

2021

NORTHERN REGIONAL

SOYBEAN CYST NEMATODE

TESTS

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2021 NORTHERN REGIONAL SCN TESTS

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INTRODUCTION

The purpose of the Northern Regional Soybean Cyst Nematode (SCN) Tests is to evaluate the best experimental SCN resistant soybean lines developed by public researchers in the U. S. and Canada and to provide soybean breeders with a source of genetically diverse germplasm for continued progress in the release of well adapted, SCN resistant breeding lines and varieties. Participants are encouraged to exchange germplasm within the legal guidelines pertaining to transgenic strains.

Tests are established for each maturity group 00 to IV. Transgenic (ie. Roundup Ready) entries are established in separate tests from conventional strains. Experimental strains are evaluated in Preliminary Tests grown at a limited number of locations for one year before they are entered in Uniform Tests. Uniform Tests are grown at more locations with more replications than Preliminary Tests.

POLICY ON EVALUATION AND RELEASE OF STRAINS

Qualifications for inclusion in the Northern Regional SCN Tests

- 1) Participants must be willing and able to conduct separate tests for conventional strains and strains containing proprietary and/or transgenic traits. However, all participants are not required to evaluate both; and, placement of entries in tests depends on whether the entries are transgenic or non-transgenic.
- 2) Participants are individually responsible to ensure that any proprietary and/or transgenic strains that they submit are approved for human consumption and are cleared for sale as commodity seed.
- 3) Participants must disclose pedigrees to the Uniform Test Coordinator for publication with performance data in Uniform Soybean Test Report unless contract arrangements prohibit disclosure of information.
- 4) It is recommended that breeders obtain written permission for the use of privately developed varieties or strains as parents in the development of lines included in the Uniform Tests.

Use of Northern Regional SCN Test Entries in Soybean Breeding and Research

- 1) Seed of Uniform test entries is for evaluation in the Uniform tests only and may not be distributed to non-participants of these tests without prior approval by the originator of the entry.
- 2) Uniform Test participants must obtain written approval before using any entry, other than their own, in any breeding or genetic studies, or for any other research.
- 3) Experimental strains entered in the Uniform Tests should be labeled "Experimental Strain" and should not be identified by strain designation when grown in demonstration plots or when the Uniform Tests are shown on field days or farm tours.
- 4) Seed of any transgenic entry must not be used for further evaluation without written permission from the originator of the entry, and must be discarded at the end of the season, except for crossing purposes, subject to the restrictions outlined in the preceding section two.

Release of Northern Regional SCN Test Entries

- 1) Entries in the Northern Regional SCN Tests are released according to the policies and procedures of the originating institution.
- 2) Restricted or contractual releases cannot impose any restriction on the prior use of an entry as a parent by SCN Test Participants.

METHODS

Regional SCN Uniform Tests and Preliminary Tests are planted in multiple-row plots with the center rows used for data collection and harvested for yield. Plots in the Uniform Tests are generally replicated three times while plots in the Preliminary Tests are generally replicated twice. The coefficient of variability (CV) is reported for replicated data at each location. Yield data with a CV value of greater than 15 is generally not included in the test means.

Descriptive Code is abbreviated as underlined below.

Flower color: Purple, White, M indicates mixed flower color

Pubescence color: Tawny, Gray, Light tawny, M indicates mixed pubescence color

Hilum color: black, imperfect black, brown, buff, gray, yellow

Previous testing is the number of previous years in the same SCN Uniform Test or a reference to the previous year's test, abbreviated to SCN PIII for SCN Preliminary Test III, for example.

Yield is measured after the seeds have been dried to a uniform moisture content and is recorded in bushels (60 pounds) per acre.

Maturity is the date when 95% of the pods have ripened. Delayed leaf drop and green stems are not considered in assigning maturity. Maturity is expressed as days earlier (-) or later (+) than the reference variety.

Height is the average length in inches from the ground to the tip of the main stem at maturity.

Lodging is rated at maturity according to the following scores:

1 = Almost all plants erect.

2 = All plants leaning slightly or a few plants down.

3 = All plants leaning moderately (45 degrees), or 25 to 0% of the plants down.

4 = All plants leaning considerably, or 50 to 80% of the plants down.

5 = Almost all plants down.

Seed quality is rated according to the following scores considering the amount and degree of wrinkling, defective seed coat (growth cracks), greenishness, and moldy or rotten seeds. Threshing or handling damage is not included, nor is mottling or other pigment.

1 = Very good 2 = Good 3 = Fair 4 = Poor 5 = Very poor

Seed size is recorded in grams per 100 seeds based on a 100 or 200 seed sample.

Seed Composition is measured on samples submitted to the University of Minnesota. A 25-gram sample of clean seed is prepared by taking an equal volume or weight of seed from each replication. Protein and oil content is measured on these samples using infrared reflectance and is reported as dry-weight percentage values. The values listed in this report have been converted to a 13% moisture basis.

Shattering is scored at a specified time after maturity and is based on estimates of the percent of open pods as follows:

- 1 no shattering
- 2 1 to 10% shattered
- 3 10 to 25% shattered
- 4 25 to 50% shattered
- 5 over 50% shattered

Minnesota Iron Chlorosis scores (IDC) Scores are the mean of 2 reps and 2 observation and are based on the amount and severity of chlorosis (leaf yellowing). Scale; 1 = no chlorosis to 5 = severe chlorosis, leaf necrosis and possibly plant death. Data was collected from Lake Lillian and Wilkin Co. Minnesota.

ISU Iron Chlorosis scores (IDC) Each variety was planted in a hill plot consisting of five seeds per hill, with two replications per variety, at two high pH field locations in central Iowa. Locations were chosen by identifying IDC symptoms on soybeans growing in each field at the end of June. Prior to planting the experiments, the soybeans growing at each location were removed. Notes were taken for IDC symptoms at each location approximately four weeks after planting and again at five weeks after planting. Varieties were rated on a scale of "1" to "5" with a "1" indicating no symptoms of IDC present and a "5" indicating plant death due to IDC. Ratings from the two scores were averaged for each plot. The scores from each location then were averaged. Eight or more entries of a variety highly resistant to IDC (A11) and 8 or more entries of a variety highly susceptible to IDC (Dwight) also were included in each rep of the experiment as checks. The average score of all resistant plots and susceptible plots are listed on the tables under R= and S=, respectively.

Green Stem is a rating of delayed green stem at time of plant maturity (R8 = 95% of the pods have reached mature pod color). The condition is rated according to the following scores.

- 1 = almost all plant stems yellowing or have ripened, as indicated by their mature stem color.
- 2 = 1 - 10% plants with green stems
- 3 = 11 - 25% plants with green stems
- 4 = 26 - 50% plants with green stems
- 5 = > 50% plants with green stems.

Missouri Frogeye Leaf Spot (FELS) was rated by Dr. Allen Wrather at Portageville, MO on a 0 to 9 scale with 0=no frogeye and 9=severe.

Missouri Rootknot Nematode (RKNT) was rated on 2 reps on a 1 to 5 scale with 1=no galls and 5=severe galls at 2 locations in plantings behind potatoes near Bertrand, MO.

Nebraska Gall Midge scores were based on the average visual observation of two reps using a 1 to 9 scale where 1=10% infection, 2=20% infection, etc.

SCN/DISEASE SCREENING

Illinois SCN greenhouse test: Seed of each entry is germinated in germination paper placed in an incubator at 27° C for three days. One healthy seedling of each entry is then placed in an individual container of sterilized sandy soil and inoculated with 2,000 eggs. Each entry is replicated three times. Infected seedlings are grown in a greenhouse in a water bath system that maintains a constant 27° C soil temperature. After 30 days, female cysts are washed from the roots of each seedling and counted. A female index (FI) is calculated for each entry by dividing the mean number of cysts on the entry by the mean number of cysts on the susceptible check Lee 74 and multiplying by 100. Entries are then rated as highly resistant (HR), resistant (R), moderately resistant (MR), low resistance (LR) or no effective resistance (NR) based on the FI number as follows:

HR = FI of < 10
 R = FI of 10 to 24
 MR = FI of 25 to 39
 LR = FI of 40 to 59
 NR = FI of > 60
 nd = not determined FI>10, CV>35

Illinois Sudden Death Syndrome rating: Plots were scored in the field by Southern Illinois University. All disease scores were interpolated to the R 6.2 growth stage.

DX = SDS Disease Index (DI*DS/9)
 DI = SDS Disease Incidence (% of plants with visible symptoms).
 DS = SDS Disease Severity (1 = mild chlorosis, 5 = severe leaf scorch,
 9=premature plant death).

Heterodera glycines (HG) Type testing: Cooperators submit soil samples taken in the spring from SCN infested locations. Initial egg counts are made on a 250cc soil sample. Samples containing fewer than 1,000 eggs/100cc soil are planted to Essex for cyst increase. Seed of each indicator line is germinated in rag dolls and placed in an incubator at 27° C for three days. One healthy seedling of each line is then placed in an individual container of sterilized sandy soil and inoculated with 1,000 eggs. Each line is replicated six times. Infected seedlings are grown in a greenhouse under 16 hour light in a water bath system that maintains a constant 27° C soil temperature. After 30 days, female cysts are washed from the roots of each seedling and counted. A female index (FI) is calculated for each indicator line by dividing the mean number of cysts on the entry by the mean number of cysts on the susceptible check Lee 74 and multiplying by 100. A FI greater than or equal to 10 is considered a positive (+) response on each indicator line. HG Type classifications of the SCN populations are determined using the following table:

Indicator line	HG Type							
	0	1	2	3	4	5	6	7
PI 548402 (Peking)		+						
PI 88788			+					
PI 90763				+				
PI 437654					+			
PI 209332						+		
PI 89772							+	
PI 548316 (Cloud)								+

STRAIN DESIGNATIONS

Experimental (i.e. unreleased) strains are identified by a number with a state or province code letter prefix. The code letters have been agreed upon in meetings of experiment station agronomists with the U.S. Department of Agriculture. Additional code letters may be used to designate the individual within a state or province that developed the strain.

A	Iowa
C	Purdue (Indiana) (C=Wilcox, CL=Leroy, CR=Rainey)
D	Mississippi
E	Michigan
HC	Ohio (Cooper)
HF	Ohio (Fioritto)
HS	Ohio (St. Martin)
HM	Ohio (McHale)
K	Kansas
Ky	Kentucky
L	Illinois (Bernard)
LN	Illinois (Nickell)
LG	Illinois (Nelson)
LD	Illinois (Diers)
LS	Southern Illinois University
M	Minnesota
Md	Maryland
ORC	Ridgetown, Ontario
S	Missouri (Shannon)
SA	Missouri (Scaboo)
SS	Missouri (Sleper)
SD	South Dakota
TN	Tennessee
U	Nebraska
UD	Delaware
V	Virginia
W	Wisconsin

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
A1	Anoka x Mack
A13	Selection from AP9 Fe(S1) C7
A20	BSR101 x CN210
A29	1% linolenic plant selection developed by Iowa State University
A00-711022	A95-485020 x IA2036
A00-711024	A95-485020 x IA2036
A04-545045	Pioneer 93B86 x A00-711022
A72-507	Amsoy x Wayne
A76-304020	(Beeson x AP68-1016) x (L15 x Calland)
A77-211021	Beeson x A72-507
A78-123018	Pride B216 x Hodgson
A81-356022	Century x A76-304020
A86-301024	A81-356022 x Hack
A87-395012	Fayette x Asgrow A3659
A91-701035	A86-301024 x Dekalb 226
A92-77021	
A94-773014	Pioneer P9303 x A87-395012
A95-485020	(Pioneer P7273 x A13) x Jack
A95-581028	Marcus x Pioneer P9273
A96-591033	IA3003 x Pioneer P9273
A97-871009	
A98-781041	Pioneer P9204 x Pioneer P9281
Agripro 97284-N00-47977	
AgriPro 98180-A01-06131	
Agripro AP 26	Beeson x Calland
Agripro AP1989	Agripro AP26 x Vickery
Agripro AP1995	Agripro AP 1989 x Asgrow A3427
AP6	Crop Sci. 15:739 1975
AP68-1016	Clark(5) x PI 84.946-2
AP9	Iron-def. chlor. Resis. (Crop Sci. 20:677, 1980)
AR02-101001	Pioneer P9233 x A96-591033
AR03-161009	(PI 507354 x Marcus) x IA1008

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
AR03-161013	(Marcus x PI507354) x IA2036
AR06-365042	Golden Harvest H-2632 x Syngenta S18-N5
AR08-186008	Golden Harvest H-2285 x AR02-101001
AR08-286003	
AR09-191003	Agripro 97284-N00-47977 x AR02-101001
AR09-191018	Agripro 97284-N00-47977 x AR02-101001
AR09-192019	LD01-7323 x AR02-101001
AR09-291011	AR03-161009 x Agripro 97284-N00-47977
AR09-391017	Syngenta SJ833009 x AR03-161013
AR1	IA2039BC x IA2021
AR10-205011	SS02-12014 x AR02-101001
AR10-205011	SS02-12014 x AR02-101001
AR11-113050	SS02-12014 x AR05-150119
AR11SDS-SCN	
AR12-127091	AR03-161009 x AR06-365042
AR12-327073	
AR13-232106	
AR8SCN	PI88788 x Columbia
Asgrow A1564	Hark x C1453
Asgrow A2234	[(Calland X Amsoy) x (Century(3) X Williams 82)]
Asgrow A2943	Asgrow A1564 x Asgrow A3127
Asgrow A3127	Williams x Essex
Asgrow A3427	Asgrow X3836 x Asgrow A3127
Asgrow A3659	Williams x Essex
Asgrow A3733	Elf x Asgrow A3127
Asgrow A3860	Williams x Essex
Asgrow A3935	MO474C x Asgrow A3127
Asgrow A4009	Asgrow A3860 x Fayette
Asgrow A4138	Asgrow A4595 x Asgrow A4009
Asgrow A4595	Douglas x Asgrow A3127
Asgrow A4715	Asgrow A5474 x (Douglas x Asgorw A3127)
Asgrow A5474	(Tracy x D71-6234) x J74-122
Asgrow X3836	Williams x Mack

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
C1079	Lincoln x Ogden
C1253	Blackhawk x Harosoy
C1266R	Harosoy x C1079
C1453	C1266R x C1253
C1842	(Spencer(2) x Pella) x Resnik
CL05-32415	
CL05-4637	
CL0J173-6-8	Kottman x Dwight
CM304	Unknown
D49-2491	S100 x CNS = sister line of Lee
D61-2624	D49-2491(4) x PI 174.862 high protein
D61-3505	D49-2491(2) x PI 174.862 high protein
D66-7398	D61-3505 x (PI 96.035 x D61-2624)
D71-6234	D66-7398 x PI 95.560
Dairyland 99540	Stine 2660 x DSR-275
Dairyland DSR 304	Williams x Unknown
E05181-T	Loda x IA2053
E05276-T	
E07051	IA3017 x Loda
E09088	
E11128T	E05276-T x LD01-7323
E12076T	
E13100	LD01-7323 x U01-390489
E13367	E07051 x E10928
E13390	
E14077	U03-300134 x E07051
E15917	
E16826	
E16830-1	
E16854	
E16901	
E16902	

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
HF03-546	A95-581028 x PI 592926
HM09-W084	Dennison x HF03-546
HM8536	HW79149 x HW79022
HS5-3417	
HS93-4118	IA2007 x Dairyland DSR 304
HW79022	Woodworth x L60-347-1-60-3B
HW79149	[A72-507(6) x A1] x [A72-507(5) x PI 82.263-2]
J74-122	Forrest(3) x PI 88.788
K07-1633	IA3023 x LD00-3309
K10-8556	IA3023 x LD00-3309
K11-2363B	435.TCS x LD05-30578a
K11-2363T	435.TCS x LD05-30578a
K13-1515	LG06-5920 x LD04-13265
L15	Wayne(6) x Clark 63
L46-2132	Lincoln(2) x Richland
L57-0034	L46-2132 x Adams
L60-347-1-60-3B	Harosoy x Higan
L65-1274	Harosoy (6) x T201
L66L-154	Wayne x L57-0034
L69-4143	[L15(5) x ((Clark(6) x T201) x (Clark(6) x T145))] x (Wayne(10) x Kanrich)
L73-4673	Corsoy x L66L-154(Williams sib)
L77-906	Williams X PI209.332
L77-994	Williams x PI88.788
L85P-558	L73-4673 X Fayette
LD00-2817	Ina x Dwight
LD00-3296	LN95-5724 x Pana
LD00-3309	Maverick x Dwight
LD00-4970	Maverick x Dwight
LD01-5907	Ina x IA3010
LD01-7323	LN95-5454 x Dwight
LD02-4485	M90-184111 x IA3010
LD02-5320	IA2052 x Dwight

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
LD02-9050	LN97-24270 x LS93-0375
LD03-10504	LN97-26569 x A98-781041
LD03-7610	LN95-5817 x IA3010
LD04-11056W	U96-2208 x Syngenta S38-T8
LD04-13265	Syngenta S32-Z3 x U98-205355
LD04-13296	Syngenta S32-Z3 x U98-311442
LD05-16638	Dwight(3) x (Dowling x Loda)
LD05-30578a	LD00-3309(2) x [LD00-4970(2) x (Dowling x Loda)]
LD05-30588a	LD00-3309(2) x (LD00-4970(2) x (Dowling x Loda))
LD05-3171	U97-201128 x Syngenta S42-H1
LD05-3230	Syngenta S25-J5 x LD00-3296
LD06-2009	U97-201128 x U98-307162
LD06-7620	IA3023 x LD00-3309
LD07-3395bf	Syngenta WW115926 x LD00-2817
LD07-3419	Syngenta WW115926 x LD00-2817
LD07-4477	IA3023 x LD00-3309
LD07-5065	Dwight x F1 plant (A81-356022(4) x PI 468916)
LD08-12435a	LD02-4485(2) x (Ina x PI 200538)
LD08-12441a	LD02-4485(2) x (Ina x PI200538)
LD08-12446a	LD02-4485(2) x (Ina x PI 200538)
LD09-10220	CL0J173-6-8 x Dairyland 99846-74
LD09-30224	LD05-3230 x [LD05-16638 x (Dwight x (Ina x PI 200538))]
LD09-3913	Syngenta 02JR318004 x LD03-7610
LD10-10198	LD05-3230 x LD00-3309
LD10-10219	LD05-3230 x LD00-3309
LD10-10226	LD05-3230 x LD00-3309
LD10-2715	LD03-10504 x LD00-2817P
LD10-5213a	LD02-4485(5) x (Ina x PI 200538)
LD10-5903a	M99-286047 x LD05-16638
LD10-9168	LD06-7648 x LD02-4485
LD11-10069	LD06-2009 x LG04-6000
LD11-2170	Syngenta 03JR313108 x LD05-3171

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
LD11-7311	Syngenta 03JR313108 x LD02-4485
LD12- 459	LD02-4485 x LD06-7620
LD12-10534	LG04-6000 x (LD00-3309(5) x LD07-5065)
LD12-12701a	LD08-12446a x LD05-30588a
LD12-268	LD06-2009 x LD06-7620
LD12-3903	LD06-7620 x Syngenta 05BR006009
LD12-8677	LD04-11056W x Shillinger 432.TCS
LD13-3673	Syngenta BN0800009 x CL05-32415
LD13-8470	U05-226055 x 09Hill784(LD00-2817(5) x LDX01-1-65)
LD14-8003	[Titan(5) x E10005] x [Titan(5) x F1 plt (LD08-12446a x LD05-30588a)]
LD15-9224	(LD00-3309(5) x IA3023) x (LD00-3309(2) x PI 567516C)
LG00-2455	F6 LG95-441-4 x IA2022
LG00-3372	
LG01-5822	HS93-4118 x LG97-9912
LG01-7728	Williams 82 x (F1 Williams x PI 479767 G. soja)
LG03-3020	LG96-1711 x LG92-4208
LG03-3780	LG94-4396 x LG96-3159
LG04-6000	HS93-4118 x LG97-9912
LG07-2249	IA3023 x LG01-7728
LG07-6944	LG98-1454 x LG00-2455
LG11-2963	
LG11-6208	LG03-3020 x LG03-3780
LG11-6210	LG03-3020 x LG03-3780
LG11-6760	LG00-3372 x LD00-3309
LG84-1096	PI 297515 x PI 290126B
LG84-1269	PI 227333 x PI 91730-1
LG84-1272	PI 227333 x PI 91730-1
LG86-7394	PI 68508 x FC 04007B
LG86-7841	PI 407710 x Century
LG88-2248	PI 438151 x A78-123018
LG88-3146	PI 427099 x PI 445830
LG89-6661	Sherman x LG84-1096

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
LG90-4181	PI 436682 x Lawrence
LG91-7431	LG84-1272 x Elgin
LG92-4208	LG84-1269 x Chamberlain
LG94-4396	LG86-7394 x S42-30
LG95-441-4	PI 68508 x FC 04007B
LG96-1711	LG88-3146 x LG88-2248
LG96-3159	LG86-7841 x A3935
LG97-8984	LG89-6661 x HS89-3261
LG97-9912	LG90-4181 x A3322
LG98-1454	LG91-7431 x P9273
LN94-14862-97-2	Jack x Hartwig
LN95-5454	Jack x IA3003
LN95-5724	Jack x IA3003
LN95-5817	Jack x C1842
LN97-24270	Jack x Macon
LN97-26569	Yale x Macon
LS02-0425	LN93-11632 x IA1008
LS02-2213	LS93-0375 x SS94-4337
LS05-3229	LS93-0375 x Ina
LS07-3125	SS98-7851 x LD00-3309
LS07-3131	SS98-7851 x LD00-3309
LS09-1803	LD00-1938 x LS02-2213
LS93-0375	Asgrow A3935 x Pioneer P9402
M00-110002	U96-2408 x MN0302
M00-113176	M90-184111 x M94-246028
M00-351195	MN0902CN x M95-123116
M00-365137	Jim x LN94-14862-97-2
M00-365181	Jim x LN94-14862-97-2
M01-314114	MN0902CN x M95-123116
M02-328023	MN0304 x A00-712012
M02-333013	M94-162105 x MN0304
M03-172059	IA2052 x MN0304

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
M04-239147	
M05-363022	IA1008 x MN1011CN
M06-288155	M00-365137 x M99-286050
M06-288181	M00-365137 x M99-286050
M06-288190	M00-365137 x M99-286050
M06-289001	
M06-289273	M00-351195 x M00-365181
M07-209037	M90-184111 x MN0606CN
M07-292111	
M07-296048	M01-314114 x MN1011CN
M07-297007	MN0902CN x LD02-5320
M08-362051	MN0606CN x U03-100612
M08-365038	M90-184111 x U03-100612
M08-434072	MTC03-111-75 x Hendricks
M08-609011	
M10-236018	
M10-237089	
M60-406	Blackhawk x Harosoy
M68-303	M60-406 x Beeson
M75-89	Corsoy x M68-303
M86-1973	L77-906 X M75-89
M87-227	A82-161034 X Dawson
M87-349	
M90-1437	Dawson X HM8536
M90-184111	L85P-558 X M86-1973
M92-1631	Fairbault x Bell
M92-1651	Faribault x PI 437654
M92-1708	Kato x Bell
M92-270029	M87-227 x M87-349
M92-674	Agassiz x Ozzie
M93-313135	Agassiz x M90-1437
M94-246028	Lambert x M92-1651

