	9/30	—	104	100	101	1.8	Rps1c	1.8	CMO	R2
NS1776NR2	NorthStar Genetics	9/31	—	91	98	102	1.7	Rps1k	1.3	None	R2
187RXT	Anderson Seeds	9/31	—	105	101	98	1.8	Rps3a	1.8	None	R2-Ext
AG1935	Monsanto-Asgrow	9/31	112	110	100	99	1.9	Rps1c	2.8	AC	R2
CZ 2101 LL	Bayer Crop Science	9/31	—	104	98	100	2.1	Rps1c	3.3	EPVI	LL
PB-1822R2	Prairie Brand Seeds	9/31	100	99	100	101	1.8	NS	1.0	CC	R2
2018N	Viking	10/1	—	97	96	103	2.0	Rps1a	3.0	None	CV
NS2031NR2	NorthStar Genetics	10/1	—	105	99	101	2.0	Rps1c	2.5	None	R2
206R2Y	Anderson Seeds	10/1	105	102	101	99	2.0	Rps1c	2.3	None	R2
217RXT	Anderson Seeds	10/1	—	103	101	100	2.1	Rps1c	2.3	None	R2-Ext
AG2035	Monsanto-Asgrow	10/1	107	95	104	101	2.0	Rps1c	2.0	AC	R2
PB-1947R2	Prairie Brand Seeds	10/1	111	113	101	96	1.9	Rps1c	1.3	CC	R2
PB-2024R2	Prairie Brand Seeds	10/1	96	102	100	101	2.0	Rps1k	1.3	CC	R2
TP-17X26	Titan Pro SCI	10/1	—	102	102	96	1.7	Rps3a	1.0	None	R2-Ext
TP-18R24	Titan Pro SCI	10/1	—	104	99	101	1.8	Rps1k	1.3	None	R2
TP-21X46	Titan Pro SCI	10/1	—	110	99	101	2.1	Rps1c	1.8	None	R2-Ext
NS62002NXR2	NorthStar Genetics	10/2	—	112	100	101	2.1	Rps1c	2.8	None	R2-Ext
NS2362NR2	NorthStar Genetics	10/2	—	101	100	102	2.3	Rps1k	1.3	None	R2
CZ 1845 LL	Bayer Crop Science	10/2	107	100	99	103	1.8	Rps1k	2.3	EPVI	LL
CZ 2312 LL	Bayer Crop Science	10/2	97	105	102	95	2.3	Rps1k	1.8	EPVI	LL
DSR-2017/R2Y	Dairyland Seed	10/2	—	102	100	97	2.0	Rps1c	1.0	CMO	R2
PB-1956R2	Prairie Brand Seeds	10/2	113	102	100	100	1.9	Rps1c	1.3	CC	R2
PB-2197R2	Prairie Brand Seeds	10/2	—	100	98	100	2.1	Rps1c	2.0	CC	R2
TP-20R25	Titan Pro SCI	10/2	102	103	98	99	2.0	Rps1c	1.3	None	R2
TP-21R55	Titan Pro SCI	10/2	90	99	96	103	2.1	Rps1c	1.5	None	R2
NS2282NR2	NorthStar Genetics	10/3	—	97	97	100	2.2	Rps1c	2.3	None	R2
NS62332NXR2	NorthStar Genetics	10/3	—	105	101	96	2.3	Rps1c	2.5	None	R2-Ext
DSR-2110/R2Y	Dairyland Seed	10/3	100	105	100	98	2.1	Rps1c	1.3	CMO	R2
DSR-2330/R2Y	Dairyland Seed	10/3	94	102	101	100	2.3	Rps1k	1.3	CMO	R2
PB-2296R2	Prairie Brand Seeds	10/3	94	103	99	97	2.2	Rps1c	1.5	None	R2
TP-24R26	Titan Pro SCI	10/3	—	96	99	103	2.4	Rps1k	1.0	None	R2
AG2336	Monsanto-Asgrow	10/4	91	99	103	96	2.3	Rps1c	2.8	AC	R2
2155N	Viking	10/6	—	96	100	97	2.1	NS	1.3	None	CV
2299N	Viking	10/6	—	104	102	98	2.2	NS	1.3	None	CV
O.2188AT12N	Viking	10/9	—	109	101	97	2.1	NS	1.0	None	CV
O.2399AT12N	Viking	10/10	—	98	100	99	2.3	NS	1.0	None	CV
Mean		9/30	65 bu/a	60 bu/a	35%	18%			1.7		
LSD 20%		1 d	11%	7%	2%	3%			1.1		

*Designates Special Purpose Variety

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 5. Characteristics of special-purpose soybean entries, northern zone; Crookston, Moorhead and Shelly.

