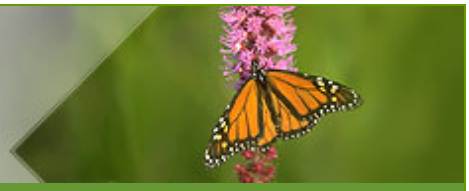
Minnesota Agricultural Experiment Station
University of Minnesota



Soybean

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Varietal Trials Results, January 2006

Each year Minnesota Agricultural Experiment Station scientists conduct tests of adapted public and private soybean varieties. Companies are charged a fee for each variety they enter; these fees partially cover the costs of conducting the tests. A stipulation of the testing program is that the company is marketing the variety tested or intends to market it in the next growing season.

The 2005 growing season was warmer than normal. Locations in the northern zone were affected to a greater degree than locations in the southern zone and varieties that normally mature later than the recommended varieties matured.

Tables 1 to 3 present data from the regular public and private variety tests conducted annually at various locations within the northern, central and southern production zones. The map shows test locations and zone boundaries. All tests were planted between May 4 and June 14 at planting rates of 160,000 plants/acre. Herbicides were used as necessary for good weed control. Row spacings were 30 inches at Becker and Jackson, and 10 inches at other locations. Plot combines were used to harvest the plots. The 2004 data from Becker were not included due to a late-season hailstorm.

Tables 4 and 5 provide results of the very early (northern Minnesota) and special southeastern Minnesota variety tests. These locations were added to provide data for environments not represented by the other location tests.

Tables 6 to 9 provide results from specific tests of available Roundup Ready® varieties adapted to the far-northern, central and southern production zones. Data in 2005 from Becker was not included due to a late- season hailstorm.

Tables 10 to 12 provide results from the special performance tests of soybean-cyst-nematode-resistant varieties in "infested" field sites near Lamberton, Waseca and Hayward in the southern zone, and Danvers and Hector in the central zone. "Non-infested" field sites were located near Lamberton, Jackson and Waseca in the southern zone and Morris and Rosemount in the central zones. Planting techniques were the same as for the regular performance tests.

Tables 13 to 17 provide performance and characteristics data from special-use soybean variety tests. These tests were conducted to provide reliable data for growers who are interested in producing these types of soybeans, which are typically grown under contract.

Table 18 provides important variety characteristics of publicly developed varieties entered in the 2005 tests.

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

Relative Maturity and Calendar Dates of Maturity

Soybeans respond to changing day length, so the actual calendar date of maturity achievement is affected by latitude. Each variety has a narrow range of north-south adaptation. Soybean yield and quality are assured if a variety arrives at physiological maturity before a season-ending freeze occurs. This date is determined visually by noting the actual date when 95 percent of the pods show their genetically programmed mature color. These dates for 2005 are provided in the tables. Harvest dates are typically 7 to 14 days later, depending upon drying conditions.

Relative maturity ratings are also provided for each variety These ratings consist of a number for the maturity group designation (000, 00, 0, 1, 2) followed by a decimal and another number, ranging from 0 to 9, which indicates a ranking within each maturity group. For example the variety MN0302 is indicated as 0.3, making it an early group 0 variety, while MN0901, with a 0.9 rating, is the latest. These values for public varieties are developed after observing them for several years in many locations. Relative maturity ratings for private varieties in these tables were provided by their owners; they were developed in a similar manner.

Soybean maturity zones.

Yield

Because maturity is a very important attribute, varieties are arranged in the tables in order of their actual 2005 calendar date of maturity and not yield performance.

Later-maturing varieties can usually be expected to have higher yields than earlier maturing types. If you wish to correctly compare yields, do so only between varieties with similar calendar dates of maturity, usually within 3 to 5 days. More reliable comparisons can be made using variety yields from several consecutive years. All yield determinations were made from replicated tests harvested with a plot combine.

The 2005 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. Varieties with values greater than 100 had a yield greater than the mean; those with values less than 100 yielded less than the mean.

LSD values associated with data in these tables are measures of variability within the trials. The LSD values are given on the percent-of-mean data, not the actual yields. If a yield difference between two varieties within a single column exceeds this LSD value you can assume that the higher-yielding variety was truly better yielding. A 20-percent level of significance is used in all these tables, which means that yield differences exceeding the stated LSD value are real 80 percent of the time.

Chlorosis

Chlorosis ratings are based on how much of the leaf area was yellowing in tests conducted on high-lime (high pH) soils near Foxhome in 2005. Comparing chlorosis scores of varieties enables 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. Specific scores and evaluation dates from the 2005 tests are provided at the web site www.soybeans.umn.edu/home.htm.

Some universities and companies use numerical scores rather than word descriptors to describe chlorosis tolerance. A comparison of these systems follows (below left).

Protein and Oil

Protein and oil values were determined from mature seed using near infrared reflectance (NIR) analysis equipment. **The table values are for the 2005 season only, and protein and oil information is presented as a percent of the mean of the test. The actual mean values are given at the bottom of each table.** Values over 100 indicate the protein and/or oil contents of the variety were greater than the mean value while values less than 100 indicate protein and/or oil contents less than the mean. **Absolute values of protein and oil can vary from year to year.** The mean protein and oil values are expressed on a 13-percent-moisture basis. This formula (below right) converts the protein and oil values to another moisture basis.

Chlorosis ratings.

Numerical Score		Rating
1-5 scale	1-9 scale	
1 to 2	1 to 2.5	Tolerant (T)
2.1 to3	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 value conversion table.

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

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

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

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:

$$* \frac{\text{price of meal \$/ton}}{2000} = \text{\$/pound}$$

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 can cause significant yield reductions if susceptible varieties are planted in poorly drained, infested fields. There are several known races of this fungus, so it is important to know which are present in your field. Genes can be incorporated into varieties to provide resistance to specific races of this disease.

Some published information refers to Phytophthora "tolerance" or "field resistance," which is not race-specific and should not be confused with race-specific resistance. Reliable tests for tolerance have not yet been developed.

Data tables in this report indicate which Phytophthora gene or genes is/are present in each variety. The "Genes for Resistance" chart shows which resistance genes provide resistance to the various races.

Soybean Cyst Nematode

Soybean Cyst Nematode (SCN), first identified in Minnesota in 1978, is now known to occur in many Minnesota counties where the soybean is grown. Several races of this pest are known to occur in Minnesota, and both the area of infestation and numbers of nematodes per unit of soil appear to be increasing. When SCN numbers are high, significant yield losses can occur. Rotations to non-host crops and planting of resistant varieties can assist in reducing nematode populations as well as reducing their impact on yield.

Yield performance results of susceptible (S), moderately susceptible (MS), moderately resistant (MR) and resistant (R) varieties planted in infested and noninfested fields in southern Minnesota are provided in Table 11. The ratings for SCN resistance were determined using nematode counts from naturally infested field sites and a greenhouse test using a Minnesota field population of SCN.

For proper management of fields with SCN it is recommended that varieties with an R rating be planted. If the SCN population numbers are relatively low – less than 3000 – a variety with an MR rating might be considered. Although SCN reproduction is less on MS-rated varieties than on S-rated varieties, for practical purposes these varieties should not be considered for planting in fields where SCN is present and being managed.

Management information is available from the web site, www.soybeans.umn.edu or from the Minnesota Soybean Research and Promotion Council, 360 Pierce Avenue, Suite 110, North Mankato, MN 56003, 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 varieties in wider row spacings or at lower populations is the most effective method of reducing white mold severity.

Accurate ratings for soybean variety resistance to white mold are difficult to obtain because both infection and disease development are dependent on weather conditions. Because of this variability, a variety's 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 variety performance in the presence of white mold should select varieties that have shown consistently less white mold during several years of testing.

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.

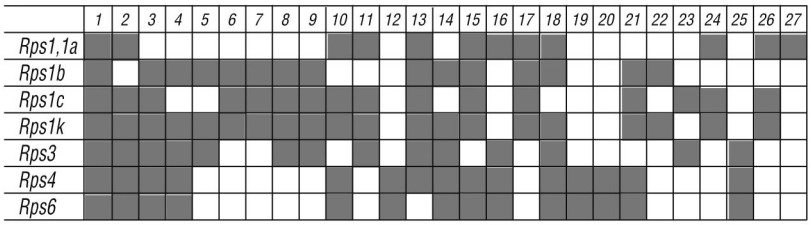
Resistant varieties, or longer rotations, assist in the management of this disease. MN0304, MN0902CN, MN1302, Freeborn, IA1006, and IA2008R are available public varieties with resistance to BSR. Latham E1935A and Latham E2045A are privately developed varieties reported to be resistant to BSR.

Some information refers to "tolerance" or "field resistance." Reliable tests for tolerance or field resistance have not yet been developed.

Special-Use Varieties

Recently there has been increased interest in producing soybeans with special characteristics important to specialty food product manufacturers. Soybean scientists previously developed some of these special-use varieties, which were general releases, but more recently varieties have been released under exclusive or nonexclusive licenses to specific companies who then contract with growers for production. Contact Minnesota Crop Improvement Association at mncia@umn.edu or phone 612-625-7766 for information.

Genes for resistance to various races of Phytophthora root rot.



Soybean Planting Rate and Date	
Bushel Weight, Pounds	60
Seeds/Pound	2,800
Planting Rate, Pounds/Acre	56
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 10 to June 10

Brand names, addresses, phone and web URL or e-mail information for companies entered in 2005 tests.