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
M94-275024	M89-1006 x Kato
M95-123116	Parker x M92-1631
M96-356062	M92-674 x M92-1708
M97-121138	MN0302 x 9004
M97-136016	M90-162034 x IA2021
M99-286047	IA1008 x Pioneer P9234
M99-286050	IA1008 x Pioneer P9234
MO474C	White flowered off-type in Mitchell
MSC09-774074	Sheyenne x PI567516C
MSC09-776063	MN1410 x PI567516C
ND01-3901	Pioneer 9071 x A96-492041
ND02-992	ND92-2381 x ND95-938
ND03-5441	Barnes x MN0602CN
ND03-7566	Barnes x MN0602CN
ND07-2205	LaMoure x ND01-1690
ND07-3761	ProSoy x ND01-2006
ND07-4027	M96-356062 x Ashtabula
ND10-2522	ND03-7566 x ND03-5441
ND10-2993	ND04-11329 x ND03-7566
ND10-3330	
ND10-3427	
ND10-3464	ND03-7566 x [ND03-5441 x LaMoure]
ND10-3601	ND03-7566 x [ND03-5441 x LaMoure]
ND10-3608	ND03-7566 x [ND03-5441 x LaMoure]
ND10-3610	ND03-7566 x [ND03-5441 x LaMoure]
Northrup King S19-90	Pride B152 x Pella
OAC 05-21	
ORC 3713N	
Pioneer 91M10	
Pioneer 92B12	Pioneer P9221 x (Pioneer P9162 x Pioneer P9234)
Pioneer 93B82	
Pioneer 93B86	

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
Pioneer P1677	Corsoy(2) x Rampage
Pioneer P2981	S20 x Hark
Pioneer P9004	Maple Ridge x Lakota
Pioneer P9061	Wells x Pioneer P1677
Pioneer P9071	Pioneer P9061 x Pioneer P9181
Pioneer P9181	Beeson x Williams
Pioneer P9233	CM293 x ST2250
Pioneer P9234	Pioneer P9221 x Pioneer P9162
Pioneer P9273	Pioneer 2981 x Asgrow A3127
Pioneer P9281	Hark x (Corsoy x Calland)
Pioneer P9303	Asgrow A2943 x Asgrow A5474
Pioneer P9341	CM304 x Asgrow A3127
Pioneer P9362	Asgrow A2943 x Asgrow A5474
Pioneer P9381	(Essex x L69-4143) x Sprite
Pioneer P9402	(L77-994 x Asgrow A3127) x L77-994
PR33	rust resistant line form Georgia
Pride B152	Northrup King S1346(6) x Mack
S100	Rouge in Illini
S11-17025	
S11-20124	
S13-4214	
S18-R6	
S20	L15 x C1423
S23-T5	
SA13-1310	K07-1633 x LD04-13265
SA13-1363	K07-1633 x LD04-13265
SA13-1385	K07-1633 x LD04-13265
SA13-2692	LS07-3125 x LD04-13265
SA13-5761	LG04-5187 x LG05-4092
SD08CV-2102	M97-136016 x SD96-135-3
SS02-12014	Hamilton x PI438489B
SS94-4337	Jack x Pioneer P9341

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
SS98-7851	Pioneer P9362 x Magellan
Syngenta 02JR318004	S32-Z3 x CM4035N
Syngenta 03JR313108	
Syngenta 05BR006009	SG801122200 x 96601-B99-17498
Syngenta BN09002129	
Syngenta S18-N5	
Syngenta S23-T5	
Syngenta S25-J5	
Syngenta S42-H1	
Syngenta SJ833009	
Syngenta WN0902577	
Syngenta WW115926	
T180	F3 sib of T181
T181	Non-nodulating rjl mutant in Lincoln(2) x Richland
T201	T181 x T180
U01-190311	NE1900 x A97-871009
U01-390489	IA1008 x NE3001
U02-242055	NE1900 x Pioneer P93B82
U03-100612	U99-009019 x Pioneer P92B12
U03-200317	U99-009019 x Pioneer P92B12
U03-260216	U99-009010 x UP1Fe(s1)C7-150
U03-300134	NE3202 x Pioneer P92B12
U05-226055	U98-307917 x UP1C4-95-30
U06-300925	
U09-105007	OAC 05-21 x U03-300134
U09-118017	U01-190311 x U02-242055
U09-133021	U02-242055 X U03-200317
U09-215057	U01-390489 x U03-200317
U11-614093	U02-242055 x LD04-13265
U11-614119	U02-242055 x LD04-13265
U11-616086	U02-242055 x LD02-4485
U11-622148	U02-242055 x LD04-13265

2021 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
U11-911079	LD02-4485 x U03-300134
U11-917032	LD02-4485 x U03-100612
U11-920017	HS5-3417 x LD02-4485
U11-932025	U06-300925 x U03-100612
U11-935093	
U12-909109R	
U12-921088	MN1410 x LD04-13265
U14-903100	U09-105007 x LD02-4485
U14-910097	U09-105007 x LD07-3419
U14-924158	U11-935093 x LD07-3419
U14-925152	U11-935093 x LD07-3419
U94-2306	Holt x Dairyland DSR 304
U96-2208	Colfax x A91-701035
U97-201128	U94-2306 x UP1Fe-95-9
U98-205355	A94-773014 x Bell
U98-307162	
U98-307917	U94-2306 x A92-77021
U98-311442	A94-773014 x Bell
U99-009019	MSBP6S4 (Intermated population)
UP1Fe-95-9	
235.T	line from Schillinger Seed Co.
435.TCS	line from Schillinger Seed Co.
4J10534	

2021 NORTHERN REGIONAL SCN TEST LOCATIONS

Location	GPS Coordinates	Cooperator	SCN*	Uniform Tests					Preliminary Tests			
				0	I	II	III	IV	I	II	III	
IA Ames	41.980194, -93.648028	A. Singh	I			1	1				1	1
IL Arthur	39.705255, -88.470796	B. Diers	I				1					1
IL Flora	38.657842, -88.443306	B. Diers	I					1				
IL Pontiac	40.787195, -88.607977	B. Diers	I			1					1	
IL Urbana	40.062740, -88.235790	B. Diers	I		1	1	1	1	1	1	1	1
IN West Lafayette	40.474189, -86.995142	G. Cai	NI			1	1					
IN Romney	40.23384, -86.88704	K. Rainey	NI				1					1
KS Manhattan	39.140398, -96.629926	W. Schapaugh	NI				1	1				1
KS Ottawa	38.540444, -95.247722	W. Schapaugh	I					1				
MI Decatur	42.125167, -86.027279	D. Wang	I		1	1				1	1	
MN Crookston		A. Lorenz	I	1								
MN Moorhead	47.006206, -96.784974	A. Lorenz	NI	1								
MN Thief River Falls	48.092615, -96.008582	A. Lorenz	I	1								
MN Lamberton	44.242726, -95.292171	A. Lorenz	I		1					1		
MN Rosemount	44.707721, -93.075051	A. Lorenz	I		1					1		
MN Waseca		A. Lorenz	I		1					1		
MO Albany	40.238423, -94.343286	A. Scaboo	I				1	1				1
MO Rock Port	40.271667, -95.473056	A. Scaboo	I				1	1				1
MO Clarkton	36.489973, -89.96160	P. Chen	NI					1				
MO Portageville	36.39163, -89.60104	P. Chen	NI					1				
ND Madson		C. Miranda	I	**								
ND Colfax	46.484267, -97.002911	C. Miranda	I	1								
ND Prosper	47.000462, -97.1025232	C. Miranda	I	1								
NE Cotefield	41.292283, -98.531392	G. Graef	I			1					1	
NE Phillips	40.871017, -98.172950	G. Graef	I			1	1				1	1
ON Thamesville	42.450613, -81.892069	M. Eskandari	I		1					1		
ON Elora	43.636175, -80.406442	I. Rajcan	NI	1								
ON St. Pauls	43.338049, -81.147758	I. Rajcan	NI		1					1		
ON Woodstock	43.142201, -80.784576	I. Rajcan	NI		1					1		
TN Jackson	35.624031, -88.844654	P. Arelli	I					1				
Total Tests				6	8	7	9	9	8	6	8	

* I = infested, NI = non-infested, ** Data not submitted for location

2021 Characteristics of *Heterodera glycines* populations

	Eggs/ 100cc	HG Type	Female Index (% of Lee 74)							Pickett
			HG 1 Peking	HG 2 88788	HG 3 90763	HG 4 437654	HG 5 209332	HG 6 89772	HG 7 Cloud	
IA Ames	4280									
IL Arthur	520									
IL Flora	520									
IL Pontiac	480		All HG screening incomplete at time of publication							
IL Urbana	600									
IN West Lafayette	0									
IN Romney	No sample received									
KS Manhattan	0									
KS Ottawa	40									
MI Decatur	1440									
MN Crookston	160									
MN Moorhead	0									
MN Thief River Falls	120									
MN Lamberton	520									
MN Rosemount	sample lost									
MN Waseca	40									
MO Albany B7	840									
MO Albany B76	40									
MO Albany B8	160									
MO Rock Port	120									
MO Clarkton	0									
MO Portageville	NI									
ND Colfax	1440									
ND Prosper	3520									
NE Cotefield	In progress									
NE Phillips	In progress									
ON Thamesville	No sample received									
ON Elora	NI									
ON St. Pauls	NI									
ON Woodstock	NI									
TN Jackson	240	1.2.5.7	HG type reporter by cooperator							

Inf=infested, NI = non-infested

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

HG 0			HG 2.5.7							
			rep 1	rep 2	rep 3	rep 4	mean	FI		
			2700 eggs							
Lee		screening failed; no data available	Lee	324	227	263	251	272		
Macon			Macon	233	286	293	262	269		
HG1	PI548402		HG1	PI548402	10	8	5	3	7	2
HG2	PI88788		HG2	PI88788	93	97	61	6*	84	31
HG3	PI90763		HG3	PI90763	0	0	0	0	0	0
HG4	PI437654		HG4	PI437654	0	0	0	0	0	0
HG5	PI209332		HG5	PI209332	19*	113	104	.	109	40
HG6	PI89772		HG6	PI89772	0	0	0	0	0	0
HG7	PI548316	HG7	PI548316	127	100	144		124	46	
	PI438489B		PI438489B	17	26	54	0	24	9	
	Pickett		Pickett	324	227	263	251	272		

(*)=small root, (.)=missing sample, (**)=rep data too variable to rate

			HG 2.5.7						
SCN Reg Test	Ent	Strain	rep1	rep2	rep3	mean	cv	FI	rating
21SCN U0	1	ND Dickey (0)	391	194	279	288	34	106	NR
21SCN U0	2	MN0095	162	172	268	201	29	74	NR
21SCN U0	3	MN0404CN (SCN)	276	33*	201	239	22	88	NR
21SCN U0	5	M08-362045L	161	176	166	168	5	62	NR
21SCN U0	6	M13-118036	71	78	124	91	32	33	MR
21SCN U0	7	M13-250056	31	9	26	22		8	HR
21SCN U0	8	M13-257047	209	190	201	200	5	74	NR
21SCN U0	9	M15-221040	110	151	200	154	29	57	LR
21SCN U0	10	M14-224050	170	172	206	183	11	67	NR
21SCN U0	11	M15-108094	199	236	266	234	14	86	NR
21SCN U0	12	M15-115050	197	118	170	162	25	60	NR
21SCN U0	13	M15-179021	128	148	207	161	26	59	LR
21SCN U0	14	M15-180032	191	102	128	140	33	52	LR
21SCN U0	15	M15-220021	163	138	257	186	34	68	NR
21SCN U0	16	M15-220055	163	141	149	151	7	56	LR
21SCN U0	17	M15-221032	116	105	191	137	34	51	LR
21SCN U0	18	ND16-8821	274	258	259	264	3	97	NR

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

SCN Reg Test	Ent	Strain	HG 2.5.7						
			rep1	rep2	rep3	mean	cv	FI	rating
21SCN U0	19	ND17-20565	204	304	178	229	29	84	NR
21SCN U0	20	ND17-20754	168	170	274	204	30	75	NR
21SCN U0	21	ND17-21922	242	167	120	176	35	65	NR
21SCN U0	22	ND17-21929	158	216	266	213	25	79	NR
21SCN U0	23	ND17-22117	260	147	136	181	38	67	NR
21SCN U0	24	ND17-22120	198	199	253	217	15	80	NR
21SCN U0	25	OAC 19-05C-SCN	179	95	101	125	37	46	LR
21SCN U I	1	MN1410	201	268	275	248	16	91	NR
21SCN U I	3	U11-917032 (SCN)	211	137	119	156	31	57	LR
21SCN U I	4	U14-103015	201	289	288	259	19	95	NR
21SCN U I	5	E15338	249	251	349	283	20	104	NR
21SCN U I	6	MCH13-104087	254	353	299	302	16	111	NR
21SCN U I	7	M13-250030	126	132	176	145	19	53	LR
21SCN U I	8	M13-250046	36	54	43	44		16	R
21SCN U I	9	M13-251003	95	14	9	39		14	R
21SCN U I	10	M13-262015	227	186	248	220	14	81	NR
21SCN U I	11	M13-262053	135	242	145	174	34	64	NR
21SCN U I	12	M13-266011	127	144	254	175	39	64	NR
21SCN U I	13	M14-122031	204	142	149	165	21	61	NR
21SCN U I	14	M14-122035	129	76	80	95	31	35	MR
21SCN U I	15	M14-126012	163	180	212	185	13	68	NR
21SCN U I	16	M14-129066	225	239	291	252	14	93	NR
21SCN P I	5	E18169	116	16	244	125	91	46	redo
21SCN P I	6	E19314T	224	337	282	281	20	103	NR
21SCN P I	7	E19323T	4*	93	237	165	62	61	redo
21SCN P I	8	E19669	380	363	320	354	9	130	NR
21SCN P I	9	E19675	204	320	231	252	24	93	NR
21SCN P I	10	M15-115060	33	39	195	89	103	33	redo
21SCN P I	11	M15-115078	107	161	141	136	20	50	LR
21SCN P I	12	M15-159069	309	239	291	280	13	103	NR
21SCN P I	13	M15-159100	36	38	97	57		21	R

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

SCN Reg Test	Ent	Strain	HG 2.5.7						
			rep1	rep2	rep3	mean	cv	FI	rating
21SCN P I	14	M15-159120	75	24	91	63		23	R
21SCN P I	15	M15-179024	102	167	122	130	26	48	LR
21SCN P I	16	M15-221030	143	69	110	107	35	40	LR
21SCN P I	17	M15-221047	229	157	140	175	27	65	NR
21SCN P I	18	M15-222019	181	190	111	161	27	59	LR
21SCN P I	19	M15-273094	265	352	268	295	17	109	NR
21SCN P I	20	M15-280072	121	112	188	140	30	52	LR
21SCN P I	21	OAC 19-61C-SCN	246	312	232	263	16	97	NR
21SCN P I	22	ORC 6218N	125	118	274	172	51	63	NR
21SCN P I	23	ORC 8518N	150	313	303	255	36	94	NR
21SCN P I	24	U19-903124	69	37	22	43		16	R
21SCN P I	25	U19-909037	32	4	34	23		9	HR
21SCN P I	26	U19-911031	29	4	15	16		6	HR
21SCN P I	27	U19-913011	136	225	109	157	39	58	LR
21SCN U II	1	IA2102	250	268	248	255	4	94	NR
21SCN U II	2	LD02-4485 (SCN)	109	152	228	163	37	60	NR
21SCN U II	4	U14-910097 (SCN)	23	8	17	16		6	HR
21SCN U II	5	E17203	166	88	153	136	31	50	LR
21SCN U II	6	E17269	122	42	311	158	87	58	redo
21SCN U II	7	E18024T	213	159	132	168	25	62	NR
21SCN U II	8	LD17-1887	150	91	151	131	26	48	LR
21SCN U II	9	LD17-1900	317	175	310	267	30	98	NR
21SCN U II	10	LD17-2558	56	66	103	75	33	28	MR
21SCN U II	11	LD17-2903	64	45	101	70	41	26	MR
21SCN U II	12	LD17-2967a	156	97	77	110	37	40	LR
21SCN U II	13	LD17-3855	75	42	61	59		22	R
21SCN U II	14	LD17-6036a	229	96	47	124	76	46	redo
21SCN U II	15	U14-925152	22	7	6	12		4	HR
21SCN U II	16	U18-613247	107	140	110	119	15	44	LR
21SCN U II	17	U18-903003	101	165	99	122	31	45	LR
21SCN U II	18	U18-915056	152	*43	47	100	75	37	redo

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

SCN Reg Test	Ent	Strain	HG 2.5.7						
			rep1	rep2	rep3	mean	cv	FI	rating
21SCN U II	19	U18-916036	183	32	*33	108	99	40	redo
21SCN U II	20	U18-919004	173	93	131	132	30	49	LR
21SCN U II	21	U18-929040	132	80	124	112	25	41	LR
21SCN P IIA	5	LD18-0173	191	137	153	160	17	59	LR
21SCN P IIA	6	LD18-1242	118	86	166	123	33	45	LR
21SCN P IIA	7	LD18-1725	167	112	215	165	31	61	NR
21SCN P IIA	8	LD18-4225	206	106	199	170	33	63	NR
21SCN P IIA	9	LD18-4231	203	280	117	200	41	74	NR
21SCN P IIA	10	LD18-4236	111	227	314	217	47	80	NR
21SCN P IIA	11	LD18-4248	219	142	258	206	29	76	NR
21SCN P IIA	12	LD18-4406	130	86	174	130	34	48	LR
21SCN P IIA	13	LD18-4435	135	148	78	120	31	44	LR
21SCN P IIA	14	LD18-5062	161	150	95	135	26	50	LR
21SCN P IIA	15	LD18-5526	215	108	244	189	38	70	NR
21SCN P IIA	16	E17040	193	321	139	218	43	80	NR
21SCN P IIA	17	E18331-34	124	171	116	137	22	50	LR
21SCN P IIA	18	E18331-43	113	95	162	123	28	45	LR
21SCN P IIA	19	E19005	201	150	100	150	34	55	LR
21SCN P IIA	20	E19056	172	200	228	200	14	74	LR
21SCN P IIA	21	E19090	195	291	153	213	33	78	NR
21SCN P IIA	22	E19269	297	239	308	281	13	104	NR
21SCN P IIA	23	E19288T	205	146	242	198	24	73	NR
21SCN P IIA	24	E19312T	193	137	383	238	54	87	NR
21SCN P IIA	25	E19327T	164	153	261	193	31	71	NR
21SCN P IIA	26	E19412	173	262	210	215	21	79	NR
21SCN P IIA	27	E19413	94	153	93	113	30	42	LR
21SCN P IIA	28	E19689	281	335	116	244	47	90	NR
21SCN P IIA	29	E19803-07	102	203	144	150	34	55	LR
21SCN P IIB	5	A15118-169	216	268	308	264	17	97	NR
21SCN P IIB	6	A15118-175	200	351	194	248	36	91	NR
21SCN P IIB	7	A15203- 19	174	233	161	189	20	70	NR

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

SCN Reg Test	Ent	Strain	HG 2.5.7						
			rep1	rep2	rep3	mean	cv	FI	rating
21SCN P IIB	8	A15203- 24	132	152	152	145	8	53	LR
21SCN P IIB	9	A15204-127	93	56	84	78	25	29	MR
21SCN P IIB	10	A15208- 17	93	65	22	60		22	R
21SCN P IIB	11	A15208- 33	62	57	106	75	36	28	MR
21SCN P IIB	12	A15208- 41	130	67	157	118	39	43	LR
21SCN P IIB	13	LD18-6259a	98	99	41	79	42	29	MR
21SCN P IIB	14	LD18-6303	73	135	143	117	33	43	LR
21SCN P IIB	15	U19-602215	157	111	83	117	32	43	LR
21SCN P IIB	16	U19-608294	6	79	26	37		14	R
21SCN P IIB	17	U19-611226	83	18	21	41		15	R
21SCN P IIB	18	U19-613089	107	55	109	90	34	33	MR
21SCN P IIB	19	U19-613290	134	74	86	98	32	36	MR
21SCN P IIB	20	U19-615127	115	68	151	111	37	41	LR
21SCN P IIB	21	U19-618131	24	70	33	42		16	R
21SCN P IIB	22	U19-618247	23	19	51	31		11	R
21SCN P IIB	23	U19-913034	4*	10*	.				redo
21SCN P IIB	24	U19-914123	249	230	227	235	5	87	NR
21SCN P IIB	25	U19-923091	112	53	60	75	43	28	MR
21SCN P IIB	26	U19-923124	2	101	30	44		16	R
21SCN P IIB	27	U19-924091	11	33	69	38		14	R
21SCN P IIB	28	U19-924230	147	95	93	112	27	41	LR
21SCN P IIB	29	U19-926126	57	35	97	63		23	R
21SCN U III	1	LD11-2170 (SCN)	284	112	294	230	44	85	NR
21SCN U III	2	U15-606207 (SCN)	10	18	68	32		12	R
21SCN U III	3	LD07-3395bf (SCN)	97	13	47	52		19	R
21SCN U III	5	CR17-1724	171	91	104	122	35	45	LR
21SCN U III	6	CR17-1905	104	183	207	165	33	61	NR
21SCN U III	7	LD16-6787	152	84	141	126	29	46	LR
21SCN U III	8	LD17-2946a	179	208	138	175	20	64	NR
21SCN U III	9	LD17-8668	162	147	269	193	35	71	NR
21SCN U III	10	LD17-10579	112	59	175	115	50	42	redo

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

SCN Reg Test	Ent	Strain	HG 2.5.7						
			rep1	rep2	rep3	mean	cv	FI	rating
21SCN U III	11	LD17-10786	42	106	91	80	42	29	MR
21SCN U III	12	LD18-1855	202	97	163	154	34	57	LR
21SCN U III	13	LD18-1867	246	187	116	183	36	67	LR
21SCN U III	14	U17-304114	119	96	58	91	34	33	MR
21SCN U III	15	U18-617265	182	102	211	165	34	61	NR
21SCN U III	16	U18-617270	139	108	240	162	43	60	NR
21SCN U III	17	U18-913029	97	167	185	150	31	55	LR
21SCN P IIIA	5	A15118-197	40	101	107	83	45	30	MR
21SCN P IIIA	6	A15203- 8	150	271	209	210	29	77	NR
21SCN P IIIA	7	A15203- 59	59	21	44	41		15	R
21SCN P IIIA	8	A15203- 80	187	226	109	174	34	64	NR
21SCN P IIIA	9	A15208-104	29	25	24	26		10	R
21SCN P IIIA	10	A15208-105	12	41	49	34		13	R
21SCN P IIIA	11	A15208-113	63	30	27	40		15	R
21SCN P IIIA	12	A15208-144	66	57	38	54		20	R
21SCN P IIIA	13	A15208-201	16	9	13	13		5	HR
21SCN P IIIA	14	CR15-0616	186	114	183	161	25	59	LR
21SCN P IIIA	15	CR15-1385	59	64	105	76	33	28	MR
21SCN P IIIA	16	LD18-1767	107	45	96	83	40	30	MR
21SCN P IIIA	17	LD18-1991	119	144	73	112	32	41	LR
21SCN P IIIA	18	LD18-4251	184	121	96	134	34	49	LR
21SCN P IIIA	19	LD18-5711	102	59	51	71	39	26	MR
21SCN P IIIA	20	LD18-6520	155	97	92	115	31	42	LR
21SCN P IIIA	21	LD18-6579	98	129	187	138	33	51	LR
21SCN P IIIA	22	LD18-6596	232	121	179	177	31	65	NR
21SCN P IIIA	23	LD18-7142	155	85	105	115	31	42	LR
21SCN P IIIA	24	LD18-7244	196	153	274	208	30	76	NR
21SCN P IIIA	25	LD18-10364	76	153	145	125	34	46	LR
21SCN P IIIB	5	LD18-9934	210	83	99	131	53	48	redo
21SCN P IIIB	6	LD18-10395	154	82	89	108	37	40	LR
21SCN P IIIB	7	LD19-10302	72	71	37	60		22	R