Entry	Originator	Maturity Date	Special Characteristics	Hilum Color	Phyto. Gene	Seeds/lb	Trans. Trait
MN0071	Minnesota AES	9/4	Early	Brown	Rps1a	2,929	CV
M06-320039	Minnesota AES	9/14	Protein	Yellow	Rps1a	3,131	CV
M07-257111	Minnesota AES	9/14	Small, SCN	Yellow	Rps1a	4,408	CV
M08-450148	Minnesota AES	9/14	Small	Yellow	NS	4,018	CV
M2B11-17Y054	Minnesota AES	9/15	Small, Black	Black	Rps1a	4,204	CV
M06-260048	Minnesota AES	9/16	Small	Yellow	Rps1a	5,218	CV
M04-273003	Minnesota AES	9/17	Small, SCN	Yellow	Rps1a	5,218	CV
MN0404CNBL	Minnesota AES	9/17	Black, SCN	Black	Rps1k	2,820	CV
M03-238028	Minnesota AES	9/20	Small	Yellow	Rps1a	5,747	CV
M04-178018	Minnesota AES	9/20	Small, Black	Black	Rps1a	4,165	CV

Table 6. Performance of special-purpose soybean entries in 2016, northern zone; Crookston, Moorhead and Shelly.

Entry	Originator	Maturity Date	% of Mean			Chlorosis Score
			Yield	Protein	Oil	
MN0071	Minnesota AES	9/4	94	99	105	—
M06-320039	Minnesota AES	9/14	96	114	86	—
M07-257111	Minnesota AES	9/14	104	104	97	—
M08-450148	Minnesota AES	9/14	111	95	103	—
M2B11-17Y054	Minnesota AES	9/15	96	98	105	—
M06-260048	Minnesota AES	9/16	104	97	101	—
M04-273003	Minnesota AES	9/17	98	97	102	—
MN0404CNBL	Minnesota AES	9/17	116	98	107	—
M03-238028	Minnesota AES	9/20	102	101	99	—
M04-178018	Minnesota AES	9/20	82	100	98	—
Mean		9/15	50 bu/a	34%	20%	
LSD 20%		1 d	7%	2%	2%	

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 7. Characteristics of special-purpose soybean entries, central zone; Becker, Danvers and Rosemount.

Entry	Originator	Maturity Date	Special Characteristics	Hilum Color	Phyto. Gene	Seeds/lb	Trans. Trait
M2B11-17Y054	Minnesota AES	9/4	Small, Black	Black	Rps1a	4,365.4	CV
M08-450148	Minnesota AES	9/5	Small	Yellow	S	4,283.0	CV
M06-260048	Minnesota AES	9/6	Small	Yellow	Rps1a	5,341.2	CV
M04-273003	Minnesota AES	9/7	Small, SCN	Yellow	Rps1a	5,279.1	CV
ND1406HP	NDSU	9/8	General Purpose	Yellow	NS	2,340.2	CV
M04-178018	Minnesota AES	9/12	Small, Black	Black	Rps1a	4,365.4	CV
M07-254043	Minnesota AES	9/13	Small, SCN	Yellow	S	4,540.0	CV
Sheyenne	NDSU	9/13	General Purpose	Yellow	Rps1c	2,837.5	CV
M07-257020	Minnesota AES	9/15	Small, SCN	Yellow	Rps1a	3,174.8	CV
91M10	Pioneer	9/16	General Purpose	Yellow	Rps1a	2,565.0	CV
M06-327027	Minnesota AES	9/18	Protein	Yellow	Rps1c	2,768.3	CV
e1466	Schillinger Genetics	9/21	General Purpose	Yellow	Rps1c	2,670.6	CV
e1665	Schillinger Genetics	9/21	General Purpose	Yellow	S	2,702.4	CV
M07-2074210	Minnesota AES	9/23	Small, SCN	Yellow	Rps1a	4,165.1	CV

Table 8. Performance of special-purpose soybean entries in 2016, central zone; Becker, Danvers and Rosemount.

Entry	Originator	Maturity Date	% of Mean			Chlorosis Score
			Yield	Protein	Oil	
M2B11-17Y054	Minnesota AES	9/4	84	93	115	2.0
M08-450148	Minnesota AES	9/5	88	95	108	3.5
M06-260048	Minnesota AES	9/6	80	96	99	1.5
M04-273003	Minnesota AES	9/7	64	97	103	1.5
ND1406HP	NDSU	9/8	92	105	94	1.5
M04-178018	Minnesota AES	9/12	93	100	100	4.0
M07-254043	Minnesota AES	9/13	96	96	107	2.0
Sheyenne	NDSU	9/13	107	96	107	2.0
M07-257020	Minnesota AES	9/15	118	99	98	2.0
91M10	Pioneer	9/16	118	99	101	3.0
M06-327027	Minnesota AES	9/18	96	115	81	5.0
e1466	Schillinger Genetics	9/21	147	101	101	4.5
e1665	Schillinger Genetics	9/21	130	99	101	2.5
M07-2074210	Minnesota AES	9/23	94	97	101	2.0
Mean		9/13	41 bu/a	37%	18%	2.7
LSD 20%		2 d	9%	2%	3%	1.1

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 9. Characteristics of special-purpose soybean entries, southern zone; Lamberton, Waseca and Westbrook.