Advantage Brand Soybean Seed, 17303 Highway 22, Good Thunder, MN 56037	507-278-4087	Adv@myclearwave.net
Garst Seed Company (Garst/Agripro), 2369 330th St., Box 500, Slater, IA 50244	320-769-4445	www.garstseed.com
Albert Lea Seed House (Viking), P.O. Box 127, 1414 W. Main, Albert Lea, MN 56007	507-373-3161	brian@alseed.com
Anderson Seeds (Anderson), 37825 County Rd 63, St. Peter, MN 56082	507-246-5032	njandrsn@hickorytech.net
Bluestem Farm Supply, 55346 390th St., Mountain Lake, MN 56159	507-427-2097	ericksonlee@earthlink.net
Circle C Seeds (Northern Soypro), 2493 380th Street, Gary, MN 56545	218-356-8214, 800-245-1638	ccseeds8214@arvig.net
Dairyland Seed Co., Inc. (Dairyland), 3570 Hwy. H, West Bend, WI 53095	515-233-9610	www.dairylandseed.com
Dyna-Gro (Dyna-Gro), 11935 County Hwy 1, Fergus Falls, MN 56537	218-731-6792	stan.rund@uap.com
Earthwise Processors (Earthwise), 4111 30th Ave. S., Moorhead, MN 56560	218-287-5510	Jay@Earthwisepro.com
Farm Advantage, 1275 Hwy 69, Belmond, IA 50421	641-444-3344	jmeints@kalnet.com
Galena Genetics (Galena), 501 Main St., P.O. Box 548, Ormsby, MN 56162	507-736-2004	sheilah_oltmans@rabbeusa.com
Gold Country Seed,16506 Hwy. 15 N., P.O. Box 604, Hutchinson, MN 55350	320-587-1050	jleafblad@goldcountryseed.com
Hyland Seeds (Hyland), 2 Hyland Drive, Blenheim, Ontario, Canada N0P 1A0	519-676-8146	jolmsted@hylandseeds.com
Kaltenberg Seeds (Kaltenberg), PO Box 278, Waunakee, WI 53597	608-849-2312	ksfseeds@chorus.net
Kruger Seed Company (Kruger), 33938 160th Ave., Box A, Dike, IA 50624	800-772-2721	info@krugerseeds.com
KSC/Challenger (KSC/Challenger), 33938 160th Ave., Box A, Dike, IA 50624	800-772-2721	info@krugerseeds.com
Latham Farms (Latham), 131 180th St., Alexander, IA 50420	641-692-3258	markg@lathamseeds.com
Latham Seed Company (Latham), 131 180th St., Alexander, IA 50420	641-692-3258	markg@lathamseeds.com
LG Seeds (LG Seeds), N8181 940th St., River Falls, WI 54022	715-821-7788	www.lgseeds.com
Monsanto (Asgrow/Dekalb), 800 N. Lindberg Blvd., St. Louis, MO 63167	815-758-9323	www.monsanto.com
Mustang Seeds (Mustang), Madison, SD 57042	605-480-1047	info@mustangseeds.com
Northland Seed & Grain (Northland Organics), 462 Holly Ave., St Paul, MN 55102	651-221-4402	soybean@northlandorganic.com
North Star Genetics, P.O. Box 40, Wanamingo, MN 55983	—	nsgen1@frontiernet.net
Nutech Seed (Nutech Seed), 6131 North Fork Rd., Ames, IA 50010	800-368-9528	—
Pattison Bros (Pattison Bros Brand), 701 King St., Box 670, Fayette, IA 52142	800-632-5952	dillont@pattisonbros.com
Peterson Farm Seed (PFS), 3104 164th Ave. SE, Harwood, ND 58042	701-282-7476	jerad@greatsoybeans.com
Pioneer Hi-Bred International, 99 Navaho Ave., Suite 101A, Mankato, MN 56001	507-625-3045	alan.scot@pioneer.com
Precison Soya, 105 North First St., Olivia, MN 56277	320-523-5965	ukrk003@umn.edu
Prairie Brand Research (PBR), 15 X Ave., Story City, IA 50248	515-733-2101	mike@prairiebrandseed.com
Prairie Brand Seed Co. (Prairie Brand) 15 X Ave., Story City, IA 50248	515-733-2101	mike@prairiebrandseed.com
Proseed (Proseed), 705 E Brewster, Harvey, ND 58341	701-324-4177	proseed@ndak.net
Renk Seed Co. (Renk), 6800 Wilburn Rd., Sun Prairie, WI 53590	608-837-7351	arenk@renkseed.com
Richland Organics, 100N 10th St., Breckenridge, MN 56520	218-643-1797	andy@richlandorganics.com
Sand Seed Service, Inc. (Sands), P.O. Box 648, Marcus, IA 51035	712-376-4135	soi@midlands.net
Sansgaard Seed Farms, Inc. (Sansgaard), 15 X Ave., Story City, IA 50248	515-733-2101	mike@prairiebrandseed.com
Seeds 2000, P.O. Box 200, Breckenridge, MN 56520	888-786-7333	info@seeds2000.net
Sodak Genetics (Sodak Genetics), Box 2207A, SDSU, Brookings, SD 57007	605-688-5418	jackingemansen@sdstate.edu
Star Brand Research (Star) P.O. Box 648, Marcus IA 51035.	712-376-4135	soi@midlands.net
Syngenta Seeds (NK Brand), 26241 Anna Lake Rd., Underwood, MN 56586	218-826-6380, 800-445-0956	jay.stroh@syngenta.com gary.prescher@syngenta.com
Thompson Seeds (Thompson Seeds), 4032 130th Ave., Leland, IA 50453	641-567-3350	—
Thunder Seed (Thunder), 3008 210th St. N., Hawley, MN 54549	888-684-8633	Peterman@fargocity.com
Top Farm Hybrids (Top Farm), P.O. Box 850, Cokato, MN 55321	320-286-5516	ron@topfarm.com
Trelay Seeds (High Cycle), 11623 State Rd. 80, Livingston, WI 53544	608-943-6363	jasonb@trelay.com
Wensman Seed Company, P.O. Box 190, Wadena, MN 56482	218-631-2954	wensman@wensmanseed.com
Ziller Seed Co., Inc. (Ziller), 76374 380th St., Bird Island, MN 55310	320-365-3674	scsales@zillerseed.com

Table 1. Performance and characteristics of public and private soybean varieties, northern zone; Crookston, Moorhead and Shelly, 2003-2005.

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
MN0071	Minn.AES	9-10	96	92	92	97	109	00.7	Rps1	2.2
Jim	N.D. AES	9-13	101	102	93	95	100	00.8	S	2.3
MN0091	Minn.AES	9-15	—	—	92	100	99	00.9	Rps6	2.3
Glacier	Minn.AES	9-16	90	87	91	98	97	008	Rps6	2.7
Traill	N.D. AES	9-17	112	114	106	102	98	0.0	Rps1	2.3
MN0201	Minn.AES	9-20	100	100	97	106	92	0.2	Rps1	2.5
MN0101	Minn.AES	9-21	—	—	109	103	95	0.1	Rps1	2.2
Walsh	N.D. AES	9-22	95	94	95	98	101	0.2	Rps6	2.5
MN0304	Minn.AES	9-23	99	105	105	99	104	0.3	Rps1k	2.5
MN0302	Minn.AES	9-24	102	102	101	101	103	0.3	Rps1k	2.5
Lambert	Minn.AES	9-29	105	104	105	100	106	0.7	Rps1	3.0
Mean		9-19	34.7 bu/a	37.5 bu/a	43.9 bu/a	33.8%	18.3%			
LSD 20%			4%	6%	6%					

Table 2. Performance and characteristics of public and private soybean varieties, central zone; Becker, Morris and Rosemount, 2003-2005.

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
MN0302	Minn. AES	9-10	104	103	84	102	103	0.3	Rps1k	1.8
Barnes	N.D. AES	9-11	97	95	86	97	107	0.2	Rps6	3.0
PAG08	Precision Soya	9-13	—	—	95	102	97	0.8	Rps1c	2.3
Lambert	Minn. AES	9-14	118	118	98	103	100	0.7	Rps1	2.8
MN0902CN	Minn. AES	9-14	110	107	88	104	96	0.9	S	2.7
PAG11	Precision Soya	9-15	—	—	102	101	98	1.1	S	3.3
MN1006CN	Minn. AES	9-15	115	109	99	100	100	1.0	Rps1	3.0
Surge	MN & SD AES	9-15	115	117	99	104	98	0.9	Rps1	2.5
PAG09	Precision Soya	9-15	—	—	95	98	101	0.9	S	2.5
MN1005	Minn. AES	9-16	124	130	106	99	101	1.0	Rps1k	3.2
MN1302	Minn. AES	9-16	120	121	102	96	100	1.3	Rps1k	2.8
Kato	Minn. AES	9-17	110	115	92	109	94	1.3	Rps1	3.2
NT-155	NuTech	9-19	—	—	112	98	98	1.5	S	3.2
FA1545	Farm Advantage	9-20	134	141	115	103	98	1.5	S	2.5
Parker	Minn. AES	9-20	118	128	110	98	101	1.5	Rps1	2.5
Freeborn	Minn. AES	9-20	109	110	93	104	96	1.6	Rps1	3.3
PAG15	Precision Soya	9-21	—	—	110	99	99	1.5	S	2.5
NT-140	NuTech	9-22	—	—	120	100	98	1.4	S	3.5
Mean		9-16	48.4 bu/a	49.1 bu/a	65.8 bu/a	35.1%	19.1%			
LSD 20%			4%	4%	5%					

Table 3. Performance and characteristics of public and private soybean varieties, southern zone; Jackson, Lamberton and Waseca, 2003-2005.

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean			Percent of Mean		Maturity Rating	Phytoph-thora Gene	Chlorosis Score
			2003-2005	2004-2005	2005	Protein	Oil			
MN1302	Minn. AES	9-20	96	95	89	98	102	1.3	Rps1k	2.5
Freeborn	Minn. AES	9-21	92	91	82	105	100	1.6	Rps1	2.7
Parker	Minn. AES	9-23	102	101	95	103	100	1.5	Rps1	2.8
IA1006	Iowa AES	9-25	99	101	95	101	101	1.6	S	3.0
MN1801	Minn. AES	9-25	95	97	93	103	103	1.8	Rps1c	3.3
2318	Gold Country	9-26	—	—	102	104	99	1.8	S	2.5
IA1008	Iowa AES	9-26	98	96	99	100	99	2.0	S	2.8
NT-211	NuTech	9-27	—	—	113	101	97	2.1	S	2.7
L1763 Brand	Latham	9-27	—	—	105	100	99	1.7	S	3.7
1884	Viking	9-27	114	113	103	103	100	1.8	S	2.3
FA1936	Farm Advantage	9-27	—	—	103	98	101	1.9	S	2.7
FA1846	Farm Advantage	9-27	107	106	102	101	100	1.8	S	2.5
Sturdy	Minn. AES	9-27	98	98	93	101	104	2.0	Rps1	2.5
K-1999	Kruger	9-28	—	—	106	99	101	1.9	S	3.2
IA2050	Iowa AES	9-28	100	101	91	102	100	2.1	S	3.0
NT-207	NuTech	9-29	—	—	110	99	100	2.0	S	2.7
2265	Viking	9-30	—	—	112	102	101	2.2	S	3.0
FA2145N	Farm Advantage	10-2	—	—	110	100	101	2.1	S	2.8
NT-262	NuTech	10-2	—	—	103	104	104	2.4	S	3.8
IA2008R	Iowa AES	10-2	100	101	94	101	98	2.1	Rps1k	2.7
K-2320SCN	KSC/Challenger	10-3	—	114	112	102	98	2.3	S	3.2
23G02	Galena Genetics	10-3	—	—	101	102	99	2.3	S	2.8
Mean		9-27	49.7 bu/a	55.9 bu/a	69.4 bu/a	34.9%	19.6%			
LSD 20%			4%	5%	6%					

Table 4. Performance and characteristics of very early maturing soybean varieties; Grand Rapids, Kennedy, Roseau and Thief River Falls, 2003-2005.

Variety	Maturity Rating	Yield, Percent of Mean			Percent of Mean		Phytophthora Genel	Chlorosis Score
		2003-2005	2004-2005	2005	Protein	Oil		
MN0071	00.7	101	100	97	100	97	Rps1	2.2
Jim	00.7	99	99	99	100	83	S	3.5
Traill	0.0	98	99	101	107	81	S	2.7
MN0101	0.1	101	102	103	104	83	Rps1	2.7
Mean		32.9 bu/a	29.0 bu/a	35.1 bu/a	35.4%	18.3%		
LSD 20%		6%	4%	6%				

Table 5. Performance and characteristics of soybean varieties, southeastern Minn., 2001-2005.