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

SCN Reg Test	Ent	Strain	HG 2.5.7						
			rep1	rep2	rep3	mean	cv	Fl	rating
21SCN P IIIB	8	LD19-10352	26	2	28	19		7	HR
21SCN P IIIB	9	SA18-11280	296	151	109	185	53	68	NR
21SCN P IIIB	10	SA18-14099	187	106	196	163	30	60	NR
21SCN P IIIB	11	SA18-7406	108	211	116	145	40	53	LR
21SCN P IIIB	12	U19-604175	146	115	190	150	25	55	LR
21SCN P IIIB	13	U19-604203	95	13	15	41		15	R
21SCN P IIIB	14	U19-605170	109	289	176	191	48	70	NR
21SCN P IIIB	15	U19-607156	77	98	129	101	26	37	MR
21SCN P IIIB	16	U19-608187	10	66	112	63		23	R
21SCN P IIIB	17	U19-610076	173	152	274	200	33	73	NR
21SCN P IIIB	18	U19-612131	197	183	220	200	9	74	NR
21SCN P IIIB	19	U19-613113	45	5	12	21		8	HR
21SCN P IIIB	20	U19-613153	203	111	108	141	38	52	LR
21SCN P IIIB	21	U19-615114	303	208	204	238	24	88	NR
21SCN P IIIB	22	U19-615141	169	178	157	168	6	62	NR
21SCN P IIIB	23	U19-615243	161	84	96	114	36	42	LR
21SCN P IIIB	24	U19-913196	128	112	82	107	22	40	LR
21SCN P IIIB	25	U19-922214	22	36	23	27		10	R
21SCN P IIIB	26	U19-928235	47	32	92	57		21	R
20SCN U IV	1	LD15-3818 (SCN)	193	172	175	180	6	66	NR
21SCN U IV	2	LD00-2817P (SCN)	15	17	30	21		8	HR
21SCN U IV	4	JTN-4120	91	175	80	115	45	42	redo
21SCN U IV	5	JTN-4220	53	22	79	51		19	R
21SCN U IV	6	K17-6388	129	229	112	157	40	58	LR
21SCN U IV	7	K17-6484	99	83	138	107	27	39	MR
21SCN U IV	8	K18-1247	198	114	108	140	36	52	LR
21SCN U IV	9	K18-1396	139	76	161	125	35	46	LR
21SCN U IV	10	K18-1471	141	92	133	122	22	45	LR
21SCN U IV	11	K18-1783	187	104	208	166	33	61	NR
21SCN U IV	12	K18-1944	113	129	81	108	23	40	LR
21SCN U IV	13	K18-2044	288	257	172	239	25	88	NR

2021 NORTHERN REGIONAL SCN TESTS SCN SCREENING

SCN Reg Test	Ent	Strain	HG 2.5.7						
			rep1	rep2	rep3	mean	cv	FI	rating
21SCN U IV	14	K18-2401	132	51	267	150	73	55	redo
21SCN U IV	15	K18-2419	119	74	204	132	50	49	redo
21SCN U IV	16	LD17-10473L	33	40	25	33		12	R
21SCN U IV	17	LD18-2922	123	60	96	93	34	34	MR
21SCN U IV	18	LD18-2925	131	162	246	180	33	66	NR
21SCN U IV	19	LD18-3068	222	111	214	182	34	67	NR
21SCN U IV	20	LD18-4159	121	59	109	96	34	35	MR
21SCN U IV	21	LD18-4165	104	105	181	130	34	48	LR
21SCN U IV	22	LD18-10010	73	106	93	91	18	33	MR
21SCN U IV	23	S18-6346C	202	119	129	150	30	55	LR
21SCN U IV	24	S18-6470C	20	11	198	76	138	28	redo
21SCN U IV	25	SA18-12111	138	120	233	164	37	60	NR
21SCN U IV	26	SA18-7490	273	138	215	209	32	77	NR
21SCN U IV	27	SA18-9109	130	72	117	106	29	39	MR

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2021 NORTHERN REGIONAL SCN TESTS SNP MARKER ANALYSIS

Test	Ent	Strain	Phytophthora							Brown stem rot	Frogeye leaf spot	Stem canker
			Rps 1a	Rps 1c	Rps 1d	Rps 1k	Rps 2	Rps 3a	Rps 6			
P IIA	5	LD18-0173	S	S	S	S	S	S	S	Het	S	R
P IIA	6	LD18-1242	S	S	S	S	S	S	S	Het	S	R
P IIA	7	LD18-1725	S	S	S	S	S	S	S	S	S	R
P IIA	8	LD18-4225	S	S	S	S	S	S	S	Het	S	R
P IIA	9	LD18-4231	S	S	S	S	S	S	S	R	S	R
P IIA	10	LD18-4236	S	S	S	S	S	S	S	R	S	R
P IIA	11	LD18-4248	S	S	S	S	S	S	S	R	S	R
P IIA	12	LD18-4406	S	S	S	R	S	S	S	R	S	R
P IIA	13	LD18-4435	S	S	S	S	S	S	S	S	S	R
P IIA	14	LD18-5062	S	S	S	R	S	S	S	S	S	R
P IIA	15	LD18-5526	S	S	S	S	S	S	S	R	S	R
P IIA	16	E17040	S	S	S	R	S	S	S	R	S	R
P IIA	17	E18331-34	S	S	S	S	S	S	S	R	S	R
P IIA	18	E18331-43	S	S	S	S	S	S	S	.	S	R
P IIA	19	E19005	S	S	S	S	S	S	S	R	S	R
P IIA	20	E19056	S	S	S	S	S	S	S	Het	S	S
P IIA	21	E19090	S	S	S	R	S	S	S	S	S	Het
P IIA	22	E19269	S	Het	S	Het	S	S	S	Het	S	R
P IIA	23	E19288T	S	S	S	R	S	S	S	R	S	R
P IIA	24	E19312T	S	S	S	R	S	S	S	R	S	R
P IIA	25	E19327T	S	S	S	S	S	S	S	R	S	R
P IIA	26	E19412	S	S	S	Het	S	S	S	Het	S	R
P IIA	27	E19413	S	S	S	R	S	S	S	R	S	R
P IIA	28	E19689	S	S	S	S	S	S	S	Het	S	Het
P IIA	29	E19803-07	S	S	S	R	S	S	S	R	S	S

2021 NORTHERN REGIONAL SCN TESTS SNP MARKER ANALYSIS

Test	Ent	Strain	Phytophthora							Brown stem rot	Frogeye leaf spot	Stem canker
			Rps 1a	Rps 1c	Rps 1d	Rps 1k	Rps 2	Rps 3a	Rps 6			
P IIB	5	A15118-169	S	S	S	R	S	S	S	S	S	R
P IIB	6	A15118-175	S	S	S	R	S	S	S	S	S	R
P IIB	7	A15203- 19	S	S	S	S	S	S	S	R	S	R
P IIB	8	A15203- 24	S	S	S	S	S	S	S	R	S	S
P IIB	9	A15204-127	S	S	S	S	S	S	S	S	S	R
P IIB	10	A15208- 17	S	S	S	S	S	S	S	R	S	R
P IIB	11	A15208- 33	R	S	S	S	S	S	S	R	S	R
P IIB	12	A15208- 41	S	S	S	S	S	S	S	R	S	R
P IIB	13	LD18-6259a	S	S	S	S	S	S	S	R	S	R
P IIB	14	LD18-6303	S	R	S	S	S	S	S	S	S	R
P IIB	15	U19-602215	S	S	S	R	S	S	S	S	S	R
P IIB	16	U19-608294	S	S	S	S	S	S	Het	Het	S	R
P IIB	17	U19-611226	S	Het	S	S	S	S	R	Het	S	R
P IIB	18	U19-613089	S	S	S	S	S	S	S	S	S	R
P IIB	19	U19-613290	S	R	S	S	S	S	R	R	S	R
P IIB	20	U19-615127	S	S	S	S	S	S	S	R	S	R
P IIB	21	U19-618131	S	S	S	R	S	S	S	Het	S	R
P IIB	22	U19-618247	S	.	S	S	S	S	Het	Het	S	R
P IIB	23	U19-913034	S	R	S	S	S	S	S	R	S	R
P IIB	24	U19-914123	S	S	S	S	S	S	S	S	S	R
P IIB	25	U19-923091	S	S	S	S	S	S	S	S	S	R
P IIB	26	U19-923124	S	S	S	S	S	S	S	S	S	R
P IIB	27	U19-924091	S	S	S	R	S	S	S	R	S	R
P IIB	28	U19-924230	S	S	S	Het	S	S	S	S	S	R
P IIB	29	U19-926126	S	S	S	S	S	S	S	S	S	R

2021 NORTHERN REGIONAL SCN TESTS SNP MARKER ANALYSIS

Test	Ent	Strain	SCN			Root Knot Nematode	Iron Chlorosis		
			Rhg1-PI88788	Rhg1-Peking	Rhg4		Fec-LgA1	Fec-LgN	Ch13
U IV	1	LD15-3818 (SCN)							
U IV	2	LD00-2817P (SCN)	S	R	R	R	S	R	R
U IV	3	LD07-3395bf (SCN)							
U IV	4	JTN-4120	R	S	S	S	R	S	R
U IV	5	JTN-4220	Het		Het	S	R	Het	Het
U IV	6	K17-6388	R	S	S	S	Het	R	R
U IV	7	K17-6484	R	S	S	S	S	R	R
U IV	8	K18-1247	R	S	S	S	S	R	R
U IV	9	K18-1396	R	S	S	S	S	R	R
U IV	10	K18-1471	R	S	S	S	S	R	R
U IV	11	K18-1783	R	S	S	S	S	R	R
U IV	12	K18-1944	R	S	S	S	S	R	R
U IV	13	K18-2044	R	S	R	S	S	R	R
U IV	14	K18-2401	R	S	S	S	R	R	R
U IV	15	K18-2419	Het	S	S	S	Het	Het	R
U IV	16	LD17-10473L	S	R	R	S	S	Het	R
U IV	17	LD18-2922	R	S	S	S	S	S	R
U IV	18	LD18-2925	R	S	S	S	S	S	R
U IV	19	LD18-3068	S	S	S	S	S	S	R
U IV	20	LD18-4159	R	S	S	S	S	R	R
U IV	21	LD18-4165	R	S	S	S	Het	S	R
U IV	22	LD18-10010	S	S	S	S	S	Het	R
U IV	23	S18-6346	S	Het	S	.	R	S	S
U IV	24	S18-6470	S	R	S	S	R	S	R
U IV	25	SA18-12111	S	S	S	S	Het	S	R
U IV	26	SA18-7490	S	S	S	S	S	S	R
U IV	27	SA18-9109	R	S	S	S	S	S	R

2021 NORTHERN REGIONAL SCN TESTS SNP MARKER ANALYSIS

Test	Ent	Strain	Phytophthora							Brown stem rot	Frogeye leaf spot	Stem canker
			Rps 1a	Rps 1c	Rps 1d	Rps 1k	Rps 2	Rps 3a	Rps 6			
U IV	1	LD15-3818 (SCN)										
U IV	2	LD00-2817P (SCN)	S	S	S	S	S	S	S	S	S	R
U IV	3	LD07-3395bf (SCN)										
U IV	4	JTN-4120	S	R	S	S	S	S	S	R	S	R
U IV	5	JTN-4220	S	R	S	S	S	S	S		Het	R
U IV	6	K17-6388	S	S	S	S	S	S	S	R	S	R
U IV	7	K17-6484	S	S	S	S	S	S	S	R	S	R
U IV	8	K18-1247	S	S	S	S	S	S	S	R	S	R
U IV	9	K18-1396	S	R	S	S	S	S	S	R	S	R
U IV	10	K18-1471	S	R	S	S	S	S	S	R	S	R
U IV	11	K18-1783	S	S	S	S	S	S	S	R	S	R
U IV	12	K18-1944	S	S	S	S	S	S	S	Het	S	R
U IV	13	K18-2044	S	S	S	S	S	S	S	S	S	R
U IV	14	K18-2401	S	S	S	S	S	S	S	R	S	R
U IV	15	K18-2419	S	S	S	Het	S	S	S	Het	S	R
U IV	16	LD17-10473L	S	Het	S	S	S	S	S	R	S	R
U IV	17	LD18-2922	S	R	S	S	S	S	S	R	S	R
U IV	18	LD18-2925	S	R	S	S	S	S	S	S	S	R
U IV	19	LD18-3068	S	S	S	R	S	S	S	R	S	R
U IV	20	LD18-4159	S	S	S	S	S	S	S	R	S	R
U IV	21	LD18-4165	S	R	S	S	S	S	S	R	S	R
U IV	22	LD18-10010	S	Het	S	S	S	S	S	R	S	R
U IV	23	S18-6346	S	S	S	S	S	S	S	Het	S	R
U IV	24	S18-6470	S	R	S	S	S	S	S	S	R	S
U IV	25	SA18-12111	S	S	S	S	S	S	S	Het	S	R
U IV	26	SA18-7490	S	S	S	S	S	S	S	S	S	R
U IV	27	SA18-9109	S	S	S	S	S	S	R	R	S	R

2021 SCN UNIFORM TEST 0

Strain	Descriptive code	Parentage	Previous testing
1 ND Dickey (0)	PGy	Pioneer 91M10 x Sheyenne	2
2 MN0095	PGibl	M92-270029 x M93-313135	10
3 MN0404CN (SCN)	PTbl	MN0902CN x MN0304	3
4 MN1410	WGbf	Unknown	15
5 M08-362045L	WLtbl	MN0606CN x U03-100612	2
6 M13-118036	P+WG+Ty	M06-288155 x U09-118017	2
7 M13-250056	WGbf	M06-288190 x AR09-191018	2
8 M13-257047	PGy	M07-209037 x LD08-12441a	20SCN U00
9 M15-221040	PGbf	ND10-2993 x M07-292111	New
10 M14-224050	PTbl	MN1410 x PI447003A	1
11 M15-108094	WGy	M04-239147 x ND10-3330	New
12 M15-115050	WTbr/bl	MN0606CN x AR13-232106	New
13 M15-179021	PGy	ND10-3427 x M08-609011	New
14 M15-180032	WTy	ND10-3608 x M06-289001	New
15 M15-220021	WGy	ND10-2993 x M07-292111	New
16 M15-220055	P+WTy/gr	ND10-2993 x M07-292111	New
17 M15-221032	PGy	ND10-3464 x M07-296048	New
18 ND16-8821	PGbf	Sheyenne x ND10-3600	New
19 ND17-20565	WGy	ND10-3601 x Pioneer 91M10	New
20 ND17-20754	MGy	ND10-3610 x Pioneer 91M10	New
21 ND17-21922	MGy	ND10-3610 x Pioneer 91M10	New
22 ND17-21929	PGbf	ND10-3610 x Pioneer 91M10	New
23 ND17-22117	WGbf	ND10-3610 x Pioneer 91M10	New
24 ND17-22120	PGy	ND10-3610 x Pioneer 91M10	New
25 OAC 19-05C-SCN	WMgr	OAC Prescott x M05-363022	New

2021 SCN UNIFORM TEST 0

Strain	Gen comp	SCN res source	Traits
1 ND Dickey (0)	F4	None	
2 MN0095	F5	None	Rps1
3 MN0404CN (SCN)	F5	PI 88788	Rps1k
4 MN1410	F5	None	
5 M08-362045L	F5	PI 88788	
6 M13-118036	F5	PI 88788	
7 M13-250056	F5	PI 88788	
8 M13-257047	F5	PI 88788	
9 M15-221040	F5	PI 88788	
10 M14-224050	F5	PI 88788	Diversity
11 M15-108094	F5	PI 88788	APHIDCN
12 M15-115050	F5	PI 88788	BSRCN
13 M15-179021	F5	PI 88788	IDC-SCN
14 M15-180032	F5	PI 88788	IDC-SCN
15 M15-220021	F5	PI 88788	
16 M15-220055	F5	PI 88788	
17 M15-221032	F5	PI 88788	
18 ND16-8821	F5	PI 88788	
19 ND17-20565	F5	PI 88788	
20 ND17-20754	F5	PI 88788	
21 ND17-21922	F5	PI 88788	
22 ND17-21929	F5	PI 88788	
23 ND17-22117	F5	PI 88788	
24 ND17-22120	F5	PI 88788	
25 OAC 19-05C-SCN	F5	PI 88788	

2021 SCN UNIFORM TEST 0

Strain	IL SCN screen				MN
	HG Type 0		HG Type 2.5.7		IDC
	FI	rating	FI	rating	score
1 ND Dickey (0)	No data available		106	NR	1.0
2 MN0095			74	NR	1.0
3 MN0404CN (SCN)			91	NR	2.0
4 MN1410			88	NR	3.0
5 M08-362045L			62	NR	1.0
6 M13-118036			33	MR	2.0
7 M13-250056			8	HR	1.0
8 M13-257047			74	NR	1.0
9 M15-221040			57	LR	2.0
10 M14-224050			67	NR	2.0
11 M15-108094			86	NR	2.0
12 M15-115050			60	NR	1.0
13 M15-179021			59	LR	1.0
14 M15-180032			52	LR	1.0
15 M15-220021			68	NR	1.0
16 M15-220055			56	LR	1.0
17 M15-221032			51	LR	1.0
18 ND16-8821			97	NR	1.0
19 ND17-20565			84	NR	3.0
20 ND17-20754			75	NR	1.0
21 ND17-21922			65	NR	1.0
22 ND17-21929			79	NR	1.0
23 ND17-22117			67	NR	1.0
24 ND17-22120			80	NR	1.0
25 OAC 19-05C-SCN			46	LR	2.0

2021 SCN UNIFORM TEST 0

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 ND Dickey (0)	no marker data available					
2 MN0095	no marker data available					
3 MN0404CN (SCN)	no marker data available					
4 MN1410	no marker data available					
5 M08-362045L	Rhg1-PI88788	LgN+Ch13	none	R	S	R
6 M13-118036	no marker data available					
7 M13-250056	no marker data available					
8 M13-257047	no marker data available					
9 M15-221040	Rhg1-PI88788	Ch13, Het LgN	Rps6, Het Rps1a	R	S	R
10 M14-224050	no marker data available					
11 M15-108094	Rhg1-PI88788	LgA1+LgN+Ch13	none	S	S	R
12 M15-115050	Het Rhg1-PI88788	LgA1+Ch13	none	Het	S	R
13 M15-179021	none	LgA1+Ch13	Rps1c	S	S	R
14 M15-180032	no data available			.	.	.
15 M15-220021	Rhg1-PI88788	Ch13	none	R	S	R
16 M15-220055	Het Rhg1-PI88788	Ch13, Het LgN	none	Het	S	R
17 M15-221032	Het Rhg1-PI88788	Ch13	Het Rps1k+6	Het	S	R
18 ND16-8821	none	Ch13	Rps1c+Rps6	Het	S	R
19 ND17-20565	Rhg1-PI88788	LgA1+Ch13	Rps6	Het	S	R
20 ND17-20754	Het Rhg1-PI88788	Ch13, Het LgN	Rps6	Het	S	R
21 ND17-21922	none	Ch13	Rps1a, Het Rps6	R	S	R
22 ND17-21929	none	Ch13	Rps6	Het	S	R
23 ND17-22117	Rhg1-PI88788	LgA1+Ch13	none	R	S	R
24 ND17-22120	Rhg1-PI88788	LgA1+Ch13	none	Het	S	R
25 OAC 19-05C-SCN	no marker data available					

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN UNIFORM TEST 0

Summary

Strain	Yield							Seed					
	All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	4	2*	2	5	2	2	4	4	5	5		
1 ND Dickey (0)	52.0	3	45.0	8	60.1	1	9/17	1.0	32	17.5	1.0	34.5	18.0
2 MN0095	39.5	25	34.6	23	47.3	22	-11	1.2	31	12.6	1.6	35.2	18.9
3 MN0404CN (SCN)	41.6	23	41.1	16	43.7	24	-5	1.4	33	13.7	1.1	34.4	18.7
4 MN1410	44.7	17	35.9	22	55.0	7	5	1.7	36	17.6	1.4	36.1	17.5
5 M08-362045L	47.8	8	44.7	9	52.4	12	-1	1.2	29	14.9	1.4	35.1	18.1
6 M13-118036	51.8	4	46.9	6	57.9	3	1	1.6	32	15.7	1.4	34.8	17.7
7 M13-250056	53.9	1	54.1	1	56.2	5	0	1.2	37	16.3	1.4	34.0	18.7
8 M13-257047	45.6	14	42.5	14	51.2	17	-6	1.0	36	16.8	1.9	35.5	18.7
9 M15-221040	44.4	19	40.8	17	49.7	21	-5	1.4	32	14.2	1.4	35.6	18.3
10 M14-224050	45.7	13	42.6	13	50.9	18	-3	1.0	30	15.1	1.4	34.3	19.4
11 M15-108094	47.6	9	44.2	10	51.6	15	0	1.2	35	16.0	1.4	34.4	18.4
12 M15-115050	51.4	5	50.5	3	53.7	11	5	1.0	29	16.8	1.4	34.8	18.3
13 M15-179021	47.5	10	39.4	20	56.7	4	-2	1.0	38	16.1	1.9	34.7	18.8
14 M15-180032	48.4	7	48.0	5	52.0	14	6	1.5	40	17.6	1.1	36.4	16.9
15 M15-220021	46.2	12	43.6	11	51.3	16	-6	1.2	32	12.8	1.1	34.9	19.1
16 M15-220055	42.6	22	45.0	7	43.6	25	-5	1.1	31	13.5	1.4	35.7	18.7
17 M15-221032	44.5	18	41.6	15	49.9	20	-1	1.0	26	13.1	1.6	35.4	18.3
18 ND16-8821	45.5	15	36.7	21	55.9	6	-3	1.0	31	13.7	1.6	34.2	18.9
19 ND17-20565	43.0	21	42.9	12	47.2	23	2	1.5	31	16.9	1.1	35.1	18.5
20 ND17-20754	45.2	16	39.8	19	52.2	13	-4	1.0	26	14.2	1.1	34.2	18.8
21 ND17-21922	39.7	24	28.2	25	54.9	8	-8	1.0	29	15.7	1.4	35.4	18.5
22 ND17-21929	43.4	20	34.6	24	54.4	10	-3	1.5	34	14.9	2.1	35.9	17.9
23 ND17-22117	50.0	6	52.8	2	50.4	19	0	1.1	31	13.5	1.4	34.5	19.2
24 ND17-22120	53.1	2	50.4	4	58.6	2	-3	1.1	33	15.5	1.4	34.2	19.4
25 OAC 19-05C-SCN	47.4	11	40.1	18	54.4	9	-1	1.2	34	15.7	1.4	35.2	18.2
Mean	46.5		42.6		52.5		-1.9	1.2	32.2	15.2	1.4	35.0	18.5
LSD(.05)	12.1		11.3		10.1		14.0						
C.V. %	4.5		5.6		6.1		2.3						
Replications	12		6		6								

*Crookston, MN and Prosper, ND yield data not included in overall means due to high CV.