Entry	Originator	Maturity Date	Special Characteristics	Hilum Color	Phyto. Gene	Seeds/lb	Trans. Trait
91M10	Pioneer	9/19	General Purpose	Yellow	S	2,508	CV
M06-322059	Minnesota AES	9/19	Large, Protein	Yellow	Rps1a	2,193	CV
e1665	Schillinger Genetics	9/22	General Purpose	Yellow	NS	2,785	CV
MN1505SP	Minnesota AES	9/23	Protein	Yellow	Rps1a	2,172	CV
e1966	Schillinger Genetics	9/24	General Purpose	Yellow	NS	2,820	CV
MN1410	Minnesota AES	9/25	Yield	Buff	S	2,580	CV
M04-295008	Minnesota AES	9/26	Edamame	Yellow	Rps1k	1,823	CV
M07-2074210	Minnesota AES	9/26	Small, SCN	Yellow	Rps1a	4,540	CV
MN1613CN	Minnesota AES	9/26	SCN	Buff	Rps1a	2,820	CV
M07-303013	Minnesota AES	9/26	Large, Protein	Yellow	S	1,940	CV
e2162	Schillinger Genetics	9/29	General Purpose	Yellow	Rps1c	2,686	CV
MN1806CN	Minnesota AES	9/29	SCN	Yellow	Rps1k	2,910	CV
e2062	Schillinger Genetics	9/31	General Purpose	Yellow	Rps1c	2,467	CV

Table 10. Performance of special-purpose soybean entries in 2016, southern zone; Lamberton, Waseca and Westbrook.

Entry	Originator	Maturity Date	% of Mean			Chlorosis Score
			Yield	Protein	Oil	
91M10	Pioneer	9/19	107	96	106	3.5
M06-322059	Minnesota AES	9/19	81	104	100	2.0
e1665	Schillinger Genetics	9/22	110	99	102	2.5
MN1505SP	Minnesota AES	9/23	86	104	101	2.0
e1966	Schillinger Genetics	9/24	107	100	98	3.5
MN1410	Minnesota AES	9/25	107	99	101	3.0
M04-295008	Minnesota AES	9/26	101	101	99	3.0
M07-2074210	Minnesota AES	9/26	78	94	103	1.0
MN1613CN	Minnesota AES	9/26	111	96	100	4.0
M07-303013	Minnesota AES	9/26	83	108	93	1.5
e2162	Schillinger Genetics	9/29	108	100	97	2.0
MN1806CN	Minnesota AES	9/29	101	98	100	1.0
e2062	Schillinger Genetics	9/31	113	100	103	2.0
Mean		9/23	47 bu/a	37%	18%	2.2
LSD 20%		1 d	6%	3%	3%	1.0

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 11. Characteristics of publicly developed general use soybean varieties entered in 2016 tests, and/or seed produced in Minnesota.

Entry	Originator	Maturity Rating	Hilum Color	Phyto. Gene	SCN Rating	Trans. Trait
MN0083	Minnesota AES	00.8	Yellow	Rps6	S	CV
Trail	North Dakota AES	0.0	Yellow	S	S	CV
MN0107	Minnesota AES	0.1	Yellow	Rps1k	S	CV
ND1406HP	North Dakota AES	0.6	Yellow	S	S	CV
Roberts	South Dakota AES	0.6	Gray	Rps1k	S	CV
MN0702CN	Minnesota AES	0.7	Yellow	Rps1k	R	CV
Sheyenne	North Dakota AES	0.7	Yellow	Rps1c	S	CV
MN0808CN	Minnesota AES	0.8	Yellow	Rps1c	R	CV
Codington	South Dakota AES	0.9	Black	Rps1a	S	CV
MN1011CN	Minnesota AES	1.0	Yellow	Rps1a	R	CV
MN1012SP	Minnesota AES	1.2	Yellow	Rps1a	S	CV
MN1311	Minnesota AES	1.3	Yellow	Rps1k	S	CV
MN1312CN	Minnesota AES	1.3	Yellow	Rps1a	R	CV
MN1410	Minnesota AES	1.4	Buff	Rps1k	S	CV
Brookings	South Dakota AES	1.7	Brown	Rps1k	S	CV
MN1701CN	Minnesota AES	1.7	Yellow	S	R	CV
MN1806CN	Minnesota AES	1.8	Yellow	Rps1k	R	CV
IA1022	Iowa AES	1.9	Yellow	S	S	CV
IA1902CN	Iowa AES	1.9	Buff	NS	R	CV
IA2053	Iowa AES	2.0	Black	Rps1a	S	CV
Davison	South Dakota AES	2.2	Black	Rps1a	S	CV
IA2104	Iowa AES	2.2	Yellow	S	S	CV
IA2113RA12	Iowa AES	2.2	Yellow	S	S	CV
IA2104RA12	Iowa AES	2.3	Yellow	S	S	CV
MN0310CN	Minnesota AES	0.3	Yellow	S	S	CV
MN0810CN	Minnesota AES	0.8	Yellow	S	S	CV
MN1613CN	Minnesota AES	1.6	Buff	Rps1a	R	CV

Table 12. Performance and characteristics of soybean entries evaluated at soybean cyst nematode infested sites in the northern zone; Callaway, Downer, and Gary.