	Maturity	Yield, Percent of Mean			Percent of Mean		Phytophthora	Chlorosis
Variety	Rating	2001-2005	2003-2005	2005	Protein	Oil	Gene	Score
MN1005	1.0	—	104	105	98	103	Rps1k	2.5
Kato	1.3	—	—	93	111	94	Rps1	2.5
MN1302	1.3	99	99	92	90	106	Rps1k	2.5
Parker	1.5	98	97	96	99	101	Rps1	2.6
91B53	1.5	97	90	96	102	101	S	2.5
IA1006	1.6	103	108	97	101	98	S	3.0
Freeborn	1.6	92	89	87	100	102	Rps1	2.6
MN1801	1.8	98	95	101	101	102	Rps1c	2.8
IA1008	2.0	102	105	102	101	96	S	2.5
Sturdy	2.0	101	98	90	104	98	Rps1	2.4
IA2065	2.1	—	—	117	97	106	S	2.6
IA2068	2.1	—	—	114	95	102	S	2.5
IA2050	2.1	108	110	111	98	100	S	2.8
IA2008R	2.1	—	105	99	101	96	Rps1k	2.7
Mean		40.2 bu/a	40.1 bu/a	42.5 bu/a	36.7%	18.1%		
LSD 20%		3%	3%	4%				

Table 6. Performance and characteristics of conventional and Roundup Ready public and private soybean varieties, far northern zone; Roseau, Thief River Falls, Crookston and Kennedy, 2003-2005.

	Brand or	Maturity	Yield, Percent of Mean			Percent of Mean		Maturity	Phytophthora	Chlorosis
Variety	Originator	Date	2003-2005	2004-2005	2005	Protein	Oil	Rating	Gene	Score
MN0071	Minn. AES	9-21	103	102	97	99	104	00.7	Rps1	2.2
RR50-06	Proseed	9-21	—	—	90	101	99	0.06	S	2.8
06006RR	PFS	9-21	—	—	80	99	99	00.6	N	2.8
Jim	N.D. AES	9-24	101	101	99	99	89	00.8	S	3.5
Colibri	Earthwise	9-24	—	—	93	101	91	00.3	S	2.7
Bravado	Earthwise	9-25	—	—	108	96	103	00.9	N	2.8
RR50-04	Proseed	9-25	—	—	101	101	102	0.04	Rps1k	2.8
X5005R	NK Brand	9-25	—	—	101	104	98	00.5	S	2.7
RR Ramsey	Hyland Seeds	9-25	—	—	94	98	103	00.5	S	2.8
30B04	Dyna-Gro	9-26	—	—	115	95	104	0.04	Rps1k	2.8
NS0049RR	NorthStar Genetics	9-26	—	—	102	100	104	00.8	Rps1	2.3
Atwood	Earthwise	9-27	—	—	109	105	97	00.8	Rps1	2.7
06004RR	PFS	9-27	—	—	106	95	103	00.4	Rps1k	2.5
NS0110RR	NorthStar Genetics	9-27	—	—	102	101	103	00.9	S	2.7
W20051RR	Wensman	9-27	—	—	102	96	102	00.5	Rps1k	2.5
Traill	N.D. AES	9-27	100	102	101	106	87	0.0	S	2.7
PB00425RR	Prairie Brand	9-27	—	—	100	96	104	00.4	Rps1k	2.7
RR20-05	Proseed	9-27	—	—	97	100	102	0.05	S	3.3
PB00645RR	Prairie Brand	9-27	—	—	95	96	102	00.6	S	2.7
W20077RR	Wensman	9-27	—	94	89	100	101	00.7	Rps1k	2.5
S00-J4	NK Brand	9-27	—	—	87	98	103	00.4	S	3.2
NT-0111RR	NuTech	9-28	—	—	102	98	105	0.1	S	3.0
NT-0121+RR	NuTech	9-28	—	—	98	95	102	0.1	S	3.0
DSTC9-000/RR	Dairyland	9-28	—	—	97	101	102	00.9	S	2.7
90M01	Pioneer Brand	9-28	—	—	94	100	104	01	Rps1k	2.5

Table 6. Performance and characteristics of conventional and Roundup Ready public and private soybean varieties, far northern zone; Roseau, Thief River Falls, Crookston and Kennedy, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytophthora Gene	Chlorosis Score
RG200	RoughRider Genetics	9-28	94	92	91	105	86	0.0	S	2.7
NS0056RR	NorthStar Genetics	9-29	—	—	102	98	102	00.9	Rps1k	2.5
RR Royal	Hyland Seeds	9-29	—	—	99	99	99	00.9	S	2.3
NS0099RR	NorthStar Genetics	9-29	—	—	97	99	102	00.9	Rps1k	2.8
S01-T5	NK Brand	9-29	—	—	96	108	95	0.1	S	3.3
04009RR	PFS	9-29	96	94	92	96	103	00.9	Rps1k	2.8
DSR-C800/RR	Dairyland	9-30	—	—	110	98	103	00.9	S	2.2
PB00943RR	Prairie Brand	9-30	—	112	110	99	102	0.1	Rps1k	2.2
M-0096	Mustang	9-30	—	—	108	100	101	0.009	S	2.5
S02-M9	NK Brand	9-30	—	—	108	102	101	0.2	S	3.0
RR50-07	Proseed	9-30	—	—	103	98	103	0.07	Rps1k	2.5
W20091RR	Wensman	9-30	—	108	102	101	100	00.9	Rps1k	2.2
MN0101	Minn. AES	9-30	103	105	102	103	89	0.1	Rps1	2.7
NT-0102RR	NuTech	9-30	—	—	97	96	100	0.1	S	2.7
MK0205	Richland Organics	9-30	—	105	92	104	96	0.1	N	2.8
K-009+RR	Kruger	10-1	—	—	109	100	102	00.9	S	2.3
30M09	Dyna-Gro	10-1	—	—	108	100	102	0.09	S	3.5
NT-0090RR	NuTech	10-1	—	—	104	102	103	00.9	S	2.5
PB00965RR	Prairie Brand	10-1	—	—	102	101	102	00.9	S	2.5
W20092RR	Wensman	10-2	—	—	109	102	102	00.9	S	3.0
T-0222+RR	Thompson Seeds	10-3	—	—	106	101	101	0.2	Rps1k	3.2
Mean		9-28	32.3 bu/a	28.2 bu/a	35.3 bu/a	35.4%	18.3%			
LSD 20%			4%	4%	6%					

Table 7. Performance and characteristics of Roundup Ready soybean varieties, northern zone; Crookston, Moorhead and Shelly, 2003-2005.

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
AG00603	Asgrow	9-12	—	—	81	96	100	0.06	Rps1	1.8
T-0111RR	Thompson Seeds	9-14	—	—	94	102	105	0.1	S	2.2
90M01	Pioneer Brand	9-14	—	—	90	102	104	0.001	Rps1k	2.0
RR Ramsey	Hyland Seeds	9-15	96	94	94	108	104	00.5	S	2.5
0051RR	Seeds 2000	9-15	—	—	92	105	101	00.5	S	2.0
PB-00845RR	Prairie Brand	9-17	—	—	106	99	105	00.8	Rps1k	2.3
DSR-0501/ RRSTS	Dairyland	9-17	—	—	103	101	103	0.5	S	2.3
K-009+RR	Kruger	9-17	—	—	103	103	103	0.09	S	1.8
26009RR	Thunder	9-17	—	—	103	103	101	00.9	S	1.8
PB-00965RR	Prairie Brand	9-17	—	—	100	105	105	00.9	S	2.5

Table 7. Performance and characteristics of Roundup Ready soybean varieties, northern zone; Crookston, Moorhead and Shelly, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
DKB009-51	Dekalb	9-17	—	—	89	102	102	0.09	N	1.8
DSR-C900/RR	Dairyland	9-17	—	—	87	95	100	00.0	S	1.3
X402R	NK Brand	9-18	—	—	103	106	100	0.2	S	2.5
W20092RR	Wensman	9-18	—	—	103	102	104	00.9	S	1.5
RR Royal	Hyland Seeds	9-18	—	—	102	105	103	00.9	S	2.7
2502RR	Thunder	9-18	—	—	98	102	101	0.2	S	1.0
PB-0234RR	PBR	9-18	—	98	92	99	102	0.2	S	2.3
0502RR	Peterson Farms	9-18	—	—	91	101	101	0.2	S	2.0
SX05203	Dyna-Gro	9-19	—	—	106	101	100	0.3	Rps1k	1.7
E34254RR	Top Farm	9-19	—	—	103	97	104	0.2	S	1.8
RR40-20	Proseed	9-19	—	—	99	64	68	0.2	S	2.2
PB-00943RR	PBR	9-19	—	98	97	104	101	0.1	Rps1k	1.8
31F02	Dyna—Gro	9-19	—	—	96	98	105	0.2	S	1.8
K-033RR	Kruger	9-20	—	—	107	102	102	0.3	S	2.5
W2020RR	Wensman	9-20	—	—	103	101	102	0.2	S	1.5
T-0121+RR	Thompson Seeds	9-20	—	—	102	96	98	0.1	S	2.8
M-025RR	Mustang	9-20	—	95	87	97	106	0.2	S	2.3
6002RR	Top Farm	9-20	—	—	86	103	99	0.00	S	2.5
AG0301	Asgrow	9-21	107	110	110	98	101	0.3	Rps1k	1.8
S04-29	NK Brand	9-21	—	—	108	105	100	0.4	S	2.0
W2040RR	Wensman	9-21	—	—	108	101	105	0.4	Rps1k	1.5
90M20	Pioneer Brand	9-21	—	104	103	99	102	0.2	Rps1k	2.2
RR Reliant	Hyland Seeds	9-21	—	—	100	105	102	0.3	S	2.0
RR20-11	Proseed	9-21	92	98	96	102	103	0.1	Rps1k	2.8
DSR-0401/RR	Dairyland	9-22	—	—	110	105	104	0.4	S	2.0
T-0222+RR	Thompson Seeds	9-22	—	—	106	100	106	0.2	Rps1	1.7
AG0202	Asgrow	9-22	—	—	103	101	100	0.2	Rps1k	2.3
Exp.24104R	Ziller	9-22	—	—	103	101	100	0.3	S	2.0
RR50-30	Proseed	9-23	—	—	99	100	102	0.3	Rps1k	3.3
SOI0660RR	Sands of Iowa	9-23	—	—	98	101	104	0.6	Rps1k	2.8
K-020RR	Kruger	9-23	—	—	95	102	101	0.2	S	2.0
NT-0515RR	NuTech	9-24	—	—	114	103	99	0.3	S	2.0
NT-0525RR	NuTech	9-24	—	—	111	101	101	0.3	S	1.8
NT-0606RR	NuTech	9-24	—	103	105	103	104	0.3	S	2.3
6020RR	Top Farm	9-24	—	—	98	99	104	0.2	S	1.7
SOI0452RR	Sands of Iowa	9-24	—	—	96	106	98	0.4	S	1.8
M-036RR	Mustang	9-24	—	—	95	98	100	0.3	N	1.5
RR Rugged	Hyland Seeds	9-24	—	89	87	102	106	0.3	S	3.0
RS035RR	Renk	9-25	—	—	110	100	101	0.3	S	1.5
PB-0554RR	Prairie Brand	9-26	—	110	114	103	98	0.4	S	1.8
SOI0547RR	Sands of Iowa	9-26	—	—	114	101	101	0.5	S	2.5
W2064RR	Wensman	9-26	—	—	112	103	100	0.6	S	1.7
M-055RR	Mustang	9-26	—	108	110	103	99	0.5	S	1.8
0305RR	Peterson Farms	9-26	105	105	107	102	100	0.5	S	1.8
NT-0616RR	NuTech	9-27	—	—	116	99	101	0.3	Rps1	1.8