2021 SCN UNIFORM TEST 0

2 Year Summary

Strain	Yield								Seed				
	All		Infested		Non-infested		Maturity date	Lodging score	Height inches	weight g/100	quality score	protein @13%	oil @13%
	bu/a	rank	bu/a	rank	bu/a	rank							
Locations	9		4		5		9	5	4	7	7	9	9
1 ND Dickey (0)	51.3	3	49.9	5	56.6	1	9/20	1.2	31	16.7	1.1	34.9	17.7
2 MN0095	43.6	6	41.2	6	48.3	7	-9	5.3	27	13.1	1.6	35.2	18.7
3 MN0404CN (SCN)	40.4	8	40.8	8	42.3	8	-5	1.5	30	13.8	1.2	34.5	18.5
4 MN1410	43.2	7	41.0	7	50.0	5	4	4.9	34	16.0	1.4	35.7	17.6
5 M08-362045L	49.0	5	51.0	3	50.2	4	0	1.2	28	14.5	1.4	34.8	18.0
6 M13-118036	51.9	2	53.5	2	52.5	3	1	5.8	31	14.5	1.4	34.7	17.6
7 M13-250056	53.1	1	54.7	1	53.2	2	1	1.2	34	15.5	1.3	33.7	18.4
10 M14-224050	49.6	4	51.0	3	49.9	6	-2	5.0	28	14.9	1.4	34.4	19.2
Mean	47.8		47.9		50.4		-1.4	3.3	30.2	14.9	1.4	34.7	18.2

2021 SCN UNIFORM TEST 0

Yield (bu/a)

SCN HG Type	Thief River					
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI	Elora ON NI
Strain						
1 ND Dickey (0)	22.3	38.8	51.1	26.5	54.4	65.9
2 MN0095	18.0	26.4	42.8	22.7	41.3	53.4
3 MN0404CN (SCN)	17.7	26.6	55.6	28.9	44.6	42.8
4 MN1410	21.3	34.9	36.9	14.1	48.2	61.9
5 M08-362045L	20.3	29.9	59.5	30.4	42.1	62.6
6 M13-118036	30.4	33.4	60.5	40.5	53.2	62.5
7 M13-250056	22.3	32.6	75.6	46.4	48.6	63.8
8 M13-257047	23.3	29.7	55.4	30.7	45.9	56.5
9 M15-221040	16.7	27.0	54.5	37.7	49.7	49.8
10 M14-224050	20.1	28.8	56.5	33.9	48.5	53.3
11 M15-108094	19.9	26.8	61.6	33.7	45.0	58.3
12 M15-115050	19.3	32.3	68.6	49.0	50.3	57.2
13 M15-179021	25.5	30.5	48.2	17.7	47.9	65.5
14 M15-180032	25.4	31.5	64.5	24.8	48.5	55.5
15 M15-220021	18.2	24.5	62.7	39.4	50.2	52.5
16 M15-220055	13.2	27.5	62.6	38.7	39.0	48.3
17 M15-221032	18.2	22.7	60.4	31.1	50.0	49.9
18 ND16-8821	23.9	28.9	44.5	28.1	48.8	62.9
19 ND17-20565	21.0	31.1	54.8	31.2	44.5	49.9
20 ND17-20754	16.3	27.3	52.3	22.7	48.6	55.9
21 ND17-21922	20.8	26.6	29.9	17.7	54.7	55.1
22 ND17-21929	11.3	25.9	43.3	23.3	54.2	54.6
23 ND17-22117	15.8	32.8	72.9	45.4	46.9	54.0
24 ND17-22120	19.4	30.0	70.7	40.2	51.7	65.4
25 OAC 19-05C-SCN	18.5	24.3	55.8	38.3	50.9	57.9
Average	20.0	29.2	56.0	31.7	48.3	56.6
LSD(.05)	19.3	13.6	15.5	25.9	11.4	8.1
C.V. %	6.1	8.0	14.3	11.3	9.0	7.5
Replications	3	3	3	3	3	3
Row width (in.)	7	30	30	30	30	13

2021 SCN UNIFORM TEST 0

Yield (rank)

SCN HG Type	Thief River					
	Crookston MN	Falls MN	Colfax ND	Prosper ND	Moorhead MN	Elora ON
	Inf	Inf	Inf	Inf	NI	NI
Strain						
1 ND Dickey (0)	7	1	19	18	2	1
2 MN0095	19	21	23	22	24	18
3 MN0404CN (SCN)	20	20	14	16	21	25
4 MN1410	8	2	24	25	16	8
5 M08-362045L	11	11	11	15	23	6
6 M13-118036	1	3	9	4	4	7
7 M13-250056	6	5	1	2	12	4
8 M13-257047	5	12	15	14	19	12
9 M15-221040	21	17	17	9	10	23
10 M14-224050	12	14	12	10	14	19
11 M15-108094	13	18	8	11	20	9
12 M15-115050	15	6	4	1	7	11
13 M15-179021	2	9	20	23	17	2
14 M15-180032	3	7	5	19	15	14
15 M15-220021	17	23	6	6	8	20
16 M15-220055	24	15	7	7	25	24
17 M15-221032	18	25	10	13	9	21
18 ND16-8821	4	13	21	17	11	5
19 ND17-20565	9	8	16	12	22	21
20 ND17-20754	22	16	18	21	13	13
21 ND17-21922	10	19	25	24	1	15
22 ND17-21929	25	22	22	20	3	16
23 ND17-22117	23	4	2	3	18	17
24 ND17-22120	14	10	3	5	5	3
25 OAC 19-05C-SCN	16	24	13	8	6	10

2021 SCN UNIFORM TEST 0

Maturity

SCN HG Type	Thief River					
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI	Elora ON NI
Strain						
1 ND Dickey (0)	9/15	9/24	9/15	9/14		9/19
2 MN0095	-15	-10	-12	-8		-8
3 MN0404CN (SCN)	-2	-7	-7	-5		-5
4 MN1410	8	1	7	2		8
5 M08-362045L	3	-5	0	1		-1
6 M13-118036	7	-3	2	3		-3
7 M13-250056	3	-3	1	2		-1
8 M13-257047	-8	-7	-6	-3		-4
9 M15-221040	-9	-9	-6	-3		0
10 M14-224050	-2	-7	0	-3		-4
11 M15-108094	-1	-4	3	1		2
12 M15-115050	6	3	7	7		0
13 M15-179021	-3	-2	-2	-4		3
14 M15-180032	7	2	7	6		7
15 M15-220021	-7	-6	-6	-3		-8
16 M15-220055	-3	-6	-6	-4		-7
17 M15-221032	3	-5	0	0		-4
18 ND16-8821	-1	-3	-6	-2		-3
19 ND17-20565	3	-4	3	3		4
20 ND17-20754	-2	-5	-6	-2		-5
21 ND17-21922	-8	-9	-10	-9		-3
22 ND17-21929	-11	-3	-3	-3		4
23 ND17-22117	0	-3	2	-1		3
24 ND17-22120	-4	-5	-3	-2		-1
25 OAC 19-05C-SCN	2	-2	-2	2		-3
Planted	5/18	5/23	5/11	5/17	5/21	5/25

2021 SCN UNIFORM TEST 0

Lodging (score)

SCN HG Type	Thief River						Elora ON NI
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI		
Strain							
1 ND Dickey (0)	1.0						1.0
2 MN0095	1.0						1.3
3 MN0404CN (SCN)	1.0						1.8
4 MN1410	1.0						2.3
5 M08-362045L	1.0						1.3
6 M13-118036	2.0						1.2
7 M13-250056	1.0						1.3
8 M13-257047	1.0						1.0
9 M15-221040	1.0						1.7
10 M14-224050	1.0						1.0
11 M15-108094	1.0						1.3
12 M15-115050	1.0						1.0
13 M15-179021	1.0						1.0
14 M15-180032	1.3						1.7
15 M15-220021	1.3						1.0
16 M15-220055	1.0						1.2
17 M15-221032	1.0						1.0
18 ND16-8821	1.0						1.0
19 ND17-20565	1.0						2.0
20 ND17-20754	1.0						1.0
21 ND17-21922	1.0						1.0
22 ND17-21929	1.0						2.0
23 ND17-22117	1.0						1.2
24 ND17-22120	1.0						1.2
25 OAC 19-05C-SCN	1.0						1.3

2021 SCN UNIFORM TEST 0

Height (inches)

SCN HG Type	Thief River						Elora ON NI
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI		
Strain							
1 ND Dickey (0)	26						38
2 MN0095	25						38
3 MN0404CN (SCN)	27						40
4 MN1410	26						46
5 M08-362045L	21						37
6 M13-118036	29						35
7 M13-250056	28						45
8 M13-257047	31						42
9 M15-221040	20						43
10 M14-224050	24						35
11 M15-108094	27						44
12 M15-115050	23						35
13 M15-179021	33						43
14 M15-180032	33						47
15 M15-220021	27						37
16 M15-220055	25						37
17 M15-221032	22						30
18 ND16-8821	26						35
19 ND17-20565	24						37
20 ND17-20754	22						30
21 ND17-21922	22						36
22 ND17-21929	22						45
23 ND17-22117	22						40
24 ND17-22120	25						41
25 OAC 19-05C-SCN	25						43

2021 SCN UNIFORM TEST 0

Seed Weight (g/100)

SCN HG Type	Thief River					
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI	Elora ON NI
Strain						
1 ND Dickey (0)	14.5	19.6			16.7	19.1
2 MN0095	10.0	14.6			11.6	14.2
3 MN0404CN (SCN)	9.1	15.2			13.0	17.4
4 MN1410	13.5	20.3			16.3	20.3
5 M08-362045L	10.7	16.9			12.8	19.3
6 M13-118036	12.3	17.0			14.7	18.6
7 M13-250056	14.4	18.7			14.8	17.1
8 M13-257047	12.5	18.2			14.9	21.4
9 M15-221040	9.9	15.7			13.3	17.7
10 M14-224050	10.4	17.1			14.8	18.0
11 M15-108094	11.6	19.0			14.7	18.7
12 M15-115050	13.2	18.6			15.3	20.1
13 M15-179021	13.8	18.6			15.0	17.1
14 M15-180032	14.3	17.8			16.4	21.9
15 M15-220021	9.6	15.0			11.2	15.5
16 M15-220055	9.0	15.3			12.8	17.0
17 M15-221032	9.4	14.6			12.2	16.1
18 ND16-8821	11.2	15.5			13.1	14.8
19 ND17-20565	13.0	18.9			17.1	18.6
20 ND17-20754	9.8	16.6			13.4	17.1
21 ND17-21922	12.8	17.2			15.6	17.0
22 ND17-21929	9.1	18.5			13.8	18.2
23 ND17-22117	10.3	15.8			12.5	15.2
24 ND17-22120	12.3	17.0			15.0	17.8
25 OAC 19-05C-SCN	11.2	17.9			14.9	18.8

2021 SCN UNIFORM TEST 0

Seed Quality (score)

SCN HG Type	Thief River					
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI	Elora ON NI
Strain						
1 ND Dickey (0)	2.0	1.0			1.0	1.5
2 MN0095	2.0	1.0			2.0	1.5
3 MN0404CN (SCN)	1.0	1.0			1.0	1.5
4 MN1410	2.0	1.0			1.0	1.5
5 M08-362045L	2.0	1.0			1.0	1.5
6 M13-118036	2.0	1.0			1.0	1.5
7 M13-250056	2.0	1.0			1.0	1.5
8 M13-257047	2.0	2.0			2.0	1.5
9 M15-221040	1.0	1.0			2.0	1.5
10 M14-224050	2.0	1.0			1.0	1.5
11 M15-108094	1.0	2.0			1.0	1.5
12 M15-115050	2.0	1.0			1.0	1.5
13 M15-179021	2.0	2.0			2.0	1.5
14 M15-180032	1.0	1.0			1.0	1.5
15 M15-220021	1.0	1.0			1.0	1.5
16 M15-220055	2.0	1.0			1.0	1.5
17 M15-221032	2.0	1.0			2.0	1.5
18 ND16-8821	2.0	1.0			2.0	1.5
19 ND17-20565	1.0	1.0			1.0	1.5
20 ND17-20754	1.0	1.0			1.0	1.5
21 ND17-21922	1.0	1.0			2.0	1.5
22 ND17-21929	3.0	2.0			2.0	1.5
23 ND17-22117	2.0	1.0			1.0	1.5
24 ND17-22120	2.0	1.0			1.0	1.5
25 OAC 19-05C-SCN	1.0	1.0			2.0	1.5

2021 SCN UNIFORM TEST 0

Protein (%)

SCN HG Type	Thief River					
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI	Elora ON NI
Strain						
1 ND Dickey (0)	33.5	35.3		38.3	30.5	35.1
2 MN0095	32.7	36.3		39.8	31.4	35.6
3 MN0404CN (SCN)	32.3	36.4		37.9	30.6	34.9
4 MN1410	34.5	37.1		42.1	31.8	35.3
5 M08-362045L	33.9	35.8		41.4	29.3	35.2
6 M13-118036	33.5	35.0		40.3	30.8	34.6
7 M13-250056	33.5	35.1		36.2	30.5	34.5
8 M13-257047	33.1	36.6		39.7	32.3	35.6
9 M15-221040	33.9	37.2		39.7	30.8	36.5
10 M14-224050	33.2	34.2		37.8	31.8	34.7
11 M15-108094	32.5	35.5		38.4	30.1	35.8
12 M15-115050	33.7	35.1		37.2	32.5	35.5
13 M15-179021	31.8	35.1		41.2	31.0	34.7
14 M15-180032	34.6	38.5		40.1	32.9	36.1
15 M15-220021	34.3	37.5		38.4	29.6	34.7
16 M15-220055	32.9	38.5		39.1	32.1	35.7
17 M15-221032	32.8	37.2		39.9	31.7	35.6
18 ND16-8821	32.6	34.9		37.0	31.2	35.3
19 ND17-20565	33.3	36.6		38.1	32.8	34.8
20 ND17-20754	33.6	36.0		36.9	29.9	34.7
21 ND17-21922	34.4	37.4		37.4	32.4	35.4
22 ND17-21929	35.1	36.4		38.9	32.6	36.3
23 ND17-22117	34.2	37.7		34.6	30.1	36.1
24 ND17-22120	32.5	35.1		36.8	31.0	35.5
25 OAC 19-05C-SCN	33.9	35.9		37.6	33.1	35.5

2021 SCN UNIFORM TEST 0

Oil (%)

SCN HG Type	Thief River					
	Crookston MN Inf	Falls MN Inf	Colfax ND Inf	Prosper ND Inf	Moorhead MN NI	Elora ON NI
Strain						
1 ND Dickey (0)	17.9	17.5		18.3	19.3	16.7
2 MN0095	19.3	18.1		20.3	19.9	17.0
3 MN0404CN (SCN)	18.7	17.6		19.9	19.4	17.8
4 MN1410	17.4	16.6		17.5	18.9	17.1
5 M08-362045L	18.4	17.1		17.2	19.9	17.9
6 M13-118036	17.6	17.1		17.3	18.7	17.9
7 M13-250056	18.0	17.7		20.7	19.4	17.6
8 M13-257047	19.2	17.1		19.2	20.0	17.8
9 M15-221040	18.5	16.7		18.8	20.0	17.7
10 M14-224050	19.4	19.5		19.9	19.8	18.4
11 M15-108094	19.1	17.0		18.8	19.4	17.5
12 M15-115050	18.5	17.5		18.8	18.6	17.8
13 M15-179021	19.1	18.4		18.1	20.4	18.2
14 M15-180032	16.5	14.7		17.8	18.1	17.4
15 M15-220021	19.0	17.3		20.3	20.4	18.4
16 M15-220055	18.9	16.5		19.5	19.4	18.9
17 M15-221032	18.7	16.7		18.5	19.1	18.4
18 ND16-8821	18.7	18.6		20.0	19.8	17.3
19 ND17-20565	18.9	16.4		19.6	19.4	18.3
20 ND17-20754	18.4	17.7		19.6	19.6	18.8
21 ND17-21922	18.4	17.1		19.5	19.2	18.4
22 ND17-21929	17.1	17.3		18.3	19.0	17.7
23 ND17-22117	18.6	17.4		21.7	20.1	18.2
24 ND17-22120	19.3	18.3		20.8	20.2	18.4
25 OAC 19-05C-SCN	17.6	17.0		19.6	18.4	18.4

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2021 SCN UNIFORM TEST I

Strain	Descriptive code	Parentage	Previous testing
1 MN1410	WGbf	Unknown	15
2 ND Dickey (0)	PGy	Pioneer 91M10 x Sheyenne	1
3 U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612	6
4 U14-103015	PLtbl	LG07-2249 x LG07-6944	2
5 E15338	PGibl	E09088 x E12901	3
6 MCH13-104087	PGy	M06-288181 x M06-358188	3
7 M13-250030	PGbf	M06-288190 x AR09-191018	1
8 M13-250046	PGbf	M06-288190 x AR09-191018	1
9 M13-251003	PGy/bf	M06-289273 x AR09-291011	20SCN U0
10 M13-262015	PGbf	M03-172059 x LD08-12435a	1
11 M13-262053	PGibl/bf	M03-172059 x LD08-12435a	1
12 M13-266011	P+WGy	MN1505SP x LD10-5903a	1
13 M14-122031	PTbr/y	M08-365038 x IA1026	20SCN P I
14 M14-122035	PTy	M08-365038 x IA1026	20SCN P I
15 M14-126012	WTy	M07-278126 x M07-297007	20SCN P I
16 M14-129066	PGibl	M08-434072 x LD10-2715	20SCN P I

2021 SCN UNIFORM TEST I

Strain	Gen comp	SCN res source	Traits
1 MN1410	F5	None	
2 ND Dickey (0)	F4	None	
3 U11-917032 (SCN)	F6	PI 88788	
4 U14-103015	F5	None	Diversity
5 E15338	F5	PI 88788	
6 MCH13-104087	F5	PI 88788	
7 M13-250030	F5	PI 88788	
8 M13-250046	F5	PI 88788	
9 M13-251003	F5	PI 88788	
10 M13-262015	F5	PI 88788	
11 M13-262053	F5	PI 88788	
12 M13-266011	F5	PI 88788	Rag 1
13 M14-122031	F5	PI 88788	
14 M14-122035	F5	PI 88788	
15 M14-126012	F5	PI 88788	
16 M14-129066	F5	PI 88788	

2021 SCN UNIFORM TEST I

Strain	IL SCN screen				MN IDC
	HG Type 0		HG Type 2.5.7		score
	FI	rating	FI	rating	
1 MN1410	No data available		88	NR	1.0
2 ND Dickey (0)			106	NR	1.0
3 U11-917032 (SCN)			57	LR	1.0
4 U14-103015			95	NR	1.0
5 E15338			104	NR	1.0
6 MCH13-104087			111	NR	1.0
7 M13-250030			53	LR	1.0
8 M13-250046			16	R	1.0
9 M13-251003			14	R	1.0
10 M13-262015			81	NR	1.0
11 M13-262053			64	NR	1.0
12 M13-266011			64	NR	1.0
13 M14-122031			61	NR	1.0
14 M14-122035			35	MR	1.0
15 M14-126012			68	NR	1.0
16 M14-129066			93	NR	1.0

2021 SCN UNIFORM TEST I

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 MN1410	no marker data available					
2 ND Dickey (0)	no marker data available					
3 U11-917032 (SCN)	no marker data available					
4 U14-103015	no marker data available					
5 E15338	Rhg1-PI88788	LgA1+LgN+Ch13	Rps1k	R	S	R
6 MCH13-104087	Rhg1-PI88788, Het Rhg4	LgA1+LgN+Ch13	Rps1c	Het	S	R
7 M13-250030	no marker data available					
8 M13-250046	no marker data available					
9 M13-251003	no marker data available					
10 M13-262015	no marker data available					
11 M13-262053	no marker data available					
12 M13-266011	no marker data available					
13 M14-122031	no marker data available					
14 M14-122035	no marker data available					
15 M14-126012	none	Ch13, Het LgN	Het Rps1c	Het	R	R
16 M14-129066	no marker data available					

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN UNIFORM TEST I

Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		7		5*		2		7	7	7	7	7	7	7
1	MN1410	48.3	14	46.4	14	52.7	12	915	1.6	35	17.0	1.4	35.3	19.1
2	ND Dickey (0)	44.8	16	41.8	16	51.8	14	-4	1.5	31	17.0	1.4	34.7	19.0
3	U11-917032 (SCN)	55.0	3	53.7	2	58.1	6	4	1.9	32	16.4	1.4	34.0	19.6
4	U14-103015	50.8	11	47.6	11	58.5	4	6	1.8	33	17.7	1.6	35.4	19.1
5	E15338	56.0	1	54.6	1	59.1	3	4	2.1	35	16.8	1.3	33.8	19.0
6	MCH13-104087	48.4	12	46.8	13	52.2	13	0	1.6	38	14.9	1.4	34.5	19.0
7	M13-250030	53.8	5	51.9	7	58.1	5	8	1.6	39	16.7	1.7	35.4	18.2
8	M13-250046	48.1	15	46.1	15	53.0	11	0	2.3	36	18.1	1.4	35.1	19.3
9	M13-251003	51.7	10	50.0	9	55.6	10	-2	1.7	37	16.5	2.0	34.9	18.6
10	M13-262015	52.9	7	51.7	8	55.6	9	6	1.5	31	15.2	1.4	33.0	19.4
11	M13-262053	53.7	6	52.2	5	57.3	8	7	1.7	36	15.4	1.4	33.6	19.1
12	M13-266011	48.3	13	47.0	12	51.0	16	3	1.3	33	19.6	1.5	36.5	18.2
13	M14-122031	54.6	4	52.2	4	60.3	2	5	1.7	32	17.3	1.7	34.9	19.2
14	M14-122035	55.9	2	53.5	3	61.4	1	6	1.8	34	17.8	1.4	35.3	19.4
15	M14-126012	51.8	8	49.1	10	58.0	7	4	1.7	36	16.1	2.0	35.8	18.4
16	M14-129066	51.8	8	52.0	6	51.2	15	5	2.0	33	16.7	1.4	35.7	18.6
	Mean	51.6		49.8		55.9		3.4	1.7	34.4	16.8	1.5	34.9	18.9
	LSD(.05)	10.5		11.3		9.1		14.0	25.4	7.4				
	C.V. %	3.3		4.1		5.8		1.5	0.3	1.5				
	Replications	19		13		6		19	19	19				

*Decatur, MI not included in overall means due to high CV.