Entry	Originator	Maturity Date	Yield, % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	SCN Rating	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil						
50-60N	Proseed	9/11	—	106	103	96	0.6	Rps3a	1.0	MR	CM	R2
XT604	Proseed	9/14	—	111	99	99	0.4	Rps3a	1.3	MR	CM	R2-Ext
PB-00727R2	Prairie Brand Seeds	9/14	—	68	97	103	00.7	Rps3a+Rps1c	1.0	MR	CC	R2
MK9404CN	Richland IFC, Inc	9/16	—	91	102	107	0.6	Rps1k	1.3	S	None	CV
PB-0146R2	Prairie Brand Seeds	9/16	—	83	99	104	0.1	Rps3a+Rps1c	1.0	S	CC	R2
PB-0598R2	Prairie Brand Seeds	9/18	101	108	101	98	0.5	Rps3a	1.3	MR	CC	R2
PB-00856R2	Prairie Brand Seeds	9/18	—	100	101	100	00.9	Rps3a+Rps1c	1.3	MS	CC	R2
XT603	Proseed	9/18	—	96	99	102	0.3	Rps1c	1.0	S	CM	R2-Ext
11 50	Proseed	9/18	—	95	99	100	0.5	NS	1.0	S	CM	R2
PB-0676R2	Prairie Brand Seeds	9/19	106	105	102	95	0.6	Rps3a	1.3	MR	CC	R2
DSR-0619/R2Y	Dairyland Seed	9/20	112	117	103	95	0.6	Rps3a	1.0	MR	CMO	R2
DSR-0225/R2Y	Dairyland Seed	9/20	—	80	99	107	0.2	Rps1c	1.0	S	CMO	R2
FG0822CN	NFGSA	9/24	—	118	100	95	0.8	S	1.0	MR	None	CV
MK808CN	Richland IFC, Inc	9/24	—	103	97	101	0.8	Rps1c	1.0	R	None	CV
PB-0777R2	Prairie Brand Seeds	9/25	113	117	98	98	0.6	Rps1c	1.5	MR	CC	R2
Mean		9/18	58 bu/a	61 bu/a	35%	19%			1.2			
LSD 20%		4 d	6%	8%	2%	4%			0.3			

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 13. Performance and characteristics of soybean entries evaluated at soybean cyst nematode infested sites in the central zone; Danvers, Fairfax and Rosemount.