Table 7. Performance and characteristics of Roundup Ready soybean varieties, northern zone; Crookston, Moorhead and Shelly, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytophthora Gene	Chlorosis Score
M-066RR	Mustang	9-27	—	—	112	99	101	0.6	Rps1	2.8
PB-0565RR	Prairie Brand	9-28	—	—	115	99	100	0.5	S	2.8
RR20-40	Proseed	9-28	—	—	111	100	103	0.4	N	2.3
RG200	Rough Rider Genetics	9-28	100	102	99	108	100	0.0	Rps1	2.0
0506RR	Peterson Farms	9-30	—	—	114	100	106	0.5	Rps6	2.3
Mean		9-21	40.7 bu/a	43.6 bu/a	49.0 bu/a	33.3%	18.7%			
LSD 20%			5%	6%	6%					

Table 8. Performance and characteristics of Roundup Ready soybean varieties, central zone; Becker, Rosemount and Morris, 2003-2005.

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytophthora Gene	Chlorosis Score
AG0301	Asgrow	9-11	—	—	91	94	100	0.3	Rps1k	2.5
RR Reliant	Hyland Seeds	9-13	—	—	81	98	101	0.3	S	3.5
AG0803	Asgrow	9-14	—	—	99	99	107	0.8	Rps1k	2.0
DSR-0701/RR	Dairyland	9-14	—	—	98	103	100	0.7	Rps1k	1.3
AG0801	Asgrow	9-15	100	101	100	93	105	0.8	Rps1k	1.8
XR08Y31	Garst Seed	9-15	—	—	97	104	100	0.8	S	2.0
RR Randell	Hyland Seeds	9-15	—	—	97	99	105	0.8	S	1.5
90M60	Pioneer Brand	9-15	—	88	87	98	100	0.6	Rps1c	1.8
7063	Farm Advantage	9-16	—	—	103	97	101	0.6	S	2.5
36N05	Dyna-Gro	9-16	—	—	98	92	101	0.5	Rps1	2.8
90M91	Pioneer Brand	9-16	—	—	98	100	106	0.9	Rps1k	2.0
91M13	Pioneer Brand	9-16	—	—	98	103	106	1.1	Rps1k	1.0
RR40-70	Proseed	9-16	—	—	98	104	103	0.7	Rps1	2.8
RR50-80	Proseed	9-16	—	—	98	105	100	0.8	Rps1k	2.2
PB-0885NRR	Prairie Brand	9-16	—	—	94	104	99	0.8	Rps1k	1.3
RRExp8.5	Proseed	9-16	—	—	91	105	97	0.8	Rps1k	3.2
RR HX540	Hyland Seeds	9-16	—	—	88	104	102	0.5	S	2.0
708RR	Thunder	9-17	—	—	104	104	100	0.8	Rps1k	1.7
2512RR	Thunder	9-17	—	—	99	102	96	1.2	S	1.5
K-056RR	KSC/Challenger	9-17	—	—	96	102	103	0.5	S	2.7
SD1092RR	Sodak Genetics	9-17	—	—	91	106	100	0.9	Rps1k	1.8
MN0904RR	Minn. AES	9-17	94	87	91	110	99	0.9	Rps1k	1.2
DKB10-52	Dekalb	9-18	—	—	105	102	99	1.0	Rps1k	2.3
33R09	Dyna-Gro	9-18	—	—	103	104	97	0.9	Rps1k	2.2
0999RR	Garst Seed	9-18	—	—	101	98	95	1.0	Rps1k	3.2
SOI0969RR	Sands of Iowa	9-18	—	—	100	103	100	0.9	Rps1k	2.3
RR40-90	Proseed	9-18	—	—	99	106	98	0.9	S	2.3
AG1401	Asgrow	9-19	106	106	105	96	107	1.4	Rps1k	1.7
NT-0939RR	NuTech	9-19	—	—	104	104	98	0.9	S	2.7
RS095RR	Renk	9-19	—	—	101	104	98	0.9	Rps1k	2.5

Table 8. Performance and characteristics of Roundup Ready soybean varieties, central zone; Becker, Rosemount and Morris, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
KB086RR	Kaltenberg	9-19	—	—	100	102	100	—	Rps1k	3.8
T-0901RR	Thompson Seeds	9-19	—	—	98	102	100	0.9	Rps1k	2.7
K-080RR	KSC/Challenger	9-19	—	—	96	104	100	0.8	Rps1k	2.3
37A10	Dyna-Gro	9-20	—	105	108	100	104	1.0	Rps1k	2.0
PB-0965RR	PBR	9-20	—	—	108	102	102	1.0	S	1.8
K-098RR	Kruger	9-20	—	—	102	97	99	0.9	S	2.3
C0995RR	LG Seeds	9-20	—	—	102	106	99	0.9	N	1.8
SD1091RR	Sodak Genetics	9-20	90	86	94	108	101	0.9	Rps1	2.3
DST09-002/RRSTS	Dairyland	9-20	—	—	93	102	98	0.9	Rps1k	2.7
SD1101RR	Sodak Genetics	9-20	—	—	93	100	104	1.0	Rps1	2.0
M-095RR	Mustang	9-21	—	113	116	103	100	0.9	S	2.2
Exp.44411R	Ziller	9-21	—	—	109	101	102	1.1	S	1.5
M-096RR	Mustang	9-21	—	—	107	103	103	0.9	S	2.0
T-1555RR	Thompson Seeds	9-21	—	—	107	100	105	1.5	Rps1k	3.0
W2090RR	Wensman	9-21	—	98	106	101	97	0.9	S	2.0
SX05514	Dyna-Gro	9-21	—	—	104	104	102	1.4	Rps1k	3.2
AG1502	Asgrow	9-21	—	—	102	99	111	1.5	S	2.7
SX05611	Dyna-Gro	9-21	—	—	102	99	105	1.1	S	2.0
PB-0923RR	Prairie Brand	9-21	101	102	102	106	105	0.9	Rps1k	2.3
K-122RR	Kruger	9-21	—	—	101	103	102	1.2	S	2.5
2509RR	Gold Country	9-21	—	—	100	98	102	0.9	S	1.5
BT7145R	Ziller	9-21	—	97	97	104	100	1.4	Rps1k	1.5
91M51	Pioneer Brand	9-21	—	97	96	103	103	1.5	Rps1k	2.5
2143RR	High Cycle	9-21	—	—	95	106	100	1.4	Rps1k	1.8
7123	Farm Advantage	9-22	—	—	112	106	102	1.2	Rps1k	3.0
PB-1405RR	PBR	9-22	—	—	108	105	100	1.4	Rps1k	2.5
PB-1525RR	Prairie Brand	9-22	—	—	107	102	105	1.5	Rps1k	1.8
DST14-000/RRSTS	Dairyland	9-22	—	—	106	108	100	1.4	S	1.8
AG1102	Asgrow	9-22	—	106	105	97	103	1.1	Rps1k	2.2
M-136RR	Mustang	9-22	—	—	105	104	101	1.3	N	1.8
K-102RR	KSC/Challenger	9-22	—	—	104	102	102	1.0	S	2.8
NT-1404RR	NuTech	9-22	—	—	104	107	98	1.4	Rps1k	2.8
W2142RR	Wensman	9-22	—	—	104	108	100	1.4	Rps1k	2.0
39D11	Dyna-Gro	9-22	—	—	103	99	102	1.1	S	2.7
K-156RR	Kruger	9-22	—	—	103	105	99	1.4	Rps1k	2.5
K-100RR	Kruger	9-22	—	—	100	103	104	1.0	Rps1k	2.7
151CNR	Anderson Seeds	9-22	—	99	99	103	106	1.5	N	2.3
XR14C08	Garst Seed	9-22	—	—	99	105	100	1.4	Rps1k	2.5
MN1504RR	Minn. AES	9-22	—	—	95	105	105	1.5	Rps1k	1.8
SD1151RR	Sodak Genetics	9-22	94	90	93	104	102	1.4	Rps1k	1.7
C1400RR	LG Seeds	9-23	—	—	118	101	105	1.4	Rps1k	1.7
ADV1541R	Advantage	9-23	—	112	114	101	102	1.5	N	2.7
KB135RR	Kaltenberg	9-23	—	—	112	99	105	—	N	3.0
7103	Farm Advantage	9-23	—	—	109	98	102	1.0	S	2.5
DSR-1301/RR	Dairyland	9-23	—	94	107	103	103	1.3	S	2.2

Table 8. Performance and characteristics of Roundup Ready soybean varieties, central zone; Becker, Rosemount and Morris, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
3512RR	Gold Country	9-23	—	101	106	91	105	1.2	Rps1c	2.0
RS124NRR	Renk	9-23	—	—	103	96	105	1.2	Rps1c	2.5
T-1606RR	Thompson Seeds	9-23	—	—	102	104	102	1.5	Rps1k	2.5
T-0999+RR	Thompson Seeds	9-23	—	—	101	102	103	0.9	Rps1k	1.8
1560RR	Viking	9-23	—	—	98	108	100	1.5	S	2.3
W2121RR	Wensman	9-23	—	98	95	99	101	1.2	Rps1c	2.2
RS115RR	Renk	9-24	—	—	113	100	105	1.1	Rps1k	2.7
1508RR	Anderson Seeds	9-24	106	106	110	106	97	1.5	N	2.5
M-115RR	Mustang	9-24	—	99	108	89	100	1.1	Rps1c	1.3
KB155P	Kaltenberg	9-24	—	—	107	101	100	—	Rps1k	1.5
W2150RR	Wensman	9-24	—	—	107	107	102	1.5	Rps1k	1.8
2111RR	High Cycle	9-24	—	—	106	91	106	1.1	Rps1c	2.0
NT-1616RR	NuTech	9-24	—	—	106	102	99	1.5	S	2.3
7143	Farm Advantage	9-24	—	—	104	107	98	1.4	S	2.5
35D15	Dyna-Gro	9-24	—	—	103	105	101	1.5	Rps1k	2.0
1499RR	Garst Seed	9-24	102	101	103	102	103	1.4	S	1.7
PB-1294RR	Prairie Brand	9-24	—	100	101	97	103	1.2	Rps1c	2.0
E1330R	Latham	9-24	—	—	100	96	101	1.3	S	2.5
BT7115R	Ziller	9-24	—	—	96	99	100	1.1	S	1.8
SOI1540RR	Sands of Iowa	9-25	106	105	113	99	103	1.5	S	2.5
RS159RR	Renk	9-25	101	103	111	95	106	1.5	Rps1c	1.5
K-149+RR	KSC/Challenger	9-25	—	104	109	106	100	1.4	Rps1k	1.8
2154RR	High Cycle	9-25	—	107	106	106	100	1.5	Rps1k	1.7
ADV1284NR	Advantage	9-25	—	—	103	93	105	1.2	N	2.5
1821RR	Garst Seed	9-26	—	103	104	99	103	1.7	Rps1c	2.3
XR17Y67	Garst Seed	9-27	—	—	119	94	101	1.7	S	2.0
KB176RR	Kaltenberg	10-1	—	—	39	48	54	—	Rps1k	2.0
Mean		9-20	46.2 bu/a	47.3 bu/a	59.7 bu/a	34.9%	18.1%			
LSD 20%			6%	6%	7%					

Table 9. Performance and characteristics of Roundup Ready soybean varieties, southern zone; Jackson, Lamberton and Waseca, 2003-2005.