2021 SCN UNIFORM TEST I

2 Year Summary

Strain	Locations	Yield						Seed						
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
		bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
		12		9		3		10	12	12	11	11	11	11
1	MN1410	44.5	10	42.9	10	48.7	10	916	1.6	34	16.9	1.4	35.1	19.0
2	ND Dickey (0)	40.8	11	38.9	11	45.5	11	-4	1.4	30	17.0	1.4	34.6	19.0
3	U11-917032 (SCN)	52.9	1	52.5	1	53.8	4	5	1.7	31	16.4	1.3	33.5	19.5
4	U14-103015	47.9	6	46.8	6	54.6	1	6	1.5	33	17.1	1.4	35.0	19.2
5	E15338	52.8	2	51.5	3	54.2	2	4	1.8	34	16.6	1.2	33.5	18.8
6	MCH13-104087	46.8	8	46.2	7	49.0	9	1	1.5	37	15.0	1.3	34.2	19.0
7	M13-250030	51.8	3	49.9	5	54.1	3	7	1.5	38	16.2	1.5	35.0	18.2
8	M13-250046	47.5	7	46.2	8	51.2	6	1	2.1	36	18.0	1.3	34.7	19.1
10	M13-262015	50.5	5	50.8	4	51.2	5	6	1.4	32	15.0	1.3	32.8	19.4
11	M13-262053	51.8	3	52.3	2	49.3	8	7	1.6	35	15.2	1.3	33.3	19.1
12	M13-266011	45.1	9	43.7	9	49.6	7	2	1.3	33	19.2	1.4	36.1	18.3
	Mean	48.4		47.4		51.0		3.5	1.6	33.8	16.6	1.4	34.3	19.0

2021 SCN UNIFORM TEST I

Yield (bu/a)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	44.8	16.5	28.3	28.8	55.6	80.3	58.1	47.2
2 ND Dickey (0)	38.8	24.9	25.7	30.7	59.1	63.4	58.8	44.8
3 U11-917032 (SCN)	47.3	42.2	40.4	27.6	62.9	91.9	58.5	57.6
4 U14-103015	55.7	28.9	33.3	15.7	61.1	73.6	57.7	59.3
5 E15338	56.7	49.8	41.8	28.8	64.7	82.6	66.0	52.3
6 MCH13-104087	46.4	27.9	35.4	33.4	61.1	59.4	57.2	47.2
7 M13-250030	54.7	39.2	41.8	35.4	60.5	68.8	58.4	57.8
8 M13-250046	48.2	43.7	35.8	33.7	61.9	57.6	50.7	55.2
9 M13-251003	41.3	38.0	32.6	29.6	59.5	79.9	57.9	53.3
10 M13-262015	54.7	38.0	35.8	34.9	60.6	74.2	57.8	53.4
11 M13-262053	52.3	33.0	36.3	26.9	61.1	85.9	60.4	54.1
12 M13-266011	46.9	43.5	31.8	18.2	57.7	82.3	59.0	43.1
13 M14-122031	49.9	39.0	40.5	30.5	69.0	72.9	59.3	61.3
14 M14-122035	51.7	40.4	36.8	35.2	70.5	75.3	64.3	58.5
15 M14-126012	45.1	37.7	34.8	35.5	63.5	68.6	58.7	57.3
16 M14-129066	53.7	42.5	35.1	32.7	57.9	82.2	50.9	51.4
Average	49.3	36.6	35.4	29.9	61.7	74.9	58.4	53.4
LSD(2-sided,.05)	9.2	27.5*	12.8	12.3	9.5	6.8	7.7	10.5
C.V. %	9.6	20.3	7.3	5.7	9.3	10.8	7.5	9.3
Replications	2	3	3	3	3	2	3	3
Row width (in.)	30	30	30	30	30	17	13	13

*Decatur, MI high CV due to disease pressure

2021 SCN UNIFORM TEST I

Yield (rank)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville- ON Inf	ON NI	ON NI
Strain								
1 MN1410	14	16	15	11	16	6	10	13
2 ND Dickey (0)	16	15	16	8	13	14	6	15
3 U11-917032 (SCN)	10	5	4	13	5	1	8	5
4 U14-103015	2	13	12	16	8	10	13	2
5 E15338	1	1	2	12	3	3	1	11
6 MCH13-104087	12	14	9	6	7	15	14	13
7 M13-250030	3	7	1	2	11	12	9	4
8 M13-250046	9	2	7	5	6	16	16	7
9 M13-251003	15	10	13	10	12	7	11	10
10 M13-262015	3	9	8	4	10	9	12	9
11 M13-262053	6	12	6	14	9	2	3	8
12 M13-266011	11	3	14	15	15	4	5	16
13 M14-122031	8	8	3	9	2	11	4	1
14 M14-122035	7	6	5	3	1	8	2	3
15 M14-126012	13	11	11	1	4	13	7	6
16 M14-129066	5	4	10	7	14	5	15	12

2021 SCN UNIFORM TEST I

Maturity

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	8/29		9/16	9/17	9/13	9/15	9/21	9/26
2 ND Dickey (0)	-2		-2	-6	-3	-2	-8	-7
3 U11-917032 (SCN)	8		6	7	4	2	-2	4
4 U14-103015	11		6	11	4	1	2	4
5 E15338	9		6	5	4	3	0	4
6 MCH13-104087	2		-1	1	2	-2	-2	0
7 M13-250030	14		6	6	5	5	11	6
8 M13-250046	4		-5	-2	2	-1	-2	4
9 M13-251003	0		-5	-2	2	-1	-3	-3
10 M13-262015	11		7	11	5	3	1	4
11 M13-262053	12		5	11	6	4	5	3
12 M13-266011	6		6	-1	1	3	-1	4
13 M14-122031	10		8	9	5	1	-1	3
14 M14-122035	12		6	9	7	5	0	4
15 M14-126012	7		1	5	5	7	-1	3
16 M14-129066	10		4	10	2	2	2	4
Planted	5/24	5/07	5/16	5/26	5/11	5/31	5/17	6/01

2021 SCN UNIFORM TEST I

Lodging (score)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	2.0		1.0	2.1	2.3	1.5	1.3	1.3
2 ND Dickey (0)	1.0		1.0	2.0	2.0	2.5	1.0	1.0
3 U11-917032 (SCN)	3.0		1.3	2.0	3.0	1.5	1.0	1.7
4 U14-103015	2.0		1.0	2.0	2.7	2.0	1.0	1.7
5 E15338	2.8		1.7	2.7	2.0	2.0	1.5	2.0
6 MCH13-104087	1.5		1.0	2.0	2.0	2.5	1.2	1.0
7 M13-250030	2.0		1.0	2.0	2.0	1.0	1.5	1.8
8 M13-250046	2.8		1.3	3.0	2.3	3.0	1.8	2.0
9 M13-251003	2.0		1.0	2.5	2.3	2.0	1.0	1.2
10 M13-262015	2.0		1.0	2.0	2.0	1.0	1.0	1.2
11 M13-262053	2.3		1.0	2.0	2.7	1.5	1.2	1.2
12 M13-266011	1.0		1.0	1.0	2.3	1.5	1.2	1.2
13 M14-122031	1.8		1.3	2.3	2.0	2.0	1.0	1.7
14 M14-122035	2.3		1.7	2.7	2.3	1.5	1.0	1.3
15 M14-126012	1.8		1.0	2.7	2.0	2.0	1.0	1.2
16 M14-129066	3.0		1.3	3.0	2.7	1.0	1.5	1.7

2021 SCN UNIFORM TEST I

Height (inches)

		Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
		IL	MI	MN	MN	MN	ville	ON	ON
SCN HG Type	Strain	Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
1	MN1410	30		31	29	39	39	40	35
2	ND Dickey (0)	26		26	31	34	37	33	29
3	U11-917032 (SCN)	28		30	27	35	38	32	32
4	U14-103015	27		29	27	39	41	34	34
5	E15338	30		32	30	39	39	40	36
6	MCH13-104087	30		35	39	43	42	45	35
7	M13-250030	34		35	35	45	44	42	41
8	M13-250046	30		33	34	40	38	41	37
9	M13-251003	29		34	31	41	42	42	37
10	M13-262015	29		27	28	34	38	31	30
11	M13-262053	31		33	31	38	42	37	37
12	M13-266011	29		28	27	36	41	34	35
13	M14-122031	27		29	25	36	40	34	34
14	M14-122035	28		31	31	43	41	34	32
15	M14-126012	29		31	34	45	41	36	35
16	M14-129066	28		29	30	38	39	33	35

2021 SCN UNIFORM TEST I

Seed Weight (g/100)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	15.5		15.2	15.8	16.7	20.9	18.7	16.1
2 ND Dickey (0)	15.3		14.9	15.4	17.5	19.8	18.8	17.6
3 U11-917032 (SCN)	13.9		14.8	15.8	16.3	19.4	16.6	18.3
4 U14-103015	16.2		15.9	19.6	17.1	19.6	17.6	17.8
5 E15338	15.4		15.9	15.3	16.5	18.6	18.9	17.2
6 MCH13-104087	14.4		12.9	14.5	14.1	17.0	16.7	14.4
7 M13-250030	14.7		16.8	16.5	16.5	17.7	17.1	17.3
8 M13-250046	16.3		15.2	18.2	17.5	19.2	19.2	21.1
9 M13-251003	14.9		13.3	16.8	16.1	19.0	17.9	17.7
10 M13-262015	13.1		14.5	15.3	15.2	17.1	16.6	14.6
11 M13-262053	14.0		14.7	15.6	15.5	17.1	16.4	14.8
12 M13-266011	18.9		18.1	16.4	19.6	23.4	20.2	20.3
13 M14-122031	14.6		17.6	13.9	17.0	20.5	18.9	18.4
14 M14-122035	15.7		17.6	16.7	16.8	21.1	18.4	18.5
15 M14-126012	14.6		14.8	15.4	16.4	18.7	16.5	16.5
16 M14-129066	14.1		15.0	15.5	15.7	19.7	17.8	18.8

2021 SCN UNIFORM TEST I

Seed Quality (score)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	1.0		2.0	2.0	1.0	1.0	1.5	1.5
2 ND Dickey (0)	1.0		2.0	2.0	1.0	1.0	1.5	1.5
3 U11-917032 (SCN)	2.0		1.0	2.0	1.0	1.0	1.5	1.5
4 U14-103015	2.0		2.0	2.0	1.0	1.0	1.5	1.5
5 E15338	1.0		2.0	1.0	1.0	1.0	1.5	1.5
6 MCH13-104087	1.0		3.0	1.0	1.0	1.0	1.5	1.5
7 M13-250030	3.0		2.0	1.0	2.0	1.0	1.5	1.5
8 M13-250046	2.0		2.0	1.0	1.0	1.0	1.5	1.5
9 M13-251003	2.0		3.0	3.0	2.0	1.0	1.5	1.5
10 M13-262015	1.0		3.0	1.0	1.0	1.0	1.5	1.5
11 M13-262053	1.0		2.0	2.0	1.0	1.0	1.5	1.5
12 M13-266011	1.0		2.0	3.0	1.0	1.0	1.5	1.0
13 M14-122031	1.0		3.0	3.0	1.0	1.0	1.5	1.5
14 M14-122035	2.0		2.0	1.0	1.0	1.0	1.5	1.5
15 M14-126012	2.0		3.0	2.0	1.0	3.0	1.5	1.5
16 M14-129066	2.0		2.0	1.0	1.0	1.0	1.5	1.5

2021 SCN UNIFORM TEST I

Protein (%)

Strain	SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
		IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
1	MN1410	37.0		33.8	34.9	32.3	37.8	35.8	35.8
2	ND Dickey (0)	36.6		33.8	34.0	32.9	35.4	35.4	34.9
3	U11-917032 (SCN)	34.9		31.8	35.3	31.1	35.9	34.9	34.4
4	U14-103015	36.8		33.1	37.3	32.8	36.7	35.4	35.4
5	E15338	34.4		32.0	34.6	31.1	35.5	34.5	34.2
6	MCH13-104087	35.4		33.2	34.4	31.6	36.7	35.6	34.7
7	M13-250030	36.6		34.6	36.5	33.3	36.9	35.1	34.8
8	M13-250046	37.6		33.5	34.3	31.7	36.5	35.5	36.4
9	M13-251003	35.9		33.9	34.2	32.8	36.9	35.4	34.9
10	M13-262015	32.7		32.5	35.0	31.0	34.1	33.2	33.0
11	M13-262053	33.7		31.9	36.5	31.4	34.7	33.6	33.5
12	M13-266011	37.8		34.6	37.8	33.8	38.4	36.5	36.6
13	M14-122031	33.8		33.4	36.8	32.8	36.8	35.9	34.6
14	M14-122035	35.1		34.5	36.2	33.2	37.0	36.1	34.7
15	M14-126012	37.0		35.0	35.1	34.4	38.5	35.5	35.2
16	M14-129066	35.9		33.9	37.4	32.8	37.5	36.1	36.2

2021 SCN UNIFORM TEST I

Oil (%)

		Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
SCN HG Type		IL	MI	MN	MN	MN	ville	ON	ON
Strain		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
1	MN1410	18.7		19.1	19.1	20.7	18.6	19.0	18.5
2	ND Dickey (0)	17.9		18.9	18.5	20.4	19.7	19.1	18.6
3	U11-917032 (SCN)	19.4		20.2	18.5	21.2	19.7	19.3	18.8
4	U14-103015	18.9		20.1	17.6	20.2	19.3	18.8	18.5
5	E15338	18.9		18.6	18.6	19.9	19.7	18.2	18.7
6	MCH13-104087	18.9		18.8	18.1	20.4	18.8	19.1	18.7
7	M13-250030	16.7		18.5	18.8	18.8	17.8	18.6	18.4
8	M13-250046	18.6		19.7	19.1	20.6	20.0	18.6	18.1
9	M13-251003	17.8		18.5	19.2	19.0	18.5	18.8	18.3
10	M13-262015	20.0		19.2	18.2	20.4	19.6	19.0	19.3
11	M13-262053	19.2		19.2	18.2	20.4	19.0	18.9	19.1
12	M13-266011	18.2		18.5	17.7	19.7	18.2	17.3	18.0
13	M14-122031	19.9		19.6	18.2	20.3	19.6	18.1	18.9
14	M14-122035	20.1		19.2	19.6	19.5	19.8	18.1	19.2
15	M14-126012	18.2		18.5	19.0	19.1	18.3	18.1	17.6
16	M14-129066	19.1		19.0	18.0	19.7	18.3	17.7	18.4

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2020 SCN PRELIMINARY TEST I

Strain	Descriptive code	Parentage
1 MN1410	WGbf	Unknown
2 ND Dickey (0)	PGy	P.91M10 x Sheyenne
3 U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612
4 U14-103015	PLtbl	LG07-2249 x LG07-6944
5 E18169	PGibl	E16804-1 x LD02-4485
6 E19314T	PGy	E16902 x E11128T
7 E19323T	PGy	E16902 x E11128T
8 E19669	PGibl	E12076T x E16830-1
9 E19675	P+WGy/gr	E12076T x E16830-1
10 M15-115060	PLtbr	
11 M15-115078	P+WLTbl	
12 M15-159069	PLtbl/br	M07-292111 x MN0107
13 M15-159100	PTbr	M07-292111 x MN0107
14 M15-159120	WTgr	M07-292111 x MN0107
15 M15-179024	WMY	ND10-3427 x M08-609011
16 M15-221030	P+WG+Ty	ND10-3464 x M07-296048
17 M15-221047	P+WTbr	ND10-3464 x M07-296048
18 M15-222019	WGbf	ND10-3464 x U11-917032
19 M15-273094	P+WTbr	MSC09-776063 x M10-236018
20 M15-280072	PTbl/br	M10-237089 x MSC09-774074
21 OAC 19-61C-SCN	PGy	OAC Prescott x S23-T5
22 ORC 6218N	PGy	OAC Prosper x S18-R6
23 ORC 8518N	PGy	OAC Prosper x OX-111
24 U19-903124	PGy/gr	ORC_3713N x U14-924158
25 U19-909037	PGbf	ORC_3713N x U14-910097
26 U19-911031	PGbf/ibl	ORC_3713N x U14-925152
27 U19-913011	PGy/gr	ORC_3713N x U14-925152

2021 SCN PRELIMINARY TEST I

Strain	Gen comp	SCN res source	Traits
1 MN1410	F5	None	
2 ND Dickey (0)	F4	None	
3 U11-917032 (SCN)	F6	PI 88788	
4 U14-103015	F5	None	Diversity
5 E18169	F5	PI 88788	High oleic
6 E19314T	F5	PI 88789	
7 E19323T	F5	PI 88789	high protein
8 E19669	F5	PI 88788	High oleic
9 E19675	F5	PI 88788	High oleic
10 M15-115060	F5	PI 88788	BSRCN
11 M15-115078	F5	PI 88788	BSRCN
12 M15-159069	F5	PI 88788	EARLYCN
13 M15-159100	F5	PI 88788	EARLYCN
14 M15-159120	F5	PI 88788	EARLYCN
15 M15-179024	F5	PI 88788	IDC-SCN
16 M15-221030	F5	PI 88788	
17 M15-221047	F5	PI 88788	
18 M15-222019	F5	PI 88788	
19 M15-273094	F5	PI567516C	HI OLICN
20 M15-280072	F5	PI567516C	HIOCN
21 OAC 19-61C-SCN	F4	PI88788	
22 ORC 6218N	F5	PI88788	Food grade
23 ORC 8518N	F5	PI88788	Food grade
24 U19-903124	F5	PI 88788,437654	IDC
25 U19-909037	F5	PI 88788,437654	Rps
26 U19-911031	F5	PI 88788,437654	IDC
27 U19-913011	F5	PI 88788,437654	IDC

2021 SCN PRELIMINARY TEST I

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 MN1410	No data available		88	NR
2 ND Dickey (0)			106	NR
3 U11-917032 (SCN)			57	LR
4 U14-103015			95	NR
5 E18169			46	redo
6 E19314T			103	NR
7 E19323T			61	redo
8 E19669			130	NR
9 E19675			93	NR
10 M15-115060			33	redo
11 M15-115078			50	LR
12 M15-159069			103	NR
13 M15-159100			21	R
14 M15-159120			23	R
15 M15-179024			48	LR
16 M15-221030			40	LR
17 M15-221047			65	NR
18 M15-222019			59	LR
19 M15-273094			109	NR
20 M15-280072			52	LR
21 OAC 19-61C-SCN			97	NR
22 ORC 6218N			63	NR
23 ORC 8518N			94	NR
24 U19-903124			16	R
25 U19-909037			9	HR
26 U19-911031			6	HR
27 U19-913011			58	LR

2021 SCN PRELIMINARY TEST I

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 MN1410	no marker data available					
2 ND Dickey (0)	no marker data available					
3 U11-917032 (SCN)	no marker data available					
4 U14-103015	no marker data available					
5 E18169	none	Ch13	none	Het	S	R
6 E19314T	Rhg1-PI88788	Ch13	Rps1k	R	S	R
7 E19323T	Rhg1-PI88788	LgN+Ch13	none	R	S	R
8 E19669	none	Ch13, Het LgA	Rps1k	R	S	S
9 E19675	none	LgA1+LgN+Ch13	Rps1k	R	S	S
10 M15-115060	Rhg1-PI88788	LgA+Ch13, Het LgN	Het Rps1k	Het	S	R
11 M15-115078	Het Rhg1-PI88788	LgA1	none	R	S	R
12 M15-159069	Het Rhg1-PI88788	Ch13, Het LgA+LgN	none	Het	S	R
13 M15-159100	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
14 M15-159120	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
15 M15-179024	Rhg1-PI88788	Ch13	Rps6	R	S	R
16 M15-221030	Rhg1-PI88788	LgN+Ch13	none	Het	S	R
17 M15-221047	Rhg1-PI88788	Ch13	none	R	S	R
18 M15-222019	Rhg1-PI88788	Ch13	none	R	S	R
19 M15-273094	none	Ch13		R	R	R
20 M15-280072	Het Rhg1-PI88788	LgA1+Ch13	Het Rps1a	.	S	R
21 OAC 19-61C-SCN	Het Rhg1-PI88788	Ch13	Het Rps1c	S	S	R
22 ORC 6218N	Rhg1-PI88788	LgN+Ch13	none	Het	S	R
23 ORC 8518N	Rhg1-PI88788	LgN+Ch13	none	S	S	R
24 U19-903124	Rhg1-Peking	Ch13	Rps1c	R	S	R
25 U19-909037	Rhg1-Peking+Rhg4	Ch13	none	S	S	R
26 U19-911031	Rhg1-Peking+Rhg4	LgN+Ch13	none	R	S	R
27 U19-913011	Rhg1-PI88788	Ch13	Rps1c	R	S	R

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN PRELIMINARY TEST I

Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		5		3*		2		6*	7	7	7	7	7	7
1	MN1410	47.4	22	48.2	25	52.6	13	917	1.5	34	16.2	1.6	35.6	18.7
2	ND Dickey (0)	48.1	19	50.7	18	50.5	18	-5	1.3	32	16.5	1.9	35.3	18.7
3	U11-917032 (SCN)	58.7	2	61.6	3	60.8	2	4	2.0	33	16.0	1.6	34.0	19.2
4	U14-103015	56.2	4	58.9	4	58.6	4	5	1.6	32	16.5	1.4	34.2	19.0
5	E18169	47.2	23	49.6	23	49.9	21	4	1.6	32	15.9	1.5	34.5	18.7
6	E19314T	59.0	1	65.7	1	55.3	10	6	1.8	35	20.6	1.5	35.9	17.5
7	E19323T	54.3	8	57.3	6	56.1	8	10	1.9	36	20.4	1.4	35.4	17.8
8	E19669	44.6	26	50.0	21	42.9	26	3	2.0	37	15.4	1.9	37.0	17.2
9	E19675	44.6	25	49.8	22	43.2	25	2	2.4	33	16.0	1.9	36.6	17.4
10	M15-115060	49.9	15	54.0	13	50.1	20	-1	2.6	36	15.1	1.4	34.6	18.6
11	M15-115078	47.6	21	50.1	20	50.3	19	5	2.5	34	14.3	1.4	34.6	18.8
12	M15-159069	54.7	6	58.5	5	55.4	9	4	2.0	32	14.9	1.6	34.9	19.0
13	M15-159100	51.0	10	55.1	9	51.3	16	6	2.5	41	15.5	1.3	34.6	19.0
14	M15-159120	50.5	12	52.4	16	53.9	12	3	1.4	31	14.2	1.5	35.3	18.3
15	M15-179024	50.9	11	55.0	10	51.3	16	0	1.7	33	15.1	1.6	34.7	18.5
16	M15-221030	45.4	24	48.0	26	47.8	23	-3	1.5	33	16.7	1.6	35.0	18.8
17	M15-221047	42.8	27	47.6	27	41.9	27	-5	1.6	29	14.8	1.3	36.0	18.6
18	M15-222019	50.1	14	54.5	12	49.9	21	0	2.4	35	15.5	1.4	34.6	19.6
19	M15-273094	48.9	18	50.9	17	52.3	14	8	1.5	40	15.9	1.3	35.9	17.8
20	M15-280072	50.2	13	53.6	14	51.6	15	9	2.1	39	17.1	1.7	35.0	18.1
21	OAC 19-61C-SCN	49.4	17	50.7	19	54.6	11	5	1.5	35	18.5	1.7	35.0	18.4
22	ORC 6218N	49.5	16	48.2	24	58.6	4	2	1.7	32	19.3	1.6	35.9	17.2
23	ORC 8518N	55.5	5	56.1	8	61.7	1	9	2.2	36	19.0	1.4	36.7	17.0
24	U19-903124	52.9	9	54.5	11	56.8	7	9	1.7	37	16.4	1.6	31.9	19.4
25	U19-909037	47.6	20	53.4	15	46.0	24	9	1.6	31	16.9	1.4	34.0	19.0
26	U19-911031	58.6	3	62.5	2	59.9	3	7	1.6	38	17.5	1.4	33.1	19.9
27	U19-913011	54.5	7	56.5	7	58.6	4	6	1.7	36	17.6	1.6	33.6	19.4
	Mean	50.7		53.8		52.7		3.9	1.9	34.5	16.6	1.5	35.0	18.5
	C.V. %	14.4		14.2		9.4		14.5	35.2	12.4				
	LSD(2-sided,.05)	5.3		7.2		7.0		1.9	0.4	3.0				
	Replications	11		7		4								

*Decatur, MI, Lamberton and Rosemount, MN yield data and Lamberton maturity data not included in means.