Entry	Originator	Maturity Date	Yield % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	SCN Rating	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil						
XT607	Proseed	9/12	—	86	99	104	0.7	Rps3a	2.5	MR	CM	R2-Ext
30-80	Proseed	9/13	—	98	99	100	0.8	NS	3.5	MR	CM	R2
TP-09X25	Titan Pro SCI	9/14	—	100	101	99	0.9	Rps3a	3.8	R	None	R2-Ext
FG0822CN	NFGSA	9/16	—	84	103	97	0.8	S	3.0	MR	None	CV
6097R2	NuTech Seed, LLC	9/17	—	86	96	110	0.9	Rps3a	2.5	R	SCS	R2
7127R2	NuTech Seed, LLC	9/17	—	98	100	99	1.2	S	2.5	R	SCS	R2
AG0934	Monsanto-Asgrow	9/17	107	106	102	100	0.9	Rps3a	1.8	MR	AC	R2
DSR-0711/R2Y	Dairyland Seed	9/18	—	88	99	103	0.7	Rps1k	-	MR	CMO	R2
PB-0987R2	Prairie Brand Seeds	9/18	—	94	98	100	0.8	Rps1c	2.3	MR	CC	R2
TP-12X55	Titan Pro SCI	9/18	—	103	101	98	1.2	Rps3a	2.5	MR	None	R2-Ext
XT610	Proseed	9/18	—	99	100	101	0.1	Rps3a+Rps1c	2.3	MR	CM	R2-Ext
DSR-0988/R2Y	Dairyland Seed	9/20	—	98	99	100	0.9	Rps1c	-	MR	CMO	R2
AG1435	Monsanto-Asgrow	9/22	100	109	101	101	1.4	Rps1c	2.5	MS	AC	R2
PB-1376R2	Prairie Brand Seeds	9/22	—	97	99	99	1.3	Rps1c	1.0	R	CC	R2
17X14N	Peterson Farms Seed	9/23	—	93	98	103	1.4	Rps1c	3.5	R	None	R2-Ext
17X18N	Peterson Farms Seed	9/23	—	96	99	100	1.8	Rps1c	2.5	MR	None	R2-Ext
DSR-1313/R2Y	Dairyland Seed	9/23	—	94	100	100	1.3	Rps1c	3.0	MR	CMO	R2
PB-1257R2	Prairie Brand Seeds	9/23	—	100	97	102	1.2	Rps1c	4.3	MR	CC	R2
S13-H5	Syngenta	9/23	—	98	101	99	1.3	Rps1c	2.5	MR	CMCV	R2
NS61882NXR2	NorthStar Genetics	9/24	—	101	101	100	1.8	Rps1c	1.3	MR	None	R2-Ext
3115L	NuTech Seed, LLC	9/24	—	99	102	99	1.1	Rps1c	1.5	R	SCS	LL
7172R2	NuTech Seed, LLC	9/24	—	101	101	102	1.7	S	2.0	R	SCS	R2
DSR-1526/R2Y	Dairyland Seed	9/24	—	108	99	103	1.5	Rps1c	1.0	MR	CMO	R2
PB-1466R2	Prairie Brand Seeds	9/24	—	101	103	97	1.4	Rps1k	2.8	MR	CC	R2
NS1528NR2	NorthStar Genetics	9/25	—	100	100	104	1.5	Rps1c	2.5	MR	None	R2
153R2Y	Anderson Seeds	9/25	103	105	99	101	1.5	Rps1c	3.0	MR	None	R2
3174L	NuTech Seed, LLC	9/25	—	104	101	99	1.7	S	2.0	R	SCS	LL
AG1636	Monsanto-Asgrow	9/25	—	100	100	101	1.6	Rps1c	1.8	MR	AC	R2
15M22	Titan Pro SCI	9/26	—	107	100	101	1.5	Rps1c	2.3	MR	None	R2