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
91M60	Pioneer Brand	9-18	—	—	84	97	99	1.6	Rps1c	2.3
MN1504RR	Minn. AES	9-19	—	—	95	98	103	1.5	Rps1k	2.0
XR14C08	Garst Seed	9-19	—	—	87	103	100	1.4	Rps1k	3.3
M98-332069	Minn. AES	9-19	—	84	83	105	100	1.5	Rps1k	2.7
AG1502	Asgrow	9-19	—	—	80	99	105	1.5	S	1.8

Table 9. Performance and characteristics of Roundup Ready soybean varieties, southern zone; Jackson, Lamberton and Waseca, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
PB-1525RR	Prairie Brand	9-20	—	—	95	99	102	1.5	Rps1k	1.5
151CNR	Anderson Seeds	9-21	—	91	89	103	101	1.5	Rps1k	3.0
91M70	Pioneer Brand	9-23	—	—	100	99	98	1.7	Rps1k	2.2
T-1616RR	Thompson Seeds	9-23	—	—	98	100	102	1.6	S	2.7
91M91	Pioneer Brand	9-23	—	—	96	99	101	1.9	Rps1k	2.2
DSR-1500/RRSTS	Dairyland	9-23	—	—	94	102	98	1.5	N	2.3
1827RR/STS	Garst Seed	9-23	—	—	93	103	100	1.8	Rps1k	2.5
RS165RR	Renk	9-23	—	—	93	101	102	1.6	S	2.7
BT7160R	Ziller	9-24	—	—	94	100	103	1.6	N	2.2
2184RR	High Cycle	9-24	—	—	91	101	100	1.8	N	1.5
XR17Y67	Garst Seed	9-25	—	—	107	98	100	1.7	S	2.0
E1756R	Latham	9-25	—	—	102	102	99	1.7	Rps1k	2.0
M-176RR	Mustang	9-25	—	—	102	100	100	1.7	N	2.0
PB-1754RR	Sansgaard	9-25	—	103	102	96	98	1.7	S	2.8
1720RR	Anderson Seeds	9-25	—	—	101	101	101	1.7	Rps1k	2.0
7173	Farm Advantage	9-25	—	—	101	98	101	1.7	Rps1k	2.3
SX05317	Dyna-Gro	9-25	—	—	100	101	100	1.7	Rps1k	1.8
W2170RR	Wensman	9-25	—	—	99	97	101	1.7	Rps1k	1.8
PB-1725RR	PBR	9-25	—	—	98	96	98	1.7	Rps1k	2.7
1776RR	Viking	9-25	—	—	98	99	102	1.7	S	1.7
W2163RR	Wensman	9-26	—	105	105	101	99	1.6	N	2.5
2163RR	High Cycle	9-26	—	—	99	98	100	1.6	Rps1k	1.5
M-205RR	Mustang	9-26	—	—	94	99	95	2.0	Rps1	1.7
DSR-199/RRSTS	Dairyland	9-27	—	102	106	106	92	1.9	Rps1k	2.0
191CNR	Anderson Seeds	9-27	103	106	105	97	100	1.9	Rps1k	2.3
RS204NRR	Renk	9-27	—	104	105	99	103	2.0	Rps1k	2.8
2420NRR	Gold Country	9-27	—	—	104	99	102	2.0	Rps1k	2.3
2029RR	Viking	9-27	—	—	104	100	96	—	Rps1k	2.5
W2195NRR	Wensman	9-27	—	—	103	100	100	1.9	Rps1k	2.0
XR20B31	Garst Seed	9-27	—	—	102	103	100	2.0	S	1.8
ADV1902R	Advantage	9-27	—	—	101	102	104	1.9	N	3.3
AG2203	Asgrow	9-27	—	97	98	103	100	2.2	Rps1k	2.3
ADV2005R	Advantage	9-27	—	—	97	103	101	2.0	N	2.0
MN1803RR	Minn. AES	9-27	91	92	92	98	97	1.8	Rps1	2.5
SX05123	Dyna-Gro	9-28	—	—	105	101	96	2.3	Rps1	2.5
2018RR	Garst Seed	9-28	—	—	105	105	97	2.0	Rps1k	3.0
KB206RR	Kaltenberg Seeds	9-28	—	—	104	101	100	—	Rps1k	1.8
K-195+RR/SCN	Kruger	9-28	103	104	104	103	95	1.9	Rps1k	1.8
T-2333RR	Thompson Seeds	9-28	—	—	104	102	100	2.3	Rps1	2.0
AG2205	Asgrow	9-28	—	—	103	103	99	2.2	Rps1k	2.7

Table 9. Performance and characteristics of Roundup Ready soybean varieties, southern zone; Jackson, Lamberton and Waseca, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
RS185RR	Renk	9-28	—	—	101	101	100	1.8	S	1.5
DSR-1900/RR	Dairyland	9-28	—	—	98	104	97	1.9	N	2.2
7205	Farm Advantage	9-28	—	—	98	99	103	2.0	Rps1	2.5
PB-1954RR	PBR	9-28	—	96	98	100	102	1.9	Rps1	2.7
ADV1952R	Advantage	9-28	—	—	97	102	95	1.9	N	2.3
SOI2169RR	Sands of Iowa	9-28	—	98	97	97	103	2.1	Rps1	2.0
K-200RR	Kruger	9-28	—	96	94	101	99	2.0	Rps1	2.5
XR19Y52	Garst Seed	9-28	—	—	93	103	93	1.9	S	2.8
2183RR	High Cycle	9-29	—	—	109	102	101	1.8	N	1.8
M-226RR	Mustang	9-29	—	—	109	100	101	2.2	Rps1	3.5
2111RR	Anderson Seeds	9-29	—	—	108	101	100	2.1	S	3.0
K-192RR	KSC/Challenger	9-29	—	102	108	104	98	1.9	S	2.0
BT7186NR	Ziller	9-29	—	—	108	102	100	1.8	S	2.0
KB187RR	Kaltenberg Seeds	9-29	—	—	106	102	100	—	S	2.8
NT-2222RR/SCN	NuTech	9-29	—	—	106	102	100	2.2	Rps1k	2.3
2255RR	Viking	9-29	—	—	106	98	97	2.2	Rps1	2.3
E2045R	Latham	9-29	—	—	105	101	101	2.0	N	2.0
PB-2345RR	PBR	9-29	—	—	104	99	101	2.3	N	2.2
T-7206RR	Thompson Seeds	9-29	—	—	103	100	102	2.0	Rps1k	2.3
PB-2183NRR	Prairie Brand	9-29	—	—	102	100	103	2.0	Rps1k	2.7
K-212RR	KSC/Challenger	9-29	—	—	101	100	102	2.1	N	2.3
E1935R	Latham	9-29	—	—	101	101	98	1.9	N	1.7
K-191RR	KSC/Challenger	9-29	—	—	100	103	99	1.7	S	2.2
SOI1863RR	Sands of Iowa	9-29	—	—	100	100	101	1.8	S	2.5
W2211RR	Wensman	9-29	99	100	100	101	101	2.1	N	2.8
PB-2243RR	Prairie Brand	9-30	101	105	110	101	100	2.1	N	1.8
3218RR	Dyna-Gro	9-30	99	104	108	102	100	2.1	N	2.5
PB-2205RR	PBR	9-30	—	—	107	103	98	2.2	S	2.7
NT-2112RR/STS	NuTech	9-30	—	—	106	99	103	2.1	Rps1k	2.2
RS223RR	Renk	9-30	101	103	106	99	98	1.5	N	2.3
T-7205+RR	Thompson Seeds	9-30	—	—	105	99	103	2.0	Rps1k	2.2
7192	Farm Advantage	9-30	—	103	104	98	100	1.9	S	2.5
K-233+RR	KSC/Challenger	9-30	100	100	104	96	99	2.3	Rps1k	1.2
2224RR	High Cycle	9-30	—	—	103	101	100	2.2	S	1.8
SOI2143RR	Sands of Iowa	9-30	101	100	102	100	102	2.1	Rps1k	1.0
SOI2141RR	Sands of Iowa	9-30	—	—	102	99	101	2.1	S	2.2
PB-2443RR	Sansgaard	9-30	—	—	101	98	95	2.4	N	2.0
K-211+RR	Kruger	9-30	96	101	100	96	98	2.2	N	3.0
AG2403	Asgrow	9-30	99	101	97	101	101	2.4	Rps1k	1.8
2223RR	High Cycle	9-30	—	—	97	101	94	2.2	Rps1k	2.5

Table 9. Performance and characteristics of Roundup Ready soybean varieties, southern zone; Jackson, Lamberton and Waseca, 2003-2005 (continued).