2021 SCN PRELIMINARY TEST I

Yield (bu/a)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	42.5	12.3	33.6	27.1	59.6	49.3	49.9	55.3
2 ND Dickey (0)	42.1	13.9	29.1	10.2	60.7	56.1	52.8	48.2
3 U11-917032 (SCN)	49.4	46.0	21.9	30.6	74.0	68.1	60.0	61.5
4 U14-103015	52.9	19.3	14.9	23.1	63.6	66.9	58.6	58.5
5 E18169	45.1	35.8	29.8	32.4	57.5	53.0	46.2	53.6
6 E19314T	57.0	50.4	43.1	39.0	70.4	76.5	52.6	58.1
7 E19323T	57.2	44.0	30.8	35.0	65.9	55.5	56.6	55.7
8 E19669	44.5	30.2	29.5	24.0	54.8	57.2	43.2	42.6
9 E19675	40.5	19.0	22.1	23.6	52.4	63.3	42.7	43.7
10 M15-115060	46.7	44.6	37.9	26.8	60.3	61.6	49.4	50.8
11 M15-115078	45.8	44.0	23.0	29.4	62.1	49.1	43.6	57.0
12 M15-159069	48.4	40.2	35.8	27.6	65.2	68.6	52.5	58.4
13 M15-159100	48.0	44.7	39.3	44.8	63.0	61.0	48.9	53.8
14 M15-159120	43.4	48.0	24.8	40.5	64.2	56.3	48.9	58.9
15 M15-179024	46.5	39.6	29.0	28.9	63.0	62.1	48.4	54.2
16 M15-221030	40.5	31.2	23.8	37.9	64.6	45.6	50.1	45.6
17 M15-221047	37.3	27.7	21.7	17.8	57.8	54.5	45.3	38.6
18 M15-222019	47.4	42.9	23.3	27.2	60.5	62.4	42.8	57.0
19 M15-273094	44.6	36.8	21.3	31.5	59.8	55.0	49.3	55.3
20 M15-280072	49.8	50.2	22.8	36.3	56.2	61.5	48.6	54.6
21 OAC 19-61C-SCN	45.1	40.3	23.3	16.2	68.4	47.8	52.6	56.6
22 ORC 6218N	48.5	32.0	24.6	26.7	55.4	49.9	59.4	57.8
23 ORC 8518N	52.6	50.6	29.7	31.8	60.1	64.8	61.0	62.4
24 U19-903124	49.1	40.2	22.1	33.3	63.7	57.5	55.9	57.8
25 U19-909037	40.8	29.7	27.8	19.6	65.8	63.0	45.8	46.3
26 U19-911031	47.5	58.3	36.9	37.4	65.2	75.2	55.3	64.5
27 U19-913011	54.6	32.7	26.4	39.4	61.0	63.0	56.3	61.0
Average	46.9	37.2	27.7	29.6	62.0	59.4	51.0	54.3
LSD(2-sided,.05)	6.5	24.0	33.2	13.4	6.9	13.0	9.1	9.5
C.V. %	6.3	17.5	19.2	8.0	6.9	15.8	9.6	10.6
Replications	2	3	3	3	3	2	3	3
Row width (in.)	30	30	30	30	30	30	13	13

2021 SCN PRELIMINARY TEST I

Yield (rank)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	22	27	6	18	21	24	14	15
2 ND Dickey (0)	23	26	11	27	16	18	9	22
3 U11-917032 (SCN)	7	6	24	13	1	4	2	3
4 U14-103015	4	24	27	23	11	5	4	6
5 E18169	17	17	8	10	23	22	21	20
6 E19314T	2	3	1	4	2	1	11	8
7 E19323T	1	9	7	8	4	19	5	14
8 E19669	20	21	10	21	26	16	25	26
9 E19675	26	25	22	22	27	7	27	25
10 M15-115060	14	8	3	19	18	12	15	21
11 M15-115078	16	10	20	14	14	25	24	11
12 M15-159069	10	13	5	16	6	3	12	7
13 M15-159100	11	7	2	1	13	14	17	19
14 M15-159120	21	5	15	2	9	17	17	5
15 M15-179024	15	15	12	15	12	11	20	18
16 M15-221030	25	20	17	5	8	27	13	24
17 M15-221047	27	23	25	25	22	21	23	27
18 M15-222019	13	11	18	17	17	10	26	11
19 M15-273094	19	16	26	12	20	20	16	15
20 M15-280072	6	4	21	7	24	13	19	17
21 OAC 19-61C-SCN	17	12	19	26	3	26	11	13
22 ORC 6218N	9	19	16	20	25	23	3	9
23 ORC 8518N	5	2	9	11	19	6	1	2
24 U19-903124	8	14	23	9	10	15	7	9
25 U19-909037	24	22	13	24	5	8	22	23
26 U19-911031	12	1	4	6	7	2	8	1
27 U19-913011	3	18	14	3	15	9	6	4

2021 SCN PRELIMINARY TEST I

Maturity

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	8/31		9/20	9/17	9/13	9/16	9/21	9/29
2 ND Dickey (0)	-4		-1	-3	-3	-3	-8	-9
3 U11-917032 (SCN)	7		-5	8	5	3	-1	0
4 U14-103015	8		-1	11	4	4	0	1
5 E18169	9		-4	7	7	3	0	1
6 E19314T	9		9	9	12	2	-1	2
7 E19323T	12		-1	10	12	12	10	3
8 E19669	3		-4	6	4	4	2	0
9 E19675	1		7	1	5	1	-2	4
10 M15-115060	3		-4	-1	1	-3	-3	-4
11 M15-115078	7		-1	5	6	7	6	0
12 M15-159069	5		-3	8	6	7	-2	0
13 M15-159100	8		4	11	10	5	0	0
14 M15-159120	6		-2	7	8	2	-2	-4
15 M15-179024	4		-12	-1	2	3	-4	-7
16 M15-221030	0		-12	0	1	-3	-5	-9
17 M15-221047	-4		-9	0	-2	-3	-8	-12
18 M15-222019	3		-6	1	1	-1	-4	0
19 M15-273094	8		2	13	9	8	7	2
20 M15-280072	12		-12	12	6	11	12	3
21 OAC 19-61C-SCN	6		-2	8	6	7	4	2
22 ORC 6218N	5		-10	3	4	6	-2	-1
23 ORC 8518N	13		-11	11	9	6	10	3
24 U19-903124	9		3	11	12	11	6	4
25 U19-909037	8		-1	12	15	6	11	3
26 U19-911031	7		4	6	9	10	9	2
27 U19-913011	10		-2	9	9	8	-1	3
Planted	5/24	5/07	5/16	5/26	5/11	5/31	5/17	6/01

2021 SCN PRELIMINARY TEST I

Lodging (score)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	1.8		1.0	2.0	2.0	1.0	1.5	1.3
2 ND Dickey (0)	1.3		1.0	1.5	2.0	1.0	1.5	1.0
3 U11-917032 (SCN)	2.0		1.5	2.5	3.0	2.0	1.3	1.8
4 U14-103015	2.0		1.0	2.0	2.0	1.5	1.0	1.5
5 E18169	1.5		1.0	2.0	2.0	1.5	1.8	1.3
6 E19314T	1.8		2.0	2.5	2.0	1.5	1.3	1.5
7 E19323T	2.3		1.5	3.0	2.0	1.5	1.3	1.8
8 E19669	2.8		1.0	2.0	2.7	1.5	1.8	2.0
9 E19675	2.5		1.5	2.0	3.0	1.5	3.3	3.3
10 M15-115060	3.0		2.0	3.0	3.0	2.5	1.8	3.0
11 M15-115078	3.0		1.0	3.0	3.3	2.0	2.3	2.8
12 M15-159069	3.0		1.0	2.5	2.7	1.0	1.0	3.0
13 M15-159100	3.0		2.0	3.0	3.0	2.5	2.5	1.8
14 M15-159120	1.3		1.0	2.0	2.3	1.0	1.3	1.0
15 M15-179024	2.0		1.0	2.5	2.7	1.5	1.3	1.0
16 M15-221030	1.8		1.0	2.0	2.3	1.5	1.0	1.0
17 M15-221047	2.0		1.0	2.0	2.3	1.5	1.3	1.0
18 M15-222019	4.0		1.0	2.5	3.0	3.0	1.8	1.8
19 M15-273094	1.5		1.0	2.0	2.0	1.5	1.0	1.8
20 M15-280072	1.8		1.5	3.0	2.3	1.0	3.5	1.3
21 OAC 19-61C-SCN	1.3		1.0	2.5	2.0	1.5	1.0	1.3
22 ORC 6218N	1.8		1.0	3.0	3.0	1.0	1.0	1.3
23 ORC 8518N	2.5		1.0	3.0	3.0	1.5	2.0	2.3
24 U19-903124	1.5		1.0	3.0	2.3	1.0	1.3	1.5
25 U19-909037	1.0		1.0	3.0	2.0	1.0	2.0	1.5
26 U19-911031	1.0		1.5	2.5	2.0	1.5	1.3	1.5
27 U19-913011	1.8		1.0	3.0	2.0	1.5	1.0	1.3

2021 SCN PRELIMINARY TEST I

Height (inches)

		Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
		IL	MI	MN	MN	MN	ville	ON	ON
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
Strain									
1	MN1410	30		27	29	40	36	38	39
2	ND Dickey (0)	26		32	29	35	32	36	34
3	U11-917032 (SCN)	29		28	28	38	37	37	33
4	U14-103015	28		25	28	37	34	38	35
5	E18169	28		27	28	35	34	38	35
6	E19314T	31		30	30	35	42	40	35
7	E19323T	35		32	36	40	34	38	37
8	E19669	32		32	34	42	41	41	39
9	E19675	28		28	31	32	41	38	35
10	M15-115060	31		34	32	39	39	40	39
11	M15-115078	29		28	33	40	34	39	36
12	M15-159069	26		32	29	33	36	34	32
13	M15-159100	38		42	39	49	39	43	39
14	M15-159120	25		29	30	35	34	34	32
15	M15-179024	29		29	32	35	36	35	36
16	M15-221030	29		29	31	38	31	38	34
17	M15-221047	25		28	26	34	31	31	28
18	M15-222019	31		27	32	40	37	40	37
19	M15-273094	38		26	41	49	39	47	42
20	M15-280072	35		31	34	47	39	46	40
21	OAC 19-61C-SCN	27		30	30	41	34	44	36
22	ORC 6218N	27		29	30	35	35	36	34
23	ORC 8518N	31		31	32	41	39	42	39
24	U19-903124	34		33	35	41	37	37	39
25	U19-909037	28		29	29	33	35	33	34
26	U19-911031	31		35	36	43	42	41	39
27	U19-913011	31		26	35	44	36	41	39

2021 SCN PRELIMINARY TEST I

Seed Weight (g/100)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	15.6		12.7	15.2	15.5	19.2	17.4	17.6
2 ND Dickey (0)	15.6		11.6	15.1	17.9	20.5	17.0	18.0
3 U11-917032 (SCN)	13.8		13.1	14.6	16.6	18.6	18.0	17.4
4 U14-103015	15.3		15.3	16.2	17.1	18.0	16.6	17.0
5 E18169	15.2		13.5	14.5	17.4	17.6	15.6	17.2
6 E19314T	17.2		18.2	19.0	20.3	23.0	22.9	23.6
7 E19323T	17.7		17.2	18.9	19.7	21.0	24.4	24.1
8 E19669	14.5		10.9	13.8	16.3	17.5	17.2	17.7
9 E19675	14.6		10.2	14.3	17.6	19.2	18.0	18.1
10 M15-115060	13.9		12.1	13.8	16.5	17.2	15.7	16.2
11 M15-115078	13.8		10.7	14.0	15.9	15.5	14.7	15.6
12 M15-159069	13.1		12.2	13.8	15.0	16.7	16.1	17.5
13 M15-159100	13.2		13.6	16.3	16.0	17.5	16.5	15.5
14 M15-159120	12.8		12.0	14.6	15.5	16.0	14.7	13.8
15 M15-179024	13.8		11.8	14.4	15.8	17.5	16.2	16.0
16 M15-221030	15.6		14.0	15.4	18.1	17.8	17.7	18.3
17 M15-221047	13.7		11.6	14.4	16.1	17.2	15.6	14.9
18 M15-222019	13.3		11.5	15.2	16.5	19.2	15.8	16.8
19 M15-273094	14.1		15.2	15.9	16.1	16.4	16.4	17.0
20 M15-280072	14.2		15.3	17.6	17.1	17.4	19.2	18.8
21 OAC 19-61C-SCN	16.6		18.1	17.6	19.0	20.1	18.4	19.4
22 ORC 6218N	18.4		17.3	18.6	19.2	21.3	19.7	20.9
23 ORC 8518N	17.4		18.5	18.3	18.0	20.0	20.3	20.4
24 U19-903124	14.0		15.4	16.6	17.1	17.1	17.4	17.3
25 U19-909037	15.0		16.6	17.0	17.0	17.4	17.8	17.2
26 U19-911031	15.4		15.4	16.4	17.9	20.8	18.2	18.2
27 U19-913011	16.4		15.5	16.7	18.2	19.1	17.7	19.7

2021 SCN PRELIMINARY TEST I

Seed Quality (score)

SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
	IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
Strain								
1 MN1410	1.0		3.0	2.0	1.0	1.0	2.0	1.5
2 ND Dickey (0)	2.0		3.0	3.0	1.0	1.0	2.0	1.5
3 U11-917032 (SCN)	2.0		2.0	1.0	2.0	1.0	1.5	1.5
4 U14-103015	2.0		2.0	1.0	1.0	1.0	1.5	1.5
5 E18169	2.0		2.0	1.0	1.0	1.0	2.0	1.5
6 E19314T	2.0		2.0	2.0	1.0	1.0	1.5	1.0
7 E19323T	2.0		2.0	1.0	1.0	1.0	1.5	1.5
8 E19669	2.0		3.0	2.0	2.0	1.0	2.0	1.5
9 E19675	2.0		2.0	2.0	2.0	1.0	2.5	1.5
10 M15-115060	2.0		2.0	1.0	1.0	1.0	1.5	1.5
11 M15-115078	1.0		2.0	1.0	1.0	1.0	2.0	1.5
12 M15-159069	1.0		3.0	2.0	1.0	1.0	1.5	1.5
13 M15-159100	1.0		2.0	1.0	1.0	1.0	1.5	1.5
14 M15-159120	2.0		2.0	1.0	1.0	1.0	2.0	1.5
15 M15-179024	2.0		2.0	2.0	1.0	1.0	2.0	1.5
16 M15-221030	2.0		3.0	1.0	1.0	1.0	2.0	1.5
17 M15-221047	1.0		2.0	1.0	1.0	1.0	1.5	1.5
18 M15-222019	1.0		2.0	1.0	1.0	1.0	2.0	1.5
19 M15-273094	2.0		1.0	1.0	1.0	1.0	1.5	1.5
20 M15-280072	3.0		2.0	1.0	1.0	1.0	2.5	1.5
21 OAC 19-61C-SCN	2.0		3.0	2.0	1.0	1.0	1.5	1.5
22 ORC 6218N	2.0		2.0	1.0	2.0	1.0	1.5	1.5
23 ORC 8518N	2.0		2.0	1.0	1.0	1.0	1.5	1.0
24 U19-903124	3.0		2.0	1.0	2.0	1.0	1.5	1.0
25 U19-909037	2.0		2.0	1.0	1.0	1.0	1.5	1.5
26 U19-911031	2.0		2.0	1.0	1.0	1.0	1.5	1.5
27 U19-913011	2.0		3.0	1.0	1.0	1.0	1.5	1.5

2021 SCN PRELIMINARY TEST I

Protein (%)

Strain	SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
		IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
1	MN1410	36.5		35.7	35.3	33.1	36.9	36.2	35.4
2	ND Dickey (0)	36.7		35.8	35.5	33.0	35.6	35.8	34.9
3	U11-917032 (SCN)	33.6		32.9	34.2	31.6	35.4	35.9	34.3
4	U14-103015	36.3		34.1	32.1	31.3	36.1	35.0	34.2
5	E18169	34.9		33.5	32.5	32.8	36.9	35.1	35.9
6	E19314T	36.6		34.8	35.4	33.9	37.3	37.0	36.4
7	E19323T	34.8		35.0	34.5	33.5	36.3	37.4	36.1
8	E19669	37.7		36.6	37.0	35.8	38.0	36.7	37.0
9	E19675	37.3		36.5	36.4	35.1	38.5	36.1	36.3
10	M15-115060	34.9		33.0	34.7	32.6	35.9	35.2	35.7
11	M15-115078	34.1		33.8	33.6	33.2	35.3	36.8	35.7
12	M15-159069	35.6		32.6	36.1	31.4	36.3	37.1	35.0
13	M15-159100	34.2		33.7	35.0	32.5	36.7	35.7	34.6
14	M15-159120	36.6		35.0	34.9	32.3	36.6	36.2	35.9
15	M15-179024	34.8		34.7	33.1	33.3	36.0	36.2	34.9
16	M15-221030	34.7		35.8	34.0	33.1	36.0	36.4	35.2
17	M15-221047	37.1		35.9	35.5	33.8	37.3	36.9	35.4
18	M15-222019	35.1		33.8	33.2	32.2	37.0	36.7	34.2
19	M15-273094	35.4		36.2	37.4	34.0	37.0	35.6	35.7
20	M15-280072	36.3		35.9	36.6	32.5	35.8	36.0	32.1
21	OAC 19-61C-SCN	35.7		35.6	34.6	32.1	35.9	36.0	34.8
22	ORC 6218N	36.9		36.6	35.3	33.9	36.3	36.0	36.2
23	ORC 8518N	37.4		37.6	37.7	34.5	37.4	36.9	35.7
24	U19-903124	30.9		32.5	33.5	30.0	33.1	32.5	30.7
25	U19-909037	33.4		35.1	35.2	31.2	35.3	35.1	32.1
26	U19-911031	34.1		33.8	31.9	31.1	35.5	33.7	31.9
27	U19-913011	32.3		33.7	33.9	31.7	34.9	35.1	33.6

2021 SCN PRELIMINARY TEST I

Oil (%)

Strain	SCN HG Type	Urbana	Decatur	Lamberton	Rosemount	Waseca	Thames-	St. Pauls	Woodstock
		IL Inf	MI Inf	MN Inf	MN Inf	MN Inf	ville ON Inf	ON NI	ON NI
1	MN1410	18.8		18.6	18.5	19.5	18.8	17.9	18.8
2	ND Dickey (0)	18.5		17.7	18.1	19.9	19.8	17.9	19.1
3	U11-917032 (SCN)	20.2		19.2	18.8	20.5	19.3	18.1	18.4
4	U14-103015	19.1		19.2	18.0	20.4	19.9	18.0	18.4
5	E18169	19.1		19.9	18.5	18.8	19.1	17.5	17.7
6	E19314T	18.5		17.7	17.1	18.0	17.6	16.8	16.9
7	E19323T	19.1		17.7	17.9	18.1	18.5	16.5	16.9
8	E19669	17.5		18.0	17.1	17.8	17.6	16.7	15.8
9	E19675	18.0		18.4	16.9	18.4	17.2	16.3	16.6
10	M15-115060	18.5		19.9	18.4	19.3	19.1	17.8	17.3
11	M15-115078	18.7		18.6	19.7	19.3	19.5	17.6	17.9
12	M15-159069	19.2		20.6	17.5	19.8	18.8	18.6	18.0
13	M15-159100	20.4		18.8	18.1	19.2	19.4	18.7	18.4
14	M15-159120	18.5		18.3	17.2	19.4	19.0	18.1	17.4
15	M15-179024	19.1		17.9	18.9	18.4	18.9	18.0	18.1
16	M15-221030	19.8		18.5	18.5	19.7	18.9	17.4	18.4
17	M15-221047	18.2		18.4	18.3	19.0	19.5	18.0	19.0
18	M15-222019	19.6		19.6	20.0	20.8	19.9	18.3	18.7
19	M15-273094	18.8		18.2	15.7	18.1	18.5	17.7	17.4
20	M15-280072	18.1		17.2	16.9	19.1	18.9	17.6	18.5
21	OAC 19-61C-SCN	18.4		18.4	18.4	19.6	18.8	17.5	17.5
22	ORC 6218N	17.7		16.4	16.7	17.9	18.3	16.9	16.3
23	ORC 8518N	17.1		16.7	15.9	17.8	18.3	16.9	16.5
24	U19-903124	20.8		17.7	18.4	20.5	20.8	18.9	19.1
25	U19-909037	19.9		18.9	18.7	19.9	19.5	18.2	18.2
26	U19-911031	20.4		20.0	19.5	20.8	20.2	18.3	19.8
27	U19-913011	20.9		19.6	18.8	19.8	19.8	18.3	18.5

2021 SCN UNIFORM TEST II

Strain	Descriptive code	Parentage	Previous testing
1 IA2102	WGy	A04-545045 x AgriPro 98180-A01-06131	8
2 LD02-4485 (SCN)	PGbf	M90-184111 x IA3010	15
3 U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612	2
4 U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419	3
5 E17203	PGbf	E11128T x LD02-4485	1
6 E17269	WGbf	E13367 x AR09-191018	1
7 E18024T	PGy	LD01-7323 x E11128T	20SCN P II
8 LD17-1887	MLtbl	U11-614119 x LD10-10198	20PT IIA
9 LD17-1900	PLtbl	U11-614119 x LD10-10198	20PT IIA
10 LD17-2558	PGibl	U11-614119 x LD09-30224	20SCN P II
11 LD17-2903	P+WLTbl	U11-614119 x LD09-30224	20SCN P II
12 LD17-2967a	PLtbl	U11-614119 x LD09-30224	20SCN P II
13 LD17-3855	PGy	LD10-10198 x LG11-6210	20PT IIA
14 LD17-6036a	WGbf	U11-614119 x LD14-8003	20SCN P II
15 U14-925152	PGibl	U11-935093 x LD07-3419	3
16 U18-613247	PLtbl	LD10-10198 x U11-911079	20SCN P I
17 U18-903003	PLtbl	LD10-10198 x U11-911079	20SCN P I
18 U18-915056	PLtbl	LD10-10198 x U11-911079	20SCN P II
19 U18-916036	PLtg	LD10-10198 x U11-911079	20SCN P I
20 U18-919004	PTbl	LD10-10198 x U11-917032	20SCN P I
21 U18-929040	PLtbl	LD12-3903 x U11-911079	20SCN P I

2021 SCN UNIFORM TEST II

Strain	Gen comp	SCN res source	Traits
1 IA2102	F4	None	
2 LD02-4485 (SCN)	F5	PI 88788	
3 U11-917032 (SCN)	F6	PI 88788	
4 U14-910097 (SCN)	F5	PI 88788,437654	
5 E17203	F5	PI 88788	
6 E17269	F5	PI 88788	Aphid, Rps1
7 E18024T	F5	PI 88788	Rps1
8 LD17-1887	F5	PI 88788	
9 LD17-1900	F5	PI 88788	
10 LD17-2558	F5	PI 88788	
11 LD17-2903	F5	PI 88788	
12 LD17-2967a	F5	PI 88788	Rag 1
13 LD17-3855	F5	PI 88788	
14 LD17-6036a	F5	PI 88788	Rag 1+2
15 U14-925152	F5	PI 88788,437654	IDC
16 U18-613247	F5	PI 88788	Exp Rps
17 U18-903003	F5	PI 88788	Exp Rps
18 U18-915056	F5	PI 88788	Exp Rps
19 U18-916036	F5	PI 88788	Exp Rps
20 U18-919004	F5	PI 88788	
21 U18-929040	F5	PI 88788	Exp Rps

2021 SCN UNIFORM TEST II

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 IA2102	No data available		94	NR
2 LD02-4485 (SCN)			60	NR
3 U11-917032 (SCN)			57	LR
4 U14-910097 (SCN)			6	HR
5 E17203			50	LR
6 E17269			58	redo
7 E18024T			62	NR
8 LD17-1887			48	LR
9 LD17-1900			98	NR
10 LD17-2558			28	MR
11 LD17-2903			26	MR
12 LD17-2967a			40	LR
13 LD17-3855			22	R
14 LD17-6036a			46	redo
15 U14-925152			4	HR
16 U18-613247			44	LR
17 U18-903003			45	LR
18 U18-915056			37	redo
19 U18-916036			40	redo
20 U18-919004			49	LR
21 U18-929040			41	LR

2021 SCN UNIFORM TEST II

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 IA2102	no marker data available					
2 LD02-4485 (SCN)	no marker data available					
3 U11-917032 (SCN)	no marker data available					
4 U14-910097 (SCN)	Rhg1-Peking+Rhg4	Ch13, Het LgN	none	S	S	R
5 E17203	Rhg1-PI88788	Ch13, Het LgN	none	S	S	R
6 E17269	Het Rhg1-88788+Peking+Rhg4	LgA1+LgN+Ch13	Rps1k	R	S	R
7 E18024T	Rhg1-PI88788	LgN+Ch13	none	R	S	R
8 LD17-1887	Rhg1-PI88788	LgA1+LgN+Ch13	none	S	S	R
9 LD17-1900	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
10 LD17-2558	Rhg1-PI88788	LgN, Het-Ch13	none	R	S	R
11 LD17-2903	Rhg1-PI88788	LgA1, Het Ch13	Rps1k, Het Rps1c	R	S	R
12 LD17-2967a	Rhg1-PI88788	LgA1+Ch13	Rps1k	R	S	R
13 LD17-3855	Rhg1-PI88788	Ch13	none	S	S	R
14 LD17-6036a	Rhg1-PI88788	Ch13	Rps1c	S	S	R
15 U14-925152	no marker data available					
16 U18-613247	Rhg1-PI88788	LgA1+Ch13	Rps1c	R	S	R
17 U18-903003	Rhg1-PI88788	LgA1+Ch13	Rps1c	R	S	R
18 U18-915056	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
19 U18-916036	Rhg1-PI88788	LgA1+Ch13	Rps1c	R	S	R
20 U18-919004	Rhg1-PI88788	Ch13, Het LgN	none	S	S	R
21 U18-929040	Rhg1-PI88788	LgA1+Ch13	Rps1c	R	S	R