NS1916NR2	NorthStar Genetics	9/26	—	94	100	101	2.0	Rps1k	3.0	MR	None	R2
7217R2	NuTech Seed, LLC	9/26	—	98	95	103	2.0	S	1.5	R	SCS	R2
DSR-1870/R2Y	Dairyland Seed	9/26	—	114	100	99	1.8	Rps1c	2.5	MR	CMO	R2
185R2Y	Anderson Seeds	9/27	110	96	98	103	1.8	Rps1k	2.5	MR	None	R2
187RXT	Anderson Seeds	9/27	—	97	101	101	1.8	Rps3a	1.5	MR	None	R2-Ext
DSR-1721/R2Y	Dairyland Seed	9/27	—	98	101	102	1.7	Rps1k	1.5	MR	CMO	R2
F 195N	Federal Hybrids	9/27	—	107	99	97	1.8	Rps1c	3.0	R	MA	R2
PB-1947R2	Prairie Brand Seeds	9/27	—	106	100	99	1.9	Rps1c	2.5	MR	CC	R2
167RXT	Anderson Seeds	9/28	—	94	104	94	1.6	Rps1c	3.0	R	None	R2-Ext
NS1776NR2	NorthStar Genetics	9/28	—	97	99	101	1.7	Rps1k	3.0	MR	None	R2
PB-1787R2	Prairie Brand Seeds	9/28	—	99	101	100	1.7	Rps1c	2.3	MR	CC	R2
S21-M7	Syngenta	9/28	—	106	100	99	2.1	Rps1k	2.5	R	CMCV	R2
TP-16X36	Titan Pro SCI	9/28	—	97	101	97	1.6	Rps1c	3.5	R	None	R2-Ext
TP-18R24	Titan Pro SCI	9/28	—	104	98	102	1.8	Rps1k	3.5	R	None	R2
17X17N	Peterson Farms Seed	9/29	—	102	103	98	1.7	Rps3a	1.0	R	None	R2-Ext
NS2031NR2	NorthStar Genetics	9/29	—	111	101	100	2.0	Rps1c	3.0	MR	None	R2
206R2Y	Anderson Seeds	9/29	101	109	98	101	2.0	Rps1c	2.3	MR	None	R2
NS62002NXR2	NorthStar Genetics	9/29	—	106	101	99	2.1	Rps1c	1.5	MR	None	R2-Ext
217RXT	Anderson Seeds	9/29	—	104	102	99	2.1	Rps1c	1.5	MR	None	R2-Ext
3205L	NuTech Seed, LLC	9/29	99	99	101	99	2.0	Rps1c	2.0	R	SCS	LL
DSR-2017/R2Y	Dairyland Seed	9/29	—	101	101	99	2.0	Rps1c	1.5	MR	CMO	R2
DSR-2110/R2Y	Dairyland Seed	9/29	—	100	102	98	2.1	Rps1c	2.0	MR	CMO	R2
F 2170N	Federal Hybrids	9/29	—	108	100	100	2.1	Rps1c	3.8	MR	MA	R2-Ext
PB-1822R2	Prairie Brand Seeds	9/29	—	94	99	102	1.8	Rps1k	2.5	MR	CC	R2
PB-1956R2	Prairie Brand Seeds	9/29	—	105	99	101	1.9	Rps1c	3.5	MR	CC	R2
TP-17X26	Titan Pro SCI	9/29	—	92	101	94	1.7	Rps3a	4.3	MR	None	R2-Ext
TP-20R25	Titan Pro SCI	9/29	—	108	100	100	2.0	Rps1c	2.0	MR	None	R2
NS2282NR2	NorthStar Genetics	9/30	—	91	97	97	2.2	Rps1c	1.5	S	None	R2

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Table 13 (continued). Performance and characteristics of soybean entries evaluated at soybean cyst nematode infested sites in the central zone; Danvers, Fairfax and Rosemount.