Variety	Brand or Originator	Maturity Date	Yield, Percent of Mean 2003-2005	2004-2005	2005	Percent of Mean Protein	Oil	Maturity Rating	Phytoph-thora Gene	Chlorosis Score
AG1903	Asgrow	9-30	—	96	96	98	97	1.9	Rps1k	2.5
KB226RR	Kaltenberg Seeds	9-30	—	—	88	98	100	—	S	2.5
39P22	Dyna-Gro	10-1	—	—	111	97	98	2.2	N	2.0
PB-2385NRR	Sansgaard	10-1	—	—	109	101	102	2.4	S	1.8
92M32	Pioneer Brand	10-1	—	106	108	101	100	2.3	Rps1k	2.0
BT7215R	Ziller	10-1	—	105	106	101	102	2.1	Rps1k	1.5
DSR-234/RR	Dairyland	10-1	—	104	105	99	95	2.3	N	1.7
2157RR	Viking	10-1	105	106	105	96	105	2.1	Rps1k	2.8
6221RR	Gold Country	10-1	99	100	101	101	100	2.1	Rps1k	2.3
497RR Brand	Latham	10-1	103	102	100	104	99	2.2	Rps1k	1.7
PB-2141RR	Prairie Brand	10-1	97	99	99	102	97	2.1	Rps1k	2.5
ADV2135R	Advantage	10-1	99	101	96	101	100	2.2	N	1.5
KB236RR	Kaltenberg Seeds	10-2	—	—	110	102	99	—	S	2.0
K-223+RR	Kruger	10-2	—	—	109	99	96	2.2	N	2.3
PB-2385NRR+	Sansgaard	10-2	—	—	107	101	101	2.3	S	1.7
XR23C90	Garst Seed	10-2	—	—	96	105	99	2.3	S	2.8
BT7236R	Ziller	10-3	—	—	109	97	98	2.3	Rps1k	2.5
NT-2324RR/SCN	NuTech	10-3	—	—	107	102	100	2.3	N	3.0
M-201RR	Mustang	10-3	103	102	105	99	100	2.0	Rps1k	2.7
Mean		9-27	54.4 bu/a	59.1 bu/a	70.1 bu/a	34.7%	19.3%			
LSD 20%			5%	6%	7%					

Table 10. Performance and characteristics of soybean varieties, central zone; at soybean-cyst-nematode infested (Danvers, Hector and Danube) an non-infested (Becker, Morris and Rosemount) sites, 2004-2005.

			Yield, Percent of Mean				Percent of					
			Infested sites		Non-infested sites		Mean		Matu-	Phytoph-	Chlo-	
Variety	Brand or Originator	Maturity Date	2004-2005	2005	2004-2005	2005	Protein	Oil	rity Rating	thora Gene	rosis Score	SCN Rating
MN0902CN	Minn. AES	9-25	92	91	91	94	101	98	0.9	S	2.5	R
AG0803	Asgrow	9-26	—	107	—	92	97	105	0.8	Rps1k	2.5	MR
91M12	Pioneer Brand	9-26	—	98	—	95	98	97	1.1	Rps1c	2.7	MR
MN1006CN	Minn. AES	9-26	98	98	102	99	98	104	1.0	Rps1	2.0	R
7084N	Farm Advantage	9-26	—	90	—	100	100	101	0.8	Rps1k	2.5	R
MN0904RR	Minn. AES	9-26	—	79	—	95	102	96	0.9	Rps1k	2.0	S
AG0801	Asgrow	9-26	—	73	—	98	97	99	0.8	S	2.5	S
Lambert	Minn. AES	9-26	74	62	97	95	100	103	0.7	Rps1	3.2	S
T-0801RR/SCN	Thompson Seeds	9-27	—	94	—	97	99	101	0.8	Rps1k	1.5	R
PB-0885NRR	Prairie Brand	9-27	—	89	—	90	100	102	0.8	Rps1k	2.8	MR
SD1091RR	Sodak Genetics	9-27	—	86	—	91	104	99	0.9	Rps1	2.3	S
Surge	MN & SD AES	9-27	—	72	—	102	103	98	0.9	Rps1	2.3	S
91M50	Pioneer Brand	9-28	100	106	93	98	100	95	1.5	S	2.3	R
X413R	NK Brand	9-28	105	96	100	94	106	94	1.3	Rps1c	2.2	R
AG1501	Asgrow	9-29	120	122	106	105	100	104	1.5	Rps1k	2.8	MR
151CNR	Anderson Seeds	9-30	122	116	104	96	101	97	1.5	Rps1k	3.0	MR
NT-1515RR/SCN	NuTech	9-30	—	113	—	95	102	103	1.5	Rps1k	2.5	MR
K-141RR/SCN	KSC/Challenger	9-30	114	104	101	96	101	102	1.4	Rps1k	2.5	MR
RS124NRR	Renk Seed	9-30	—	103	—	98	94	102	1.2	Rps1c	1.8	S
Parker	Minn. AES	9-30	—	100	—	101	100	102	1.5	Rps1	3.0	S
NT-1514RR/SCN	NuTech	10-1	—	126	—	106	100	102	1.5	S	3.0	R
T-1727RR/SCN	Thompson Seeds	10-2	—	120	—	105	104	95	1.5	S	2.3	R
T-1828RR/SCN	Thompson Seeds	10-2	—	118	—	119	96	104	1.5	Rps1k	2.3	R
PB-1585NRR	Prairie Brand	10-2	—	117	—	101	100	99	1.5	S	2.7	R
NT-1919RR/SCN	NuTech	10-3	—	115	—	109	96	102	1.5	Rps1k	2.5	R
PB-1694NRR	Prairie Brand	10-3	108	109	107	109	98	96	1.6	Rps1c	2.2	MR
T-1819RR/SCN	Thompson Seeds	10-4	—	118	—	108	98	100	1.5	Rps1k	2.3	R
PB-1885NRR	Prairie Brand	10-5	—	130	—	110	100	102	1.7	N	2.3	R
NT-1888RR/SCN	NuTech	10-5	—	122	—	112	99	100	1.5	S	2.3	S
Mean		9-29	39.8 bu/a	52.0 bu/a	52.8 bu/a	67.8 bu/a	36.4%	18.6%				
LSD 20%			7%	8%	8%	9%						

Table 11. Performance and characteristics of soybean varieties, southern zone; at soybean-cyst nematode-infested (Hayward, Lamberton, Madelia and Waseca) and non-infested (Jackson, Lamberton, and Waseca) sites, 2003-2005.

Variety	Brand or Originator	Matu-rity Date	Yield, Percent of Mean: Infested sites 2003-2005	Infested sites 2004-2005	Infested sites 2005	Non-infested sites 2003-2005	Non-infested sites 2004-2005	Non-infested sites 2005	Percent of Mean: Protein	Percent of Mean: Oil	Matu-rity Rating	Phy-toph-thora Gene	Chlo-rosis Score	SCN Rating
MN1006CN	Minn. AES	9-20	85	85	83	90	88	86	96	104	1.0	Rps1	1.5	R
MN1302	Minn. AES	9-21	—	—	83	—	—	88	97	100	1.3	Rps1k	2.5	S
K-141RR/SCN	KSC/Challenger	9-22	—	100	97	—	95	93	103	99	1.4	Rps1k	2.0	R
151CNR	Anderson Seeds	9-22	—	96	93	—	91	87	104	98	1.5	Rps1k	2.0	R
X413R	NK Brand	9-22	—	—	84	—	—	86	104	99	1.3	Rps1c	2.5	R
Freeborn	Minn. AES	9-22	88	81	81	85	82	81	106	98	1.6	Rps1	2.5	R
91M91	Pioneer Brand	9-23	—	—	102	—	—	101	96	100	1.9	Rps1k	3.0	R
E1783R	Latham	9-23	—	—	100	—	—	100	99	102	1.7	Rps1c	2.0	R
SOI1867NRR	Sands of Iowa	9-23	—	—	99	—	—	95	97	100	1.8	Rps1c	2.0	R
1768CNRR	Viking	9-23	—	—	96	—	—	89	101	100	1.7	S	2.0	R
X417R	NK Brand	9-23	—	92	93	—	96	94	99	97	1.7	Rps1	2.5	R
Parker	Minn. AES	9-23	78	73	70	91	90	90	99	100	1.5	Rps1	3.0	S
S18-N5	NK Brand	9-24	—	—	108	—	—	98	101	97	1.8	S	2.5	R
PB-1585NRR	Prairie Brand	9-24	—	—	102	—	—	97	101	100	1.5	S	2.5	R
T-1727RR/SCN	Thompson Seeds	9-24	—	—	98	—	—	95	101	100	1.5	S	1.0	R
M-166NRR	Mustang	9-24	—	—	94	—	—	101	102	100	1.6	S	2.8	R
XR18N15	Garst Seed	9-25	—	—	98	—	—	101	99	101	1.8	Rps1c	2.0	R
K-166RR/SCN	Kruger	9-25	—	—	97	—	—	94	102	99	1.6	S	2.0	R
2174RR	High Cycle	9-25	—	93	89	—	102	103	100	100	1.7	Rps1c	1.5	R
MN1801	Minn. AES	9-25	—	—	83	—	—	97	101	101	1.8	Rps1c	2.5	S
Sturdy	Minn. AES	9-25	—	—	74	—	—	94	99	101	2.0	Rps1	2.3	S
X519R	NK Brand	9-26	—	—	111	—	—	103	100	98	1.9	S	2.5	R
K-188RR/SCN	Kruger	9-26	—	—	110	—	—	99	97	101	1.8	S	2.5	R
T-1819RR/SCN	Thompson Seeds	9-26	—	—	94	—	—	105	99	100	1.5	Rps1k	2.0	R
T-7193RR/SCN	Thompson Seeds	9-27	—	109	115	—	105	101	98	104	1.9	Rps1k	1.8	R
K-195+RR/SCN	Kruger	9-27	109	114	114	110	111	109	99	103	1.9	Rps1k	2.0	R
RS204NRR	Renk Seed	9-27	—	—	110	—	—	108	99	103	2.0	Rps1k	2.0	R
NT-1919RR/SCN	NuTech	9-27	—	109	109	—	104	103	98	104	1.9	Rps1k	2.0	R
NT-2122RR/SCN	NuTech	9-27	—	—	108	—	—	101	98	102	2.1	S	2.8	R
1908CNRR	Viking	9-27	103	106	106	105	104	100	100	100	1.9	Rps1k	2.0	R
191CNR	Anderson Seeds	9-27	103	106	105	103	105	103	98	103	1.9	Rps1k	3.0	R
PB-1885NRR	Prairie Brand	9-27	—	—	103	—	—	100	98	102	1.7	N	2.8	R
19G01	Galena Genetics	9-27	—	—	87	—	—	96	101	97	1.9	S	3.0	R
PB-2183NRR	Prairie Brand	9-28	110	112	117	106	108	106	99	103	2.0	Rps1k	2.0	R
M-194NRR	Mustang	9-28	115	116	116	111	112	113	96	102	1.9	Rps1k	2.0	R
92M30	Pioneer Brand	9-28	—	—	114	—	—	92	100	99	2.3	S	2.3	R
AG2107	Asgrow	9-28	112	112	106	105	106	105	100	104	2.1	Rps1k	3.0	R
SOI2151NRR	Sands of Iowa	9-28	102	103	105	106	104	102	97	103	2.1	Rps1k	2.3	R
AG2203	Asgrow	9-28	—	105	101	—	98	98	101	96	2.2	Rps1k	2.5	R
IA1008	Iowa AES	9-28	96	91	92	96	95	93	102	98	2.0	S	2.5	R

Table 11. Performance and characteristics of soybean varieties, southern zone; at soybean-cyst nematode-infested (Hayward, Lamberton, Madelia and Waseca) and non-infested (Jackson, Lamberton, and Waseca) sites, 2003-2005 (continued).