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN UNIFORM TEST II

Summary

Strain	Yield								Seed					
	All		Infested		Non-infested		Maturity date	Lodging score	Height inches	weight g/100	quality score	protein @13%	oil @13%	
	bu/a	rank	bu/a	rank	bu/a	rank								
	Locations	7	6	1			5	4	4	5	5	5	5	
1	IA2102	72.2	8	76.9	6	47.3	18	9/16	2.4	33	16.9	1.6	35.2	18.2
2	LD02-4485 (SCN)	70.9	12	73.4	14	59.5	3	3	2.1	32	15.1	1.5	33.4	18.6
3	U11-917032 (SCN)	62.4	21	65.4	21	47.4	17	-4	2.2	28	16.1	1.6	33.4	19.9
4	U14-910097 (SCN)	80.0	1	83.2	1	64.5	1	6	2.1	32	15.7	1.5	33.6	19.3
5	E17203	71.6	11	75.3	11	53.0	9	3	1.9	32	16.6	2.0	34.3	18.5
6	E17269	70.7	13	75.3	12	47.2	19	1	1.7	32	15.0	1.3	33.4	18.5
7	E18024T	66.0	18	68.8	19	52.6	11	5	2.0	33	17.5	1.7	36.8	17.1
8	LD17-1887	74.7	3	77.8	3	59.6	2	4	1.1	32	15.4	1.6	33.1	19.0
9	LD17-1900	74.1	4	77.5	4	57.6	5	4	1.5	34	18.0	1.4	35.0	19.1
10	LD17-2558	73.5	5	76.8	7	57.5	6	3	1.7	32	16.8	1.6	33.6	19.0
11	LD17-2903	65.0	19	68.9	18	45.3	20	-3	1.7	30	16.5	1.6	34.2	19.7
12	LD17-2967a	72.7	7	77.1	5	50.3	13	2	1.5	32	16.6	1.6	35.1	18.8
13	LD17-3855	76.8	2	80.3	2	59.2	4	2	1.4	34	15.1	1.7	34.1	17.6
14	LD17-6036a	70.5	15	74.6	13	49.6	14	3	1.2	32	16.9	1.5	33.6	18.9
15	U14-925152	72.2	8	76.0	10	53.0	9	5	1.2	30	15.8	1.3	34.2	19.8
16	U18-613247	73.3	6	76.6	8	56.8	8	3	1.1	36	14.4	1.8	34.7	18.4
17	U18-903003	67.5	16	71.3	16	48.4	16	-3	1.1	31	14.6	1.5	34.9	17.9
18	U18-915056	70.6	14	73.4	15	57.2	7	5	1.2	36	14.2	1.7	33.6	18.2
19	U18-916036	66.2	17	69.7	17	48.7	15	-2	1.0	32	13.4	1.6	34.2	18.4
20	U18-919004	63.8	20	67.6	20	44.7	21	-2	1.3	29	14.5	1.7	34.3	19.6
21	U18-929040	72.0	10	76.0	9	51.7	12	1	1.0	31	15.1	1.2	33.7	19.0
	Mean	70.8		74.4		52.9		1.8	1.5	32.0	15.7	1.6	34.2	18.7
	LSD(.05)	10.2		9.9		9.3		9.5	27.5	5.9				
	C.V. %	4.4		4.8		10.2		1.1	0.4	1.9				
	Replications	16		14		2		11	8	8				

2021 SCN UNIFORM TEST II

2 Year Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		12		10		2		9	9	8	9	9	8	8
1	IA2102	62.3	6	65.3	6	52.6	6	9/17	2.4	35	15.6	1.6	34.1	19.0
2	LD02-4485 (SCN)	65.0	4	66.2	5	64.1	2	2	1.8	35	14.3	1.4	32.7	19.0
3	U11-917032 (SCN)	57.3	7	58.9	7	54.1	5	-4	1.7	30	15.1	1.5	33.0	20.5
4	U14-910097 (SCN)	71.6	1	73.4	1	67.8	1	7	2.0	33	14.6	1.4	32.7	19.9
5	E17203	65.1	3	66.8	4	61.4	4	3	1.5	33	15.5	1.8	33.7	19.2
6	E17269	64.0	5	67.3	3	52.4	7	1	1.4	33	14.3	1.3	32.8	19.0
15	U14-925152	67.5	2	69.6	2	62.1	3	6	1.3	33	14.9	1.3	33.5	20.1
	Mean	12		10		2		9	9	8	9	9	8	8

2021 SCN UNIFORM TEST II

Yield (bu/a)

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips	West
		IA	IL	IL	MI	NE	NE	Lafayette
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	IN
Strain								NI
1	IA2102	77.3	61.2	57.7	58.1	112.8	104.6	47.3
2	LD02-4485 (SCN)	68.4	69.1	65.7	55.3	98.5	93.4	59.5
3	U11-917032 (SCN)	68.0	57.2	49.3	49.8	90.4	91.6	47.4
4	U14-910097 (SCN)	82.2	74.0	66.9	70.3	105.6	110.0	64.5
5	E17203	72.6	70.4	64.3	61.7	95.4	97.4	53.0
6	E17269	68.7	64.4	66.0	65.7	98.4	98.5	47.2
7	E18024T	68.7	59.6	63.4	47.6	92.6	90.8	52.6
8	LD17-1887	75.6	64.7	65.5	68.5	98.7	103.8	59.6
9	LD17-1900	72.0	63.9	67.4	61.7	110.1	99.8	57.6
10	LD17-2558	77.7	66.5	64.4	55.0	107.0	100.5	57.5
11	LD17-2903	69.1	60.9	58.1	55.2	91.5	88.9	45.3
12	LD17-2967a	70.1	67.2	65.2	55.4	115.1	99.6	50.3
13	LD17-3855	77.2	70.4	69.4	61.7	108.2	105.0	59.2
14	LD17-6036a	71.4	64.1	60.5	60.4	100.2	101.0	49.6
15	U14-925152	78.9	66.1	66.4	59.6	100.1	94.7	53.0
16	U18-613247	71.0	62.9	63.4	59.2	103.8	109.6	56.8
17	U18-903003	67.7	63.1	56.9	56.8	98.0	95.1	48.4
18	U18-915056	69.4	69.8	65.1	60.6	98.7	86.8	57.2
19	U18-916036	64.5	62.1	55.2	56.0	98.1	92.3	48.7
20	U18-919004	66.8	59.3	52.7	58.6	93.6	84.6	44.7
21	U18-929040	69.2	64.8	63.4	60.1	112.2	96.6	51.7
	Average	71.7	64.8	62.2	58.9	101.4	97.3	52.9
	LSD(.05)	6.9	5.4	4.9	13.7	5.7	8.8	9.3
	C.V. %	8.2	7.3	6.3	16.0	14.3	21.7	10.2
	Replications	3	2	2	3	2	2	2
	Row width (in.)	30	30	30	30	30	30	30

2021 SCN UNIFORM TEST II

Yield (rank)

SCN HG Type	Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips	West
	IA Inf	IL Inf	IL Inf	MI Inf	NE Inf	NE Inf	IN NI
Strain							
1 IA2102	4	17	17	13	2	4	18
2 LD02-4485 (SCN)	17	5	6	17	13	15	3
3 U11-917032 (SCN)	18	21	21	20	21	20	17
4 U14-910097 (SCN)	1	1	3	1	7	1	1
5 E17203	7	3	11	6	17	11	9
6 E17269	15	11	5	3	14	10	19
7 E18024T	16	19	12	21	19	17	11
8 LD17-1887	6	10	7	2	12	5	2
9 LD17-1900	8	13	2	5	4	8	5
10 LD17-2558	3	7	10	19	6	7	6
11 LD17-2903	14	18	16	18	20	18	20
12 LD17-2967a	11	6	8	16	1	9	13
13 LD17-3855	5	2	1	4	5	3	4
14 LD17-6036a	9	12	15	8	9	6	14
15 U14-925152	2	8	4	10	10	14	9
16 U18-613247	10	15	12	11	8	2	8
17 U18-903003	19	14	18	14	16	13	16
18 U18-915056	12	4	9	7	11	19	7
19 U18-916036	21	16	19	15	15	16	15
20 U18-919004	20	20	20	12	18	21	21
21 U18-929040	13	9	12	9	3	12	12

2021 SCN UNIFORM TEST II

Maturity

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips	West
		IA	IL	IL	MI	NE	NE	Lafayette
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	IN
Strain								NI
1	IA2102	9/26	9/08	9/13			9/23	9/9
2	LD02-4485 (SCN)	2	3	4			1	3
3	U11-917032 (SCN)	-1	-4	-3			-5	-6
4	U14-910097 (SCN)	0	8	10			5	9
5	E17203	2	4	5			-1	4
6	E17269	-1	3	4			-3	1
7	E18024T	3	8	7			3	6
8	LD17-1887	2	4	5			3	7
9	LD17-1900	0	6	7			1	8
10	LD17-2558	1	4	5			1	4
11	LD17-2903	0	-3	-1			-5	-4
12	LD17-2967a	2	4	5			-1	2
13	LD17-3855	0	4	5			-3	5
14	LD17-6036a	1	3	5			0	4
15	U14-925152	-1	8	8			4	6
16	U18-613247	0	3	4			1	5
17	U18-903003	-1	-3	-1			-5	-4
18	U18-915056	1	6	9			4	7
19	U18-916036	0	-3	0			-5	-2
20	U18-919004	-1	-2	-2			-4	-2
21	U18-929040	0	2	3			-3	2
	Planted	5/24	5/5	5/24	5/7	5/18	5/21	5/15

2021 SCN UNIFORM TEST II

Lodging (score)

Strain	SCN HG Type	Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips	West
		IA Inf	IL Inf	IL Inf	MI Inf	NE Inf	NE Inf	Lafayette IN NI
1	IA2102		3.3	2.8			2.5	1.0
2	LD02-4485 (SCN)		2.3	2.5			2.0	1.5
3	U11-917032 (SCN)		2.8	2.3			2.0	1.5
4	U14-910097 (SCN)		2.3	2.0			3.0	1.0
5	E17203		2.0	2.0			2.5	1.0
6	E17269		2.0	1.8			2.0	1.0
7	E18024T		2.8	2.0			2.0	1.0
8	LD17-1887		1.3	1.0			1.0	1.0
9	LD17-1900		1.5	2.0			1.5	1.0
10	LD17-2558		1.8	1.8			2.0	1.0
11	LD17-2903		1.8	2.3			1.5	1.0
12	LD17-2967a		1.5	2.0			1.5	1.0
13	LD17-3855		1.5	1.5			1.5	1.0
14	LD17-6036a		1.5	1.3			1.0	1.0
15	U14-925152		1.3	1.3			1.0	1.0
16	U18-613247		1.5	1.0			1.0	1.0
17	U18-903003		1.5	1.0			1.0	1.0
18	U18-915056		1.8	1.0			1.0	1.0
19	U18-916036		1.0	1.0			1.0	1.0
20	U18-919004		1.8	1.0			1.0	1.5
21	U18-929040		1.0	1.0			1.0	1.0

2021 SCN UNIFORM TEST II

Height (inches)

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips	West
		IA	IL	IL	MI	NE	NE	Lafayette
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	IN
Strain								NI
1	IA2102		35	35			34	29
2	LD02-4485 (SCN)		33	33			34	30
3	U11-917032 (SCN)		30	28			28	28
4	U14-910097 (SCN)		35	31			32	28
5	E17203		34	33			32	28
6	E17269		34	33			34	28
7	E18024T		33	33			36	30
8	LD17-1887		31	30			36	30
9	LD17-1900		35	30			41	32
10	LD17-2558		33	32			34	28
11	LD17-2903		32	32			29	26
12	LD17-2967a		33	33			35	26
13	LD17-3855		35	34			36	31
14	LD17-6036a		34	32			34	27
15	U14-925152		32	31			33	26
16	U18-613247		39	35			38	30
17	U18-903003		32	31			34	28
18	U18-915056		39	34			37	34
19	U18-916036		36	31			34	29
20	U18-919004		32	28			30	28
21	U18-929040		32	31			33	28

2021 SCN UNIFORM TEST II

Seed Weight (g/100)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf	West Lafayette IN NI
Strain								
1	IA2102	17.3	14.9	15.7			21.4	15.3
2	LD02-4485 (SCN)	15.7	13.5	15.1			16.6	14.4
3	U11-917032 (SCN)	15.9	13.5	15.4			19.7	16.2
4	U14-910097 (SCN)	16.6	13.6	15.4			17.4	15.4
5	E17203	17.0	14.4	17.0			19.0	15.5
6	E17269	14.6	13.7	15.4			17.1	14.2
7	E18024T	18.3	16.4	18.1			19.2	15.5
8	LD17-1887	16.0	14.0	15.8			17.2	14.1
9	LD17-1900	18.0	16.2	18.8			19.0	17.8
10	LD17-2558	17.6	15.5	16.8			18.9	15.3
11	LD17-2903	17.1	15.0	16.2			18.6	15.6
12	LD17-2967a	17.1	14.7	16.9			18.0	16.4
13	LD17-3855	15.8	13.8	15.4			16.5	14.2
14	LD17-6036a	17.7	14.8	17.3			18.1	16.4
15	U14-925152	15.8	14.2	16.0			17.3	15.9
16	U18-613247	14.7	12.9	14.6			15.2	14.6
17	U18-903003	15.3	12.4	14.6			16.2	14.5
18	U18-915056	14.4	12.8	14.7			15.0	14.2
19	U18-916036	13.9	11.8	13.6			14.3	13.3
20	U18-919004	14.8	13.2	14.2			16.2	14.1
21	U18-929040	16.1	13.8	15.9			15.4	14.4

2021 SCN UNIFORM TEST II

Seed Quality (score)

SCN HG Type		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips	West
		IA Inf	IL Inf	IL Inf	MI Inf	NE Inf	NE Inf	Lafayette IN NI
Strain								
1	IA2102	1.0	2.0	2.0			1.0	2.0
2	LD02-4485 (SCN)	1.0	2.0	2.0			1.0	1.5
3	U11-917032 (SCN)	1.0	3.0	2.0			1.0	1.0
4	U14-910097 (SCN)	1.0	2.0	2.0			1.0	1.5
5	E17203	1.0	3.0	3.0			1.0	2.0
6	E17269	1.0	2.0	1.0			1.0	1.5
7	E18024T	1.0	3.0	2.0			1.0	1.5
8	LD17-1887	1.0	2.0	2.0			1.0	2.0
9	LD17-1900	1.0	2.0	1.0			1.0	2.0
10	LD17-2558	1.0	2.0	2.0			1.0	2.0
11	LD17-2903	1.0	2.0	2.0			1.0	2.0
12	LD17-2967a	1.0	2.0	2.0			1.0	2.0
13	LD17-3855	1.0	3.0	2.0			1.0	1.5
14	LD17-6036a	1.0	2.0	1.0			1.0	2.5
15	U14-925152	1.0	2.0	1.0			1.0	1.5
16	U18-613247	1.0	3.0	2.0			1.0	2.0
17	U18-903003	1.0	2.0	2.0			1.0	1.5
18	U18-915056	1.0	3.0	2.0			1.0	1.5
19	U18-916036	1.0	3.0	1.0			1.0	2.0
20	U18-919004	1.0	3.0	2.0			1.0	1.5
21	U18-929040	1.0	2.0	1.0			1.0	1.0

2021 SCN UNIFORM TEST II

Protein (%)

SCN HG Type		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips	West
		IA Inf	IL Inf	IL Inf	MI Inf	NE Inf	NE Inf	Lafayette IN NI
Strain								
1	IA2102	34.9	35.8	35.8			35.5	33.8
2	LD02-4485 (SCN)	33.3	33.4	35.2			33.7	31.3
3	U11-917032 (SCN)	33.6	34.1	35.4			30.2	33.5
4	U14-910097 (SCN)	33.9	33.2	35.2			33.7	31.9
5	E17203	35.1	34.2	35.8			34.5	32.0
6	E17269	33.6	33.3	34.5			33.8	31.8
7	E18024T	37.0	36.7	38.7			36.0	35.7
8	LD17-1887	33.9	32.4	34.7			33.4	31.1
9	LD17-1900	35.2	34.8	37.0			34.4	33.7
10	LD17-2558	33.6	33.5	34.9			34.3	31.8
11	LD17-2903	34.5	33.8	34.9			35.1	32.7
12	LD17-2967a	34.7	35.1	35.0			35.4	35.1
13	LD17-3855	34.9	34.9	34.9			33.5	32.4
14	LD17-6036a	34.0	32.7	35.0			34.2	32.0
15	U14-925152	33.2	34.3	36.1			33.4	33.8
16	U18-613247	34.7	34.6	36.3			34.1	33.8
17	U18-903003	35.8	34.9	35.0			35.2	33.6
18	U18-915056	34.2	33.8	35.2			31.7	33.3
19	U18-916036	34.3	34.0	34.4			34.1	34.2
20	U18-919004	35.1	35.2	35.9			33.0	32.3
21	U18-929040	34.0	33.5	35.1			34.2	31.9

2021 SCN UNIFORM TEST II

Oil (%)

SCN HG Type	Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf	West Lafayette IN NI
Strain							
1 IA2102	17.9	17.8	18.5			17.5	19.5
2 LD02-4485 (SCN)	18.5	18.2	18.2			17.9	20.3
3 U11-917032 (SCN)	19.3	19.5	19.7			20.1	21.1
4 U14-910097 (SCN)	19.5	18.6	18.6			19.2	20.7
5 E17203	17.4	18.3	18.2			18.3	20.2
6 E17269	18.2	18.1	18.5			18.1	19.9
7 E18024T	16.9	17.1	16.1			17.3	18.3
8 LD17-1887	18.3	19.9	18.8			17.8	20.1
9 LD17-1900	18.9	18.9	18.6			18.7	20.3
10 LD17-2558	19.1	18.7	18.7			18.2	20.2
11 LD17-2903	19.7	19.4	20.0			18.5	20.7
12 LD17-2967a	18.6	18.6	18.9			18.4	19.6
13 LD17-3855	17.1	17.1	17.2			17.6	18.8
14 LD17-6036a	18.1	19.7	18.5			18.2	19.9
15 U14-925152	19.8	19.4	19.4			19.4	20.7
16 U18-613247	18.2	18.2	17.9			18.5	19.4
17 U18-903003	17.3	17.9	18.1			16.9	19.3
18 U18-915056	18.0	18.3	17.5			18.3	18.7
19 U18-916036	18.5	18.2	18.7			17.6	19.2
20 U18-919004	18.9	18.7	19.5			19.5	21.3
21 U18-929040	19.2	18.7	18.8			18.3	19.9

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2021 SCN PRELIMINARY TEST IIA

Strain	Descriptive code	Parentage
1 IA2102	WGy	A04-545045 x AgriPro 98180-A01-06131
2 LD02-4485 (SCN)	PGbf	M90-184111 x IA3010
3 U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612
4 U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419
5 LD18-0173	PGibl	LD10-10198 x U11-917032
6 LD18-1242	WGy	U11-614119 x LD10-10226
7 LD18-1725	PLtbl	LD10-10226 x LD10-9168
8 LD18-4225	PLtbl	U11-932025 x LD10-10198
9 LD18-4231	P+WLtbl/gr	U11-932025 x LD10-10198
10 LD18-4236	P+WLtbl/gr	U11-932025 x LD10-10198
11 LD18-4248	WLty/gr	U11-932025 x LD10-10198
12 LD18-4406	WLty	U11-614119 x M08-362051
13 LD18-4435	WLty	U11-614119 x M08-362051
14 LD18-5062	PLtbl	LD10-5213a x U11-911079
15 LD18-5526	P+WGbf/ibl	U11-932025 x LD12-459
16 E17040	WGy	E07051 x IA2102
17 E18331-34	WGy	E16854 x E12076T
18 E18331-43	WLty	E16854 x E12076T
19 E19005	PGibl	E07051 x LG10-12468
20 E19056	PLt+Tbl	E16826 x E14077
21 E19090	PLtbl	E16826 x E14077
22 E19269	WGbf/y	E15917 x E13100
23 E19288T	PGy	E16901 x E11128T
24 E19312T	PGy	E16902 x E11128T
25 E19327T	PGy	E16902 x E11128T
26 E19412	PGy/bf	E13390 x E13100
27 E19413	PGy/gr	E13390 x E13100
28 E19689	PTbl	E14077 x E16826
29 E19803-07	WTbl	E16826 x U12-909109R

2021 SCN PRELIMINARY TEST IIA

Strain	Gen comp	SCN res source	Traits	
1	IA2102	F4	None	
2	LD02-4485 (SCN)	F5	PI 88788	
3	U11-917032 (SCN)	F6	PI 88788	
4	U14-910097 (SCN)	F5	PI 88788,437654	
5	LD18-0173	F5	PI 88788	
6	LD18-1242	F5	PI 88788	
7	LD18-1725	F5	PI 88788	
8	LD18-4225	F5	PI 88788	
9	LD18-4231	F5	PI 88788	
10	LD18-4236	F5	PI 88788	
11	LD18-4248	F5	PI 88788	
12	LD18-4406	F5	PI 88788	
13	LD18-4435	F5	PI 88788	
14	LD18-5062	F5	PI 88788	
15	LD18-5526	F5	PI 88788	
16	E17040	F5	PI 88788	
17	E18331-34	F5	PI 88788	high oleic
18	E18331-43	F5	PI 88788	high oleic
19	E19005	F5	PI 88788	
20	E19056	F5	PI 88788	high oleic
21	E19090	F5	PI 88788	high oleic
22	E19269	F5	PI 88788	high protein
23	E19288T	F5	PI 88788	
24	E19312T	F5	PI 88788	high protein
25	E19327T	F5	PI 88788	high protein
26	E19412	F5	PI 88788	
27	E19413	F5	PI 88788	
28	E19689	F5	PI 88788	high oleic
29	E19803-07	F5	PI 88788	high oleic

2021 SCN PRELIMINARY TEST IIA

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 IA2102	No data available		94	NR
2 LD02-4485 (SCN)			60	NR
3 U11-917032 (SCN)			57	LR
4 U14-910097 (SCN)			6	HR
5 LD18-0173			59	LR
6 LD18-1242			45	LR
7 LD18-1725			61	NR
8 LD18-4225			63	NR
9 LD18-4231			74	NR
10 LD18-4236			80	NR
11 LD18-4248			76	NR
12 LD18-4406			48	LR
13 LD18-4435			44	LR
14 LD18-5062			50	LR
15 LD18-5526			70	NR
16 E17040			80	NR
17 E18331-34			50	LR
18 E18331-43			45	LR
19 E19005			55	LR
20 E19056			74	LR
21 E19090			78	NR
22 E19269			104	NR
23 E19288T			73	NR
24 E19312T			87	NR
25 E19327T			71	NR
26 E19412			79	NR
27 E19413			42	LR
28 E19689			90	NR
29 E19803-07			55	LR

2021 SCN PRELIMINARY TEST IIA

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 IA2102	no marker data available					
2 LD02-4485 (SCN)	no marker data available					
3 U11-917032 (SCN)	no marker data available					
4 U14-910097 (SCN)	Rhg1-Peking+Rhg4	Ch13, Het LgN	none	S	S	R
5 LD18-0173	Rhg1-PI88788	LgA+Ch13, Het LgN	none	Het	S	R
6 LD18-1242	Rhg1-PI88788	LgN+Ch13	none	Het	S	R
7 LD18-1725	Rhg1-PI88788	LgN+Ch13	none	S	S	R
8 LD18-4225	Rhg1-PI88788	LgA1+Ch13	none	Het	S	R
9 LD18-4231	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
10 LD18-4236	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
11 LD18-4248	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
12 LD18-4406	Rhg1-PI88788	Ch13	Rps1k	R	S	R
13 LD18-4435	Rhg1-PI88788	Ch13	none	S	S	R
14 LD18-5062	Rhg1-PI88788	Ch13	Rps1k	S	S	R
15 LD18-5526	Rhg1-PI88788	Ch13, Het LgN	none	R	S	R
16 E17040	Rhg1-PI88788	LgA1+LgN+Ch13	Rps1k	R	S	R
17 E18331-34	Rhg1-PI88788	LgN+Ch13	none	R	S	R
18 E18331-43	none	LgN+Ch13	none	.	S	R
19 E19005	none	LgN+Ch13	none	R	S	R
20 E19056	Rhg1-PI88788	LgA1+Ch13	none	Het	S	S
21 E19090	Rhg1-PI88788, Het Rhg4	LgA1+Ch13	Rps1k	S	S	Het
22 E19269	Het Rhg1-PI88788	Ch13	Het Rps1c+1k	Het	S	R
23 E19288T	Rhg1-PI88788	Ch13	Rps1k	R	S	R
24 E19312T	Rhg1-PI88788	Ch13	Rps1k	R	S	R
25 E19327T	Rhg1-PI88788	LgN+Ch13	none	R	S	R
26 E19412	Het Rhg1-PI88788	Ch13, Het LgA	Het Rps1k	Het	S	R
27 E19413	Rhg1-PI88788	LgA1+LgN+Ch13	Rps1k	R	S	R
28 E19689	Het Rhg1-PI88788	Ch13, Het LgA+LgN	none	Het	S	Het
29 E19803-07	none	LgN+Ch13	Rps1k	R	S	S