Entry	Originator	Maturity Date	Yield % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	SCN Rating	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil						
F 1870N	Federal Hybrids	9/30	—	101	103	98	1.8	Rps3a	3.0	R	MA	R2-Ext
TP-21R55	Titan Pro SCI	9/30	—	101	99	103	2.1	Rps1c	1.5	MR	None	R2
TP-21X46	Titan Pro SCI	9/30	—	103	101	96	2.1	Rps1c	1.3	MR	None	R2-Ext
NS62332NXR2	NorthStar Genetics	9/31	—	100	99	96	2.3	Rps1c	4.5	MR	None	R2-Ext
Mean		9/25	55 bu/a	59 bu/a	35%	19%			2.4			
LSD 20%		1 d	7%	8%	2%	3%			1.5			

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment.

If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield.

A difference less than the LSD value probably is due to environmental factors.

Table 14. Performance and characteristics of soybean entries evaluated at soybean cyst nematode infested sites in the southern zone; Fairfax, Lamberton and Waseca.

Entry	Originator	Maturity Date	Yield % of Mean		% of Mean		Maturity Rating	Phyto. Gene	Chlorosis Score	SCN Rating	Seed Treat	Trans. Trait
			2015	2016	Protein	Oil						
PB-1376R2	Prairie Brand Seeds	9/18	—	89	97	106	1.3	Rps1c	1.0	R	CC	R2
PB-1466R2	Prairie Brand Seeds	9/20	—	92	103	100	1.4	Rps1k	1.3	MR	CC	R2
PB-1566R2	Prairie Brand Seeds	9/24	—	102	100	105	1.5	Rps1c	1.8	MR	CC	R2
167RXT	Anderson Seeds	9/25	—	100	101	101	1.6	Rps1c	2.0	R	None	R2-Ext
DSR-1721/R2Y	Dairyland Seed	9/25	—	97	101	101	1.7	Rps1k	1.0	MR	CMO	R2
NS61882NXR2	NorthStar Genetics	9/26	—	100	99	102	1.8	Rps1c	3.3	MR	None	R2-Ext
NS1916NR2	NorthStar Genetics	9/26	—	101	99	100	2.0	Rps1k	4.0	MR	None	R2
7172R2	NuTech Seed, LLC	9/26	—	92	101	103	1.7	S	1.8	R	SCS	R2
AG1733	Monsanto-Asgrow	9/26	111	113	99	102	1.7	Rps1c	2.8	MR	AC	R2
DSR-1870/R2Y	Dairyland Seed	9/26	—	98	101	101	1.8	Rps1c	1.3	MR	CMO	R2
PB-1822R2	Prairie Brand Seeds	9/26	—	98	99	104	1.8	NS	2.5	MR	CC	R2
153R2Y	Anderson Seeds	9/27	82	94	99	104	1.5	Rps1c	3.0	MR	None	R2
3174L	NuTech Seed, LLC	9/27	—	104	101	98	1.7	S	3.3	R	SCS	LL
PB-1787R2	Prairie Brand Seeds	9/27	—	102	100	102	1.7	Rps1c	1.0	MR	CC	R2
PB-1947R2	Prairie Brand Seeds	9/27	—	103	99	101	1.9	Rps1c	1.5	MR	CC	R2
TP-16X36	Titan Pro SCI	9/27	—	94	101	98	1.6	Rps1c	1.3	R	None	R2-Ext
185R2Y	Anderson Seeds	9/28	110	104	99	100	1.8	Rps1k	2.8	MR	None	R2
3205L	NuTech Seed, LLC	9/28	88	97	101	99	2.0	Rps1c	3.0	R	SCS	LL
S19-B2	Syngenta	9/28	—	102	98	100	1.9	S	1.0	R	CMCV	R2
S21-M7	Syngenta	9/28	—	103	99	101	2.1	Rps1k	1.3	R	CMCV	R2
NS1776NR2	NorthStar Genetics	9/29	—	93	98	100	1.7	Rps1k	3.0	MR	None	R2
187RXT	Anderson Seeds	9/29	—	95	101	99	1.8	Rps3a	3.3	MR	None	R2-Ext
NS2031NR2	NorthStar Genetics	9/29	—	105	101	100	2.0	Rps1c	1.8	MR	None	R2
206R2Y	Anderson Seeds	9/29	102	109	100	98	2.0	Rps1c	1.3	MR	None	R2
NS62002NXR2	NorthStar Genetics	9/29	—	100	100	99	2.1	Rps1c	3.0	MR	None	R2-Ext
217RXT	Anderson Seeds	9/29	—	102	102	98	2.1	Rps1c	1.5	MR	None	R2-Ext
AG1935	Monsanto-Asgrow	9/29	108	110	103	97	1.9	Rps1c	2.8	MR	AC	R2
AG2035	Monsanto-Asgrow	9/29	108	102	104	100	2.0	Rps1c	1.0	MR	AC	R2
F 226N	Federal Hybrids	9/29	—	102	98	102	2.2	Rps1c	2.3	MR	MA	R2
PB-2024R2	Prairie Brand Seeds	9/29	—	102	101	102	2.0	Rps1k	2.0	MR	CC	R2
TP-17X26	Titan Pro SCI	9/29	—	85	101	97	1.7	Rps3a	1.0	MR	None	R2-Ext
TP-21X46	Titan Pro SCI	9/29	—	101	101	100	2.1	Rps1c	1.0	MR	None	R2-Ext
NS62332NXR2	NorthStar Genetics	9/30	—	100	101	93	2.3	Rps1c	3.8	MR	None	R2-Ext
NS2362NR2	NorthStar Genetics	9/30	—	98	100	100	2.3	Rps1k	2.5	R	None	R2
7217R2	NuTech Seed, LLC	9/30	—	102	96	97	2.0	S	1.3	R	SCS	R2
DSR-2017/R2Y	Dairyland Seed	9/30	—	101	102	100	2.0	Rps1c	1.0	MR	CMO	R2
DSR-2330/R2Y	Dairyland Seed	9/30	—	98	101	101	2.3	Rps1k	1.0	R	CMO	R2
F 2170N	Federal Hybrids	9/30	—	102	101	100	2.1	Rps1c	1.5	MR	MA	R2-Ext
PB-1956R2	Prairie Brand Seeds	9/30	—	92	100	102	1.9	Rps1c	1.5	MR	CC	R2
PB-2197R2	Prairie Brand Seeds	9/30	—	108	98	100	2.1	Rps1c	1.0	R	CC	R2
TP-20R25	Titan Pro SCI	9/30	109	103	99	100	2.0	Rps1c	1.0	MR	None	R2
NS2282NR2	NorthStar Genetics	9/31	—	102	98	96	2.2	Rps1c	1.5	S	None	R2
F 2370N	Federal Hybrids	9/31	—	99	101	94	2.3	Rps1c	1.0	MR	MA	R2-Ext
TP-24R26	Titan Pro SCI	9/31	—	98	99	102	2.4	Rps1k	1.3	R	None	R2
DSR-2110/R2Y	Dairyland Seed	10/2	—	105	101	96	2.1	Rps1c	2.5	MR	CMO	R2
Mean		9/28	52 bu/a	60 bu/a	34%	19%			1.9			
LSD 20%		1 d	11%	9%	2%	3%			1.4			