			Yield, Percent of Mean											
			Infested sites			Non-infested sites			Percent of Mean					
Variety	Brand or Originator	Maturity Date	2003-2005	2004-2005	2005	2003-2005	2004-2005	2005	Protein	Oil	Maturity Rating	Phytophthora Gene	Chlorosis Score	SCN Rating
NT-2222RR/SCN	NuTech	9-29	—	—	120	—	—	107	98	102	2.2	Rps1k	2.3	R
33X19	Dyna-Gro	9-29	107	107	103	—	109	106	98	104	1.9	Rps1k	1.8	R
IA2050	Iowa AES	9-29	—	—	92	—	—	100	100	99	2.1	S	2.8	S
K-213RR/SCN	KSC/Challenger	9-30	—	—	104	—	—	107	100	99	2.2	S	2.5	S
IA2068	Iowa AES	10-1	—	106	101	—	103	101	97	101	2.2	S	2.5	R
E2183R	Latham	10-1	—	—	91	—	—	109	102	98	2.1	S	2.0	MR
Turner	S.D. AES	10-2	—	98	95	—	99	98	100	100	2.2	S	2.8	R
K-2320SCN	KSC/Challenger	10-3	—	106	108	—	111	116	99	100	2.3	S	1.5	R
K-236RR/SCN	KSC/Challenger	10-3	—	—	103	—	—	107	103	96	2.3	S	2.0	R
92B38	Pioneer	10-3	—	—	92	—	—	100	100	97	2.3	S	2.5	MR
K-235RR/SCN	Kruger	10-4	—	—	116	—	—	103	101	102	2.3	N	2.0	R
NT-2324RR/SCN	NuTech	10-4	—	—	114	—	—	107	101	98	2.3	N	2.3	R
92M40	Pioneer Brand	10-4	—	—	107	—	—	104	102	98	2.4	Rps1c	2.8	MR
PB-2385NRR	Prairie Brand	10-4	—	—	106	—	—	104	105	96	2.3	S	3.0	R
SX04324	Dyna-Gro	10-4	—	—	105	—	—	104	103	95	2.4	Rps1k	3.0	R
T-2424RR/SCN	Thompson Seeds	10-4	—	—	103	—	—	104	103	96	2.4	S	1.0	R
SOI2467NRR	Sands of Iowa	10-5	—	—	116	—	—	105	101	100	2.4	N	2.0	MR
E2422RX	Latham	10-5	—	—	103	—	—	105	103	95	2.4	S	2.8	R
Mean		9-27	42.3 bu/a	46.1 bu/a	50.6 bu/a	52.5 bu/a	58.3 bu/a	69.7 bu/a	35.5%	19.3%				
LSD 20%			6%	7%	9%	5%	6%	7%						

Table 12. Characteristics of special use soybean varieties, northern zone; Crookston, Moorhead and Shelly, 2005.

Variety	Releasing Institution	Maturity Rating	Special Characteristics	Hilum Color	Phytophthora Gene	Chlorosis Score	Seeds/Lb.
Jim	N.D. AES	00.8	General Purpose	Yellow	S	1.7	3,047
Atwood	Earthwise	00.8	Food Type	Yellow	S	1.7	2,987
Colibri	Earthwise	00.3	Food Type	Brown	N	2.2	6,676
Traill	N.D. AES	0.0	General Purpose	Yellow	Rps1	1.3	2,987
UM3	Minn. AES	00.9	Small Seed	Yellow	Rps1	1.0	7,206
MN0203SP	Minn. AES	0.2	Small Seed	Yellow	Rps1	1.5	5,896
Nannonatto	N.D. AES	0.3	Small Seed	Yellow	S	1.5	4,451
MN0201	Minn. AES	0.2	General Purpose	Yellow	Rps1	1.7	3,290
Norpro	N.D. AES	0.4	Higher Protein	Yellow	S	1.8	2,752
MK0205	Richland Organics	0.2	Small Seed	Yellow	N	1.3	5,405
MN0303SP	Minn. AES	0.3	Small Seed	Yellow	Rps1	1.5	5,821
MN0205SP	Minn. AES	0.2	Small Seed	Yellow	Rps1	1.3	5,537
MN0202SP	Minn. AES	0.2	Small Seed	Yellow	Rps1	1.7	5,537
MK0953	Richland Organics	0.3	Tofu	Yellow	S	1.3	1,965
Panther	Earthwise	0.5	Food Type	Yellow	S	1.3	1,991
Danatto	N.D. AES	0.4	Small Seed	Yellow	S	2.2	5,101

Table 13. Performance of special-use soybean varieties, northern zone; Crookston, Moorhead and Shelly, 2003-2005.

Variety	Releasing Institution	Maturity Date	Yield, Percent of Mean			Percent of Mean	
			2003-2005	2004-2005	2005	Protein	Oil
Jim	N.D. AES	9-13	110	111	117	97	101
Atwood	Earthwise	9-16	—	—	108	100	103
Colibri	Earthwise	9-16	—	—	101	95	97
Traill	N.D. AES	9-17	117	112	121	102	100
UM3	Minn. AES	9-18	92	92	91	99	99
MN0203SP	Minn. AES	9-18	91	86	90	106	97
Nannonatto	N.D. AES	9-19	104	105	111	94	102
MN0201	Minn. AES	9-20	117	120	117	107	100
Norpro	N.D. AES	9-20	104	99	99	107	95
MK0205	Richland Organics	9-21	—	104	108	98	103
MN0303SP	Minn. AES	9-21	99	96	102	100	100
MN0205SP	Minn. AES	9-21	101	97	99	98	99
MN0202SP	Minn. AES	9-21	98	95	98	96	98
MK0953	Richland Organics	9-24	99	94	95	100	99
Panther	Earthwise	9-25	—	—	95	106	99
Danatto	N.D. AES	9-25	87	71	52	94	105
Mean		9-20	28.6 bu/a	28.2 bu/a	35.6 bu/a	35.1%	17.9%
LSD 20%			8%	9%	9%		

Table 14. Characteristics of special use soybean varieties, central zone; Becker, Morris and Rosemount, 2005.

Variety	Releasing Institution	Maturity Rating	Special Characteristics	Hilum Color	Phytophthora Gene	Chlorosis Score	Seeds/Lb.
MN0302	Minn. AES	0.3	General Purpose	Buff	Rps1k	1.3	3,007
MN0201	Minn. AES	0.2	General Purpose	Yellow	Rps1	2.3	3,197
Minnpro	Northland Organic Foods	0.8	Higher Protein	Yellow	S	1.8	2,671
MN0803SP	Minn. AES	0.8	Smaller Seed Higher Protein	Yellow	Rps1	2.0	4,633
Proto	Minn. AES	0.5	Higher Protein	Buff	S	1.7	3,047
Toyopro	Northland Organic Foods	0.8	Higher Protein	Yellow	S	2.3	3,110
Minnatto	Minn. AES	0.9	Small Seed	Yellow	Rps1	1.8	5,279
Evans	Minn. AES	0.5	Yellow Hilum	Yellow	Rps1	1.8	2,802
Panther	Earthwise	0.5	Food Type	Yellow	S	1.8	1,957
MN1004SP	Minn. AES	1.0	Low Sat., Low Linolenic Acid	Black	Rps1	2.3	3,088
MN1103SP	Minn. AES	1.1	Low Linolenic Acid	Black	Rps1	1.5	2,752
Surge	Minn. AES	0.9	General Purpose	Imperfect Black	Rps1	2.3	2,467
MN1102SP	Minn. AES	1.1	Large Seed, Higher Protein	Yellow	S	1.5	2,551
Altapro	Northland Organic Foods	1.0	Higher Protein	Yellow	S	2.0	3,519
Danatto	Minn. AES	0.4	Small Seed	Yellow	S	2.3	5,101
Kato	Minn. AES	1.3	Higher Protein	Black	Rps1	1.8	2,215
MN0601SP	Minn. AES	0.6	Higher Protein	Yellow	Rps1c	2.2	4,054
MN1302	Minn. AES	1.3	General Purpose	Buff	Rps1k	2.2	2,467
MN1005	Minn. AES	1.0	General Purpose	Buff	S	1.8	3,266
Lambert	Minn. AES	0.7	General Purpose	Buff	Rps1	2.5	3,027
Minori	Earthwise	1.4	Food Type	Brown	Rps1k	2.0	2,655
MN1101SP	Minn. AES	1.1	Large Seed, Higher Protein	Yellow	Rps1	1.8	2,389
MK9532	Richland Organics	0.9	Natto	Yellow	S	1.5	4,408
MN1007SP	Minn. AES	1.0	Small Seed	Yellow	Rps1	1.7	5,974
IF44	Earthwise	1.4	Food Type	Yellow	S	1.5	2,236
MN1306SP	Minn. AES	1.3	Small Seed	Yellow	Rps1	2.8	6,985
MN0903SP	Minn. AES	0.9	Higher Protein	Yellow	Rps1	2.3	2,855
MN1302	Minn. AES	1.3	General Purpose	Buff	Rps1k	1.8	2,495
MN1201SP	Minn. AES	1.2	Large Seed, Higher Protein	Yellow	Rps1	1.5	2,281
Parker	Minn. AES	1.5	General Purpose	Buff	Rps1	2.0	2,671
MN1503SP	Minn. AES	1.5	Large Seed, Higher Protein	Yellow	Rps1	2.3	2,481

Table 15. Performance of special-use soybean varieties, central zone; Becker, Morris and Rosemount, 2003-2005.

Variety	Releasing Institution	Maturity Date	Yield, Percent of Mean			Percent of Mean	
			2003-2005	2004-2005	2005	Protein	Oil
MN0302	Minn. AES	9-10	110	108	107	94	108
MN0201	Minn. AES	9-10	98	97	100	98	106
Minnpro	Northland Organic Foods	9-11	97	95	93	108	93
Proto	Minn. AES	9-11	86	82	79	101	97
Panther	Earthwise	9-12	—	—	98	100	104
MN0803SP	Minn. AES	9-12	83	82	87	109	92
Minnatto	Minn. AES	9-12	82	83	83	97	98
Evans	Minn. AES	9-14	111	105	110	91	106
MN1004SP	Minn. AES	9-14	89	87	87	102	100
Danatto	Minn. AES	9-14	60	59	49	91	105
MN1103SP	Minn. AES	9-15	112	107	106	98	103
Toyopro	Northland Organic Foods	9-15	99	97	95	109	93
Surge	Minn. AES	9-16	115	110	105	98	105
MK9532	Richland Organics	9-16	—	—	96	94	108
MN1102SP	Minn. AES	9-16	111	106	95	101	100
Altapro	Northland Organic Foods	9-16	92	91	92	116	86
MN0601SP	Minn. AES	9-16	88	87	80	110	90
Lambert	Minn. AES	9-17	116	116	122	94	108
Kato	Minn. AES	9-17	105	105	106	103	99
MN1302	Minn. AES	9-18	—	129	127	90	105
MN1005	Minn. AES	9-18	—	—	125	92	105
Minori	Earthwise	9-18	—	—	116	99	103
MN1101SP	Minn. AES	9-18	112	106	101	109	93
MN1007SP	Minn. AES	9-18	82	84	84	103	90
IF44	Earthwise	9-19	—	—	103	103	99
MN1306SP	Minn. AES	9-19	92	97	99	97	98
MN0903SP	Minn. AES	9-19	107	103	91	104	96
MN1302	Minn. AES	9-20	130	129	126	92	106
MN1201SP	Minn. AES	9-20	109	106	104	100	101
Parker	Minn. AES	9-21	114	113	123	93	106
MN1503SP	Minn. AES	9-22	—	116	111	103	92
Mean		9-16	40.4 bu/a	44.2 bu/a	55.2 bu/a	37.5%	18.3%
LSD 20%			6%	7%	7%		

Table 16. Characteristics of special use soybean varieties, southern zone; Waseca, Lamberton and Jackson, 2005.