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN PRELIMINARY TEST IIA

Summary

Strain	Yield								Seed				
	All		Infested		Non-infested		Maturity date	Lodging score	Height inches	weight g/100	quality score	protein @13%	oil @13%
	bu/a	rank	bu/a	rank	bu/a	rank							
	Locations	6		6									
1	IA2102	71.2	9	71.2	9		9/17	2.8	33	15.9	1.5	35.6	17.7
2	LD02-4485 (SCN)	72.5	6	72.5	6		1	2.9	35	15.0	1.8	32.9	18.7
3	U11-917032 (SCN)	61.9	24	61.9	24		-4	3.3	31	15.9	1.9	34.0	19.5
4	U14-910097 (SCN)	75.8	2	75.8	2		6	2.5	31	15.8	1.8	33.2	19.4
5	LD18-0173	70.8	10	70.8	10		-1	1.3	32	15.0	2.0	34.2	19.4
6	LD18-1242	71.3	8	71.3	8		3	1.9	35	16.0	1.5	33.8	18.2
7	LD18-1725	69.6	13	69.6	13		2	1.1	32	15.5	1.5	33.7	18.4
8	LD18-4225	69.7	12	69.7	12		1	1.4	34	15.6	1.8	36.1	18.1
9	LD18-4231	72.1	7	72.1	7		1	2.6	33	15.0	2.0	34.5	17.7
10	LD18-4236	77.6	1	77.6	1		0	2.7	34	16.0	1.5	34.5	18.6
11	LD18-4248	63.8	22	63.8	22		3	1.6	35	16.3	2.0	36.8	17.3
12	LD18-4406	66.9	17	66.9	17		0	1.9	32	15.6	1.8	34.8	18.5
13	LD18-4435	61.4	25	61.4	25		0	1.1	30	15.3	1.8	34.5	18.9
14	LD18-5062	74.8	3	74.8	3		1	1.6	35	14.1	1.5	33.6	17.9
15	LD18-5526	70.1	11	70.1	11		1	1.8	34	16.7	1.8	36.2	18.2
16	E17040	74.8	3	74.8	3		3	2.6	34	16.2	1.8	35.5	17.3
17	E18331-34	56.0	29	56.0	29		8	1.1	32	14.3	2.0	35.1	17.1
18	E18331-43	59.3	26	59.3	26		9	1.4	32	13.9	1.5	34.9	17.1
19	E19005	63.8	22	63.8	22		2	1.3	35	16.6	1.8	35.3	17.8
20	E19056	69.2	15	69.2	15		2	3.2	37	16.1	1.5	34.4	17.7
21	E19090	66.4	18	66.4	18		1	2.8	35	15.6	1.8	35.1	17.9
22	E19269	66.1	20	66.1	20		9	1.8	38	18.2	1.5	37.5	17.0
23	E19288T	65.3	21	65.3	21		0	1.7	33	17.5	1.8	37.5	16.6
24	E19312T	67.3	16	67.3	16		-1	2.0	33	17.7	1.8	36.4	18.0
25	E19327T	66.1	19	66.1	19		-3	1.4	31	19.5	1.8	36.3	18.2
26	E19412	69.5	14	69.5	14		1	1.3	32	17.8	1.5	36.0	17.2
27	E19413	72.9	5	72.9	5		1	3.0	35	17.7	1.8	34.2	18.6
28	E19689	59.1	27	59.1	27		0	1.9	32	16.1	1.8	35.3	17.9
29	E19803-07	57.0	28	57.0	28		6	2.7	32	15.7	1.8	34.5	17.2
	Mean	67.7		67.7			1.7	2.0	33.3	16.1	1.7	35.0	18.0
	LSD(.05)	10.7		10.7			8.8	24.0	6.1				
	C.V. %	4.8		4.8			1.7	0.6	2.3				
	Replications	13		13			8	6	6				

2021 SCN PRELIMINARY TEST IIA

Yield (bu/a)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain							
1	IA2102	74.5	60.4	52.3	64.0	101.8	94.7
2	LD02-4485 (SCN)	72.6	63.4	62.4	64.8	104.0	87.2
3	U11-917032 (SCN)	45.2	56.9	47.9	50.4	96.3	94.4
4	U14-910097 (SCN)	58.7	71.7	71.0	64.8	109.3	98.4
5	LD18-0173	71.2	63.5	59.6	54.2	102.1	93.9
6	LD18-1242	54.1	67.3	62.3	61.0	99.0	103.7
7	LD18-1725	58.7	66.3	63.3	56.4	103.3	89.2
8	LD18-4225	66.3	59.8	56.4	67.5	102.1	85.3
9	LD18-4231	68.5	69.2	63.0	57.9	97.0	97.3
10	LD18-4236	78.6	68.8	65.8	67.3	102.0	102.7
11	LD18-4248	57.9	58.9	54.7	55.6	93.4	81.6
12	LD18-4406	36.8	61.6	57.6	58.2	102.0	104.7
13	LD18-4435	32.7	58.9	48.6	49.5	101.3	97.0
14	LD18-5062	71.6	67.7	64.0	54.8	111.2	98.9
15	LD18-5526	60.4	62.6	54.4	56.5	105.1	101.3
16	E17040	71.9	60.8	63.7	58.7	107.1	105.9
17	E18331-34	9.3	54.0	55.1	53.8	96.5	88.1
18	E18331-43	18.7	57.7	53.1	57.2	95.9	95.9
19	E19005	39.0	60.4	55.5	52.3	102.8	92.0
20	E19056	57.7	64.9	60.2	55.0	97.8	98.9
21	E19090	51.2	59.0	53.8	60.0	104.2	89.6
22	E19269	35.2	63.3	67.6	59.2	92.9	97.6
23	E19288T	66.8	57.3	55.9	55.9	85.5	90.8
24	E19312T	57.0	55.3	59.0	63.5	97.2	91.2
25	E19327T	58.0	58.1	58.6	48.2	96.1	97.1
26	E19412	69.8	61.4	61.3	54.8	94.0	95.2
27	E19413	72.5	63.1	61.1	59.7	101.9	98.5
28	E19689	38.0	59.5	54.7	49.6	87.7	84.8
29	E19803-07	33.9	59.0	54.7	31.5	99.3	83.2
	Average	54.7	61.7	58.5	56.6	99.6	94.4
	LSD(.05)	15.8	2.9	6.7	10.5	5.3	7.7
	C.V. %	18.3	3.7	8.0	11.6	13.2	18.8
	Replications	2	2	2	3	2	2
	Row width (in.)	30	30	30	30	30	30

2021 SCN PRELIMINARY TEST IIA

Yield (rank)

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips
		IA	IL	IL	MI	NE	NE
SCN HG Type	Strain	Inf	Inf	Inf	Inf	Inf	Inf
1	IA2102	2	16	27	5	14	13
2	LD02-4485 (SCN)	3	9	8	3	6	25
3	U11-917032 (SCN)	21	27	29	25	22	16
4	U14-910097 (SCN)	13	1	1	4	2	10
5	LD18-0173	7	8	13	22	10	17
6	LD18-1242	19	5	9	7	17	3
7	LD18-1725	13	6	6	16	7	23
8	LD18-4225	11	18	17	1	9	26
9	LD18-4231	9	2	7	13	20	6
10	LD18-4236	1	3	3	2	12	4
11	LD18-4248	16	23	21	18	26	29
12	LD18-4406	24	13	16	12	11	2
13	LD18-4435	27	22	28	27	15	14
14	LD18-5062	6	4	4	20	1	7
15	LD18-5526	12	12	24	15	4	5
16	E17040	5	15	5	11	3	1
17	E18331-34	29	29	20	23	21	24
18	E18331-43	28	25	26	14	24	18
19	E19005	22	16	19	24	8	19
20	E19056	17	7	12	19	18	8
21	E19090	20	21	25	8	5	22
22	E19269	25	10	2	10	27	11
23	E19288T	10	26	18	17	29	21
24	E19312T	18	28	14	6	19	20
25	E19327T	15	24	15	28	23	12
26	E19412	8	14	10	21	25	15
27	E19413	4	11	11	9	13	9
28	E19689	23	19	21	26	28	27
29	E19803-07	26	20	21	29	16	28

2021 SCN PRELIMINARY TEST IIA

Maturity

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips
		IA	IL	IL	MI	NE	NE
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf
Strain							
1	IA2102	9/25	9/08	9/12			9/24
2	LD02-4485 (SCN)	3	3	1			-3
3	U11-917032 (SCN)	-1	-4	-5			-7
4	U14-910097 (SCN)	7	8	9			0
5	LD18-0173	-1	1	1			-6
6	LD18-1242	4	3	4			-1
7	LD18-1725	3	3	1			-1
8	LD18-4225	4	3	1			-4
9	LD18-4231	2	6	1			-4
10	LD18-4236	1	3	1			-4
11	LD18-4248	3	7	5			-4
12	LD18-4406	5	-3	0			-3
13	LD18-4435	7	-3	-2			-3
14	LD18-5062	-1	3	3			-3
15	LD18-5526	2	2	2			-2
16	E17040	3	4	3			0
17	E18331-34	20	5	8			-2
18	E18331-43	20	8	8			0
19	E19005	4	2	5			-5
20	E19056	5	3	4			-3
21	E19090	2	3	1			-4
22	E19269	15	9	8			2
23	E19288T	1	2	0			-4
24	E19312T	-1	2	1			-4
25	E19327T	-1	-3	-1			-6
26	E19412	0	3	3			-3
27	E19413	1	3	4			-3
28	E19689	1	3	2			-5
29	E19803-07	10	5	7			2
Planted		5/24	5/05	5/24	5/07	5/18	5/21

2021 SCN PRELIMINARY TEST IIA

Lodging (score)

SCN HG Type	Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain						
1 IA2102		3.0	2.3			3.0
2 LD02-4485 (SCN)		2.8	3.0			3.0
3 U11-917032 (SCN)		3.5	3.3			3.0
4 U14-910097 (SCN)		2.5	2.0			3.0
5 LD18-0173		1.8	1.0			1.0
6 LD18-1242		1.3	2.3			2.0
7 LD18-1725		1.3	1.0			1.0
8 LD18-4225		1.3	1.0			2.0
9 LD18-4231		2.5	2.3			3.0
10 LD18-4236		2.8	2.8			2.5
11 LD18-4248		1.8	1.0			2.0
12 LD18-4406		1.5	1.8			2.5
13 LD18-4435		1.3	1.0			1.0
14 LD18-5062		2.0	1.3			1.5
15 LD18-5526		2.3	1.0			2.0
16 E17040		2.5	2.3			3.0
17 E18331-34		1.3	1.0			1.0
18 E18331-43		1.3	1.0			2.0
19 E19005		2.0	1.0			1.0
20 E19056		3.3	2.8			3.5
21 E19090		2.8	2.0			3.5
22 E19269		3.3	1.0			1.0
23 E19288T		2.0	1.0			2.0
24 E19312T		2.0	1.5			2.5
25 E19327T		1.8	1.5			1.0
26 E19412		1.8	1.0			1.0
27 E19413		2.8	2.8			3.5
28 E19689		2.0	1.3			2.5
29 E19803-07		3.0	2.0			3.0

2021 SCN PRELIMINARY TEST IIA

Height (inches)

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips
SCN HG Type		IA	IL	IL	MI	NE	NE
Strain		Inf	Inf	Inf	Inf	Inf	Inf
1	IA2102		34	32			32
2	LD02-4485 (SCN)		38	32			34
3	U11-917032 (SCN)		32	30			30
4	U14-910097 (SCN)		33	31			30
5	LD18-0173		32	32			32
6	LD18-1242		36	35			34
7	LD18-1725		33	33			31
8	LD18-4225		35	30			37
9	LD18-4231		34	33			33
10	LD18-4236		37	32			34
11	LD18-4248		35	32			37
12	LD18-4406		31	30			35
13	LD18-4435		31	27			32
14	LD18-5062		35	34			37
15	LD18-5526		37	31			33
16	E17040		34	34			35
17	E18331-34		32	30			33
18	E18331-43		33	31			32
19	E19005		35	33			36
20	E19056		39	37			35
21	E19090		37	34			33
22	E19269		39	37			38
23	E19288T		35	33			32
24	E19312T		33	35			31
25	E19327T		33	32			29
26	E19412		33	32			32
27	E19413		37	35			34
28	E19689		34	32			30
29	E19803-07		32	32			32

2021 SCN PRELIMINARY TEST IIA

Seed Weight (g/100)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain							
1	IA2102	17.5	14.2	14.2			17.6
2	LD02-4485 (SCN)	17.0	12.2	14.6			16.3
3	U11-917032 (SCN)	17.0	13.5	14.5			18.5
4	U14-910097 (SCN)	17.5	13.1	14.9			17.7
5	LD18-0173		12.7	14.9			17.5
6	LD18-1242	17.5	13.8	15.7			17.0
7	LD18-1725	17.5	13.7	14.5			16.3
8	LD18-4225	17.5	13.0	14.4			17.4
9	LD18-4231	16.0	13.4	14.5			16.2
10	LD18-4236	18.0	13.5	14.6			17.9
11	LD18-4248	17.0	14.4	15.7			18.1
12	LD18-4406	17.0	13.4	14.5			17.6
13	LD18-4435	15.5	14.6	14.2			16.7
14	LD18-5062	14.5	12.5	14.1			15.3
15	LD18-5526	18.0	15.1	15.6			17.9
16	E17040	17.5	15.0	15.5			16.7
17	E18331-34		13.4	13.8			15.7
18	E18331-43	13.0	13.5	13.9			15.1
19	E19005	17.0	15.2	16.3			17.8
20	E19056	17.0	15.0	15.2			17.2
21	E19090	16.0	13.7	14.9			17.8
22	E19269	18.5	17.0	17.9			19.4
23	E19288T	19.5	15.2	16.9			18.5
24	E19312T	18.0	15.9	16.2			20.7
25	E19327T	20.0	17.7	18.8			21.3
26	E19412	18.5	15.8	17.4			19.6
27	E19413	19.5	16.0	16.6			18.7
28	E19689	17.5	14.0	15.1			17.9
29	E19803-07	15.5	13.7	15.7			17.9

2021 SCN PRELIMINARY TEST IIA

Seed Quality (score)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain							
1	IA2102	1.0	3.0	1.0			1.0
2	LD02-4485 (SCN)	1.0	3.0	2.0			1.0
3	U11-917032 (SCN)	1.5	3.0	2.0			1.0
4	U14-910097 (SCN)	1.0	3.0	2.0			1.0
5	LD18-0173		3.0	2.0			1.0
6	LD18-1242	1.0	2.0	2.0			1.0
7	LD18-1725	1.0	3.0	1.0			1.0
8	LD18-4225	1.0	3.0	2.0			1.0
9	LD18-4231	1.0	4.0	2.0			1.0
10	LD18-4236	1.0	3.0	1.0			1.0
11	LD18-4248	1.0	4.0	2.0			1.0
12	LD18-4406	1.0	3.0	2.0			1.0
13	LD18-4435	1.0	3.0	2.0			1.0
14	LD18-5062	1.0	3.0	1.0			1.0
15	LD18-5526	1.0	3.0	2.0			1.0
16	E17040	1.0	3.0	2.0			1.0
17	E18331-34		3.0	2.0			1.0
18	E18331-43	1.0	2.0	2.0			1.0
19	E19005	1.0	3.0	2.0			1.0
20	E19056	1.0	3.0	1.0			1.0
21	E19090	1.0	3.0	2.0			1.0
22	E19269	1.0	2.0	2.0			1.0
23	E19288T	1.0	3.0	2.0			1.0
24	E19312T	1.0	3.0	2.0			1.0
25	E19327T	1.0	3.0	2.0			1.0
26	E19412	1.0	3.0	1.0			1.0
27	E19413	1.0	3.0	2.0			1.0
28	E19689	1.0	3.0	2.0			1.0
29	E19803-07	1.0	3.0	2.0			1.0

2021 SCN PRELIMINARY TEST IIA

Protein (%)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain							
1	IA2102	36.2	36.4	33.9			35.8
2	LD02-4485 (SCN)	33.8	32.5	32.9			32.5
3	U11-917032 (SCN)	34.2	34.4	32.9			34.5
4	U14-910097 (SCN)	32.7	33.8	32.5			33.8
5	LD18-0173	34.9	34.5	33.6			33.8
6	LD18-1242	34.0	33.5	33.5			34.2
7	LD18-1725	34.3	33.6	33.5			33.4
8	LD18-4225	36.4	36.3	35.3			36.5
9	LD18-4231	34.2	34.1	34.7			34.9
10	LD18-4236	34.6	34.9	33.8			34.7
11	LD18-4248	36.3	37.4	37.5			36.2
12	LD18-4406	36.2	33.6	34.8			34.5
13	LD18-4435	35.2	34.5	33.8			34.5
14	LD18-5062	33.3	33.2	34.4			33.6
15	LD18-5526	37.2	35.6	36.4			35.7
16	E17040	35.0	36.7	35.2			35.0
17	E18331-34	.	34.6	34.2			36.5
18	E18331-43	33.8	35.3	34.5			35.9
19	E19005	35.3	35.0	35.8			35.2
20	E19056	34.2	34.6	33.8			34.9
21	E19090	35.1	34.7	34.8			35.7
22	E19269	37.0	37.6	38.6			37.0
23	E19288T	37.0	37.5	38.1			37.3
24	E19312T	36.1	36.4	37.0			36.2
25	E19327T	36.6	35.5	37.0			36.1
26	E19412	35.7	35.8	36.6			35.8
27	E19413	34.0	34.5	34.1			34.4
28	E19689	35.1	34.6	35.5			36.1
29	E19803-07	33.5	34.9	33.5			35.9

2021 SCN PRELIMINARY TEST IIA

Oil (%)

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips
SCN HG Type		IA	IL	IL	MI	NE	NE
Strain		Inf	Inf	Inf	Inf	Inf	Inf
1	IA2102	17.0	17.8	19.2			16.8
2	LD02-4485 (SCN)	18.0	19.0	19.2			18.7
3	U11-917032 (SCN)	18.9	19.8	20.8			18.4
4	U14-910097 (SCN)	19.3	19.1	19.9			19.2
5	LD18-0173	19.0	19.3	20.2			19.1
6	LD18-1242	17.9	18.2	19.3			17.4
7	LD18-1725	18.9	18.0	18.9			18.1
8	LD18-4225	18.1	18.1	18.8			17.5
9	LD18-4231	17.7	18.3	18.2			16.6
10	LD18-4236	18.5	18.5	19.4			18.0
11	LD18-4248	17.6	16.8	18.0			17.0
12	LD18-4406	18.0	18.8	19.3			17.9
13	LD18-4435	18.4	18.7	20.3			18.2
14	LD18-5062	18.0	18.3	18.0			17.1
15	LD18-5526	18.3	18.4	18.6			17.7
16	E17040	17.3	16.6	18.1			17.1
17	E18331-34		17.0	17.8			16.6
18	E18331-43	17.5	16.5	17.8			16.7
19	E19005	18.5	17.7	17.6			17.3
20	E19056	17.9	17.3	18.8			16.9
21	E19090	18.3	17.7	18.4			17.4
22	E19269	17.3	16.9	16.6			17.1
23	E19288T	17.3	15.9	17.4			16.0
24	E19312T	17.9	18.2	18.8			17.0
25	E19327T	18.6	18.3	18.9			17.0
26	E19412	17.6	17.1	16.8			17.3
27	E19413	18.5	18.8	19.4			17.8
28	E19689	18.1	17.9	18.1			17.3
29	E19803-07	16.5	17.5	18.0			16.6

2021 SCN PRELIMINARY TEST IIB

Strain	Descriptive code	Parentage
1 IA2102	WGy	A04-545045 x AgriPro 98180-A01-06131
2 LD02-4485 (SCN)	PGbf	M90-184111 x IA3010
3 U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612
4 U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419
5 A15118-169	WLTgr	(U11-614119/AR11SDS-SCN) x U11-622148
6 A15118-175	PLtbl/gr	(U11-614119/AR11SDS-SCN) x U11-622148
7 A15203- 19	WLTgr	(AR11-113050/AR12-327073) x LD07-3419
8 A15203- 24	WGy	(AR11-113050/AR12-327073) x LD07-3419
9 A15204-127	PGibl/gr	(AR11SDS-SCN//PI470223) x U12-921088
10 A15208- 17	WLT+Gbl/bf	(AR12-127102/AR12-327073) x LD07-3419
11 A15208- 33	WLTbl	(AR12-127102/AR12-327073) x LD07-3419
12 A15208- 41	PLtbl	(AR12-127102/AR12-327073) x LD07-3419
13 LD18-6259a	PGibl	U11-932025 x LD09-30224
14 LD18-6303	P+WLTbl	LD11-10069 x U11-911079
15 U19-602215	PLtbr	U14-910097 x LD11-2170
16 U19-608294	PLtbl	U14-903100 x LD12-459
17 U19-611226	PLtbl/br	U14-903100 x LD12-3903
18 U19-613089	PGbf	U14-910097 x U14-903100
19 U19-613290	PLtbl	U14-903100 x LD12-3903
20 U19-615127	PGibl	U14-910097 x LD12-3903
21 U19-618131	PLtbr	U14-910097 x LD11-2170
22 U19-618247	PLtbl/br	U14-903100 x U14-924158
23 U19-913034	PGbf	ORC_3713N x U14-925152
24 U19-914123	PLtbr	U14-910097 x U14-903100
25 U19-923091	PLt+Gbr/bf	U14-910097 x LD11-2170
26 U19-923124	PGbf	U14-910097 x LD11-2170
27 U19-924091	PLtbr	U14-910097 x LD11-2170
28 U19-924230	PLtbr	U14-903100 x LD11-2170
29 U19-926126	PLtbr	U14-910097 x U14-924158

2021 SCN PRELIMINARY TEST IIB

Strain	Gen comp	SCN res source	Traits
1 IA2102	F4	None	
2 LD02-4485 (SCN)	F5	PI 88788	
3 U11-917032 (SCN)	F6	PI 88788	
4 U14-910097 (SCN)	F5	PI 88788,437654	
5 A15118-169	F5	PI 88788	
6 A15118-175	F5	PI 88788	
7 A15203- 19	F5	PI 88788, PI 437654, PI 438489B	
8 A15203- 24	F5	PI 88788, PI 437654, PI 438489B	
9 A15204-127	F5	PI 88788	
10 A15208- 17	F5	PI 88788, PI 437654, PI 507354	
11 A15208- 33	F5	PI 88788, PI 437654, PI 507354	
12 A15208- 41	F5	PI 88788, PI 437654, PI 507354	
13 LD18-6259a	F5	PI 88788	Rag 1
14 LD18-6303	F5	PI 88788	
15 U19-602215	F5	PI 88788,437654	
16 U19-608294	F5	PI 88788	
17 U19-611226	F5	PI 88788	
18 U19-613089	F5	PI 88788	
19 U19-613290	F5	PI 88788	Rps
20 U19-615127	F5	PI 88788	Rps
21 U19-618131	F5	PI 88788	Rps
22 U19-618247	F5	PI 88788	
23 U19-913034	F5	PI 88788	IDC
24 U19-914123	F5	PI 88788	
25 U19-923091	F5	PI 88788	Rps
26 U19-923124	F5	PI 88788	Rps
27 U19-924091	F5	PI 88788	Rps
28 U19-924230	F5	PI 88788	
29 U19-926126	F5	PI 88788	IDC

2021 SCN PRELIMINARY TEST IIB

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 IA2102	No data available		94	NR
2 LD02-4485 (SCN)			60	NR
3 U11-917032 (SCN)			57	LR
4 U14-910097 (SCN)			6	HR
5 A15118-169			59	LR
6 A15118-175			45	LR
7 A15203- 19			61	NR
8 A15203- 24			63	NR
9 A15204-127			74	NR
10 A15208- 17			80	NR
11 A15208- 33			76	NR
12 A15208- 41			48	LR
13 LD18-6259a			44	LR
14 LD18-6303			50	LR
15 U19-602215			70	NR
16 U19-608294			80	NR