LSD numbers beneath yield columns indicate whether the difference between yield is due to genetics or other factors, such as variations in environment. If yield difference between two entries equals or exceeds the LSD value the higher-yielding entry probably was superior in yield. A difference less than the LSD value probably is due to environmental factors.

Table 15. Results of soybean cyst nematode greenhouse bioassay performed on soybean entries grown in 2016 SCN trials, all zones. Entries are sorted by originator and entry name.

Entry	Originator	SCN Resist. Source ¹	Greenhouse Test		SCN Rating ²
			HG Type 0 (Race 3)	FI	
153R2Y	Anderson Seeds	PI 88788		20	MR
167RXT	Anderson Seeds	PI 88788		9	R
185R2Y	Anderson Seeds	PI 88788		15	MR
187RXT	Anderson Seeds	PI 88788		15	MR
206R2Y	Anderson Seeds	PI 88788		26	MR
217RXT	Anderson Seeds	PI 88788		12	MR
DSR-0225/R2Y	Dairyland Seed	PI 88788		138	S
DSR-0619/R2Y	Dairyland Seed	PI 88788		12	MR
DSR-0711/R2Y	Dairyland Seed	PI 88788		22	MR
DSR-0988/R2Y	Dairyland Seed	PI 88788		22	MR
DSR-1313/R2Y	Dairyland Seed	PI 88788		17	MR
DSR-1526/R2Y	Dairyland Seed	PI 88788		16	MR
DSR-1721/R2Y	Dairyland Seed	PI 88788		19	MR
DSR-1870/R2Y	Dairyland Seed	PI 88788		19	MR
DSR-2017/R2Y	Dairyland Seed	PI 88788		13	MR
DSR-2110/R2Y	Dairyland Seed	PI 88788		13	MR
DSR-2330/R2Y	Dairyland Seed	PI 88788		8	R
F 1870N	Federal Hybrids	PI 88788		6	R
F 195N	Federal Hybrids	PI 88788		7	R
F 2170N	Federal Hybrids	PI 88788		12	MR
F 226N	Federal Hybrids	PI 88788		10	MR
F 2370N	Federal Hybrids	PI 88788		13	MR
AG0934	Monsanto-Asgrow	PI 88788		11	MR
AG1435	Monsanto-Asgrow	PI 88788		33	MS
AG1636	Monsanto-Asgrow	PI 88788		15	MR
AG1733	Monsanto-Asgrow	PI 88788		22	MR
AG1935	Monsanto-Asgrow	PI 88788		10	MR
AG2035	Monsanto-Asgrow	PI 88788		15	MR
FG0822CN	NFGSA	PI 88788		12	MR
NS1528NR2	NorthStar Genetics	PI 88788		13	MR
NS1776NR2	NorthStar Genetics	PI 88788		11	MR
NS1916NR2	NorthStar Genetics	PI 88788		20	MR
NS2031NR2	NorthStar Genetics	PI 88788		20	MR
NS2282NR2	NorthStar Genetics	PI 88788		104	S
NS2362NR2	NorthStar Genetics	PI 88788		9	R
NS61882NXR2	NorthStar Genetics	PI 88788		16	MR
NS62002NXR2	NorthStar Genetics	PI 88788		13	MR
NS62332NXR2	NorthStar Genetics	PI 88788		28	MR
3115L	NuTech Seed, LLC	PI 88788		1	R
3174L	NuTech Seed, LLC	PI 88788		1	R
3205L	NuTech Seed, LLC	PI 88788		1	R
6097R2	NuTech Seed, LLC	PI 88788		1	R
7127R2	NuTech Seed, LLC	PI 88788		1	R
7172R2	NuTech Seed, LLC	PI 88788		1	R
7217R2	NuTech Seed, LLC	PI 88788		1	R
17X14N	Peterson Farms Seed	PI 88788		1	R
17X17N	Peterson Farms Seed	PI 88788		7	R
17X18N	Peterson Farms Seed	PI 88788		15	MR
PB-00727R2	Prairie Brand Seeds	PI 88788		10	MR
PB-00856R2	Prairie Brand Seeds	PI 88788		41	MS
PB-0146R2	Prairie Brand Seeds	PI 88788		137	S
PB-0598R2	Prairie Brand Seeds	PI 88788		16	MR
PB-0676R2	Prairie Brand Seeds	PI 88788		26	MR
PB-0777R2	Prairie Brand Seeds	PI 88788		15	MR
PB-0987R2	Prairie Brand Seeds	PI 88788		14	MR
PB-1257R2	Prairie Brand Seeds	PI 88788		7	R
PB-1376R2	Prairie Brand Seeds	PI 88788		7	R

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Table 15 (continued). Results of soybean cyst nematode greenhouse bioassay performed on soybean entries grown in 2016 SCN trials, all zones. Entries are sorted by originator and entry name.

Entry	Originator	SCN Resist. Source ¹	Greenhouse Test		SCN Rating ²
			HG Type 0 (Race 3)	FI	
PB-1466R2	Prairie Brand Seeds	PI 88788		10	MR
PB-1566R2	Prairie Brand Seeds	PI 88788		20	MR
PB-1787R2	Prairie Brand Seeds	PI 88788		10	MR
PB-1822R2	Prairie Brand Seeds	PI 88788		11	MR
PB-1947R2	Prairie Brand Seeds	PI 88788		15	MR
PB-1956R2	Prairie Brand Seeds	PI 88788		24	MR
PB-2024R2	Prairie Brand Seeds	PI 88788		13	MR
PB-2197R2	Prairie Brand Seeds	PI 88788		9	R
11 50	Proseed	PI 88788		161	S
30-80	Proseed	PI 88788		22	MR
50-60N	Proseed	PI 88788		14	MR
XT603	Proseed	PI 88788		229	S
XT604	Proseed	PI 88788		11	MR
XT607	Proseed	PI 88788		11	MR
XT610	Proseed	PI 88788		10	MR
MK808CN	Richland IFC, Inc	PI 88788		6	R
MK9404CN	Richland IFC, Inc	PI 88788		76	S
S13-H5	Syngenta	PI 88788		17	MR
S19-B2	Syngenta	PI 88788		6	R
S21-M7	Syngenta	PI 88788		6	R
15M22	Titan Pro SCI	PI 88788		12	MR
TP-09X25	Titan Pro SCI	PI 88788		9	R
TP-12X55	Titan Pro SCI	PI 88788		10	MR
TP-16X36	Titan Pro SCI	PI 88788		9	R
TP-17X26	Titan Pro SCI	PI 88788		12	MR
TP-18R24	Titan Pro SCI	PI 88788		8	R
TP-20R25	Titan Pro SCI	PI 88788		12	MR
TP-21R55	Titan Pro SCI	PI 88788		10	MR
TP-21X46	Titan Pro SCI	PI 88788		12	MR
TP-24R26	Titan Pro SCI	PI 88788		9	R

¹Resistance source provided by originator.

²SCN resistance rating: R = resistant (FI less than 10%); MR = moderately resistant (FI 10-30%); MS=moderately susceptible (FI 31-60%); S=susceptible (FI greater than 60%).

Female index (FI) was calculated using Lee 74 as the susceptible check.