Variety	Releasing Institution	Maturity Rating	Special Characteristics	Hilum Color	Phytoph-thora Gene	Chlorosis Score	Seeds/ Lb.
MN1004SP	Minn. AES	1.0	Low Saturated Fatty Acid	Black	Rps1	3.0	3,007
MN1101SP	Minn. AES	1.1	Large Seed, Higher Protein	Yellow	Rps1	2.7	2,142
Surge	Minn. & S.D AES	0.9	General Purpose	Imperfect Black	Rps1	3.5	2,481
0.X1452	Viking	1.4	Large Seed, Higher Protein	Yellow	S	1.8	2,152
MN1404SP	Minn. AES	1.4	Large Seed, Higher Protein	Yellow	Rps1	2.5	2,054
MN1302	Minn. AES	1.3	General Purpose	Buff	Rps1k	2.7	2,454
0909	Bluestem Farm Supply	0.9	Large Seed	Yellow	S	4.0	2,536
Parker	Minn. AES	1.5	General Purpose	Buff	Rps1	2.5	2,428
MN1305SP	Minn. AES	1.3	Large Seed, Higher Protein	Yellow	Rps1	1.3	2,121
MN1604SP	Minn. AES	1.6	Small Seed	Yellow	Rps1	3.5	6,306
MN1501SP	Minn. AES	1.5	Small Seed	Buff	S	2.3	4,989
MN1502SP	Minn. AES	1.5	Large Seed, Higher Protein	Yellow	Rps1	2.0	2,281
MN1607SP	Minn. AES	1.6	Large Seed, Higher Protein	Yellow	Rps1	3.3	2,183
MN1403SP	Minn. AES	1.4	Large Seed	Yellow	Rps1	2.5	2,236
MN1503SP	Minn. AES	1.5	Large Seed, Higher Protein	Yellow	Rps1	4.5	2,236
Royalpro	Northland Organic Foods	1.6	Large Seed, Higher Protein	Yellow	S	3.0	1,884
MN1606SP	Minn. AES	1.6	Large Seed, Higher Protein	Yellow	Rps1	2.8	2,162
MN1607SP	Minn. AES	1.6	Large Seed, Higher Protein	Yellow	Rps1	2.3	2,152
Soyapro	Northland Organic Foods	1.6	Large Seed, Higher Protein	Yellow	S	2.0	1,940
0.2022	Viking	2.0	Large Seed	Yellow	Rps1c	2.3	2,508
IA2071	Iowa AES	1.6	Fatty Acid	Imperfect Black	S	2.5	2,259
IA2069	Iowa AES	1.7	Fatty Acid	Black	S	3.8	2,428
MN1605SP	Minn. AES	1.6	Small Seed	Yellow	Rps1	2.5	6,219
0.1832	Viking	1.8	Feed	Buff	Rps1	3.5	2,624
IA1008	Iowa AES	2.0	Yellow Hilum	Yellow	S	1.5	2,522
IA1007	Iowa AES	1.8	Large Seed, Higher Protein	Yellow	S	2.5	1,876
MN2001SP	Minn. AES	2.0	Large Seed, Higher Protein	Yellow	Rps1	1.0	2,083
IA2070	Iowa AES	2.0	Fatty Acid	Black	S	2.8	2,686
Surepro	Northland Organic Foods	1.9	Large Seed, Higher Protein	Yellow	S	2.0	2,027
IA2050	Iowa AES	1.7	General Purpose	Black	S	2.3	2,719
IA1010	Iowa AES	1.9	Large Seed	Yellow	S	2.7	1,529
MN2101SP	Minn. AES	2.1	Large Seed, Higher Protein	Brown	Rps1	3.5	1,823
25G01	Galena Genetics	2.5	Large Seed	Yellow	S	3.3	2,215
7321	Pattison Bros.	2.1	Tofu Type	Yellow	S	2.5	1,940
HP204	Iowa AES	2.0	Large Seed, Higher Protein	Yellow	S	2.5	2,073
Vinton 81	Iowa AES	2.0	Large Seed, Higher Protein	Yellow	Rps1c	2.8	1,983
7588	Pattison Bros.	2.2	Tofu Type	Yellow	S	2.3	2,441
IA2053	Iowa AES	2.5	Large Seed, Higher Protein	Yellow	S	2.0	1,884
2300	Bluestem Farm Supply	2.3	Large Seed, Higher Protein	Yellow	S	2.0	1,900
IA2067	Iowa AES	2.4	Large Seed, Higher Protein	Yellow	S	2.7	1,846
IA2016	Iowa AES	2.2	Large Seed, Higher Protein	Yellow	S	3.0	2,009
IA1013	Iowa AES	2.1	Large Seed, Higher Protein	Yellow	S	2.7	1,823

Table 17. Performance of special-use soybean varieties, southern zone; Jackson, Lamberton and Waseca, 2003-2005.

Variety	Releasing Institution	Maturity Date	Yield, Percent of Mean			Percent of Mean	
			2003-2005	2004-2005	2005	Protein	Oil
MN1004SP	Minn. AES	9-14	86	82	75	103	96
MN1101SP	Minn. AES	9-16	99	96	90	104	100
Surge	Minn. & S.D AES	9-17	—	105	99	97	105
0.X1452	Viking	9-17	—	97	93	104	100
MN1404SP	Minn. AES	9-19	93	92	93	103	100
MN1302	Minn. AES	9-20	118	113	113	92	107
0909	Bluestem Farm Supply	9-20	—	—	98	93	107
Parker	Minn. AES	9-20	117	102	95	94	107
MN1305SP	Minn. AES	9-20	93	89	87	97	102
MN1604SP	Minn. AES	9-20	86	84	86	97	95
MN1501SP	Minn. AES	9-21	81	77	79	103	88
MN1502SP	Minn. AES	9-22	99	94	93	99	103
MN1607SP	Minn. AES	9-23	116	110	103	103	100
MN1403SP	Minn. AES	9-23	111	106	100	97	104
MN1503SP	Minn. AES	9-23	108	103	99	102	101
Royalpro	Northland Organic Foods	9-23	102	99	98	105	99
MN1606SP	Minn. AES	9-24	114	111	106	102	100
MN1607SP	Minn. AES	9-24	—	—	106	101	99
Soyapro	Northland Organic Foods	9-24	100	97	90	106	98
0.2022	Viking	9-25	—	110	118	94	107
IA2071	Iowa AES	9-25	—	—	108	93	102
IA2069	Iowa AES	9-26	—	—	111	95	100
MN1605SP	Minn. AES	9-26	92	90	96	98	95
0.1832	Viking	9-27	—	121	123	93	107
IA1008	Iowa AES	9-27	—	105	105	94	104
IA1007	Iowa AES	9-27	97	96	93	99	99
MN2001SP	Minn. AES	9-27	108	96	92	106	99
IA2070	Iowa AES	9-28	—	—	121	100	97
Surepro	Northland Organic Foods	9-28	—	112	106	109	97
IA2050	Iowa AES	9-28	129	109	103	95	106
IA1010	Iowa AES	9-29	—	108	101	100	95
MN2101SP	Minn. AES	9-29	112	92	85	100	100
25G01	Galena Genetics	9-30	—	—	105	95	106
7321	Pattison Bros.	9-30	—	104	104	108	96
HP204	Iowa AES	9-30	92	94	89	102	99
Vinton 81	Iowa AES	9-30	92	82	79	103	98
7588	Pattison Bros.	10-1	—	—	126	99	103
IA2053	Iowa AES	10-1	—	118	118	104	95
2300	Bluestem Farm Supply	10-1	—	—	110	103	101
IA2067	Iowa AES	10-1	—	105	104	106	93
IA2016	Iowa AES	10-1	99	101	104	102	95
IA1013	Iowa AES	10-1	—	100	96	107	96
Mean		9-25	40.1 bu/a	45.3 bu/a	52.4 bu/a	37.6%	18.6%
LSD 20%			4%	6%	7%		

Table 18. Characteristics of publicly developed soybean varieties entered in 2005 tests.

Variety	Releasing Institution	Maturity Rating	Phytophthora Gene	BSR Reaction	SCN Reaction	Chlorosis Score
MN0071	Minn. AES	00.7	Rps1	S	S	2.2
Glacier	Minn. AES	00.8	Rps6	S	S	2.7
Jim	N.D. AES	00.8	S	S	S	2.8
MN0091	Minn. AES	00.9	Rps6	—	S	2.3
Traill	N.D. AES	0.0	Rs1	S	S	2.5
MN0101	Minn. AES	0.1	Rps1	—	S	2.5
Barnes	N.D. AES	0.2	Rps6	S	S	3.0
MN0201	Minn. AES	0.2	Rps1	R	S	2.3
Walsh	N.D. AES	0.2	Rps6	S	S	2.5
MN0302	Minn. AES	0.3	Rps1k	S	S	2.2
MN0304	Minn. AES	0.3	Rps1k+Rps6	R	S	2.5
Lambert	Minn. AES	0.7	Rps1	S	S	3.0
MN0902CN	Minn. AES	0.9	Rps1	R	R	2.6
Surge	Minn.& S.D. AES	0.9	Rps1	S	S	2.9
MN0904RR	Minn. AES	0.9	Rps1k	—	S	2.5
MN1005	Minn. AES	1.0	Rps1k	S	S	2.5
MN1006CN	Minn. AES	1.0	Rps1	S	R	2.5
Kato	Minn. AES	1.3	Rps1	S	S	2.5
MN1302	Minn. AES	1.3	Rps1k	R	S	2.5
MN1504RR	Minn. AES	1.4	Rps1k	—	S	2.0
Parker	Minn. AES	1.5	Rps1	S	S	2.6
Freeborn	Minn. AES	1.6	Rps1	R	R	2.6
IA1006	Iowa AES	1.6	S	R	S	3.0
MN1801	Minn. AES	1.8	Rps1c	S	S	2.8
MN1803RR	Minn. AES	1.8	Rps1	—	S	2.6
IA1008	Iowa AES	2.0	S	S	R	2.5
Sturdy	Minn. AES	2.0	Rps1	S	S	2.4
IA2068	Iowa AES	2.1	S	S	R	2.5
IA2008R	Iowa AES	2.1	Rps1k	R	S	2.7
IA2050	Iowa AES	2.1	S	S	S	2.8
IA2065	Iowa AES	2.2	—	—	S	2.6
Turner	S.D. AES	2.3	S	S	R	2.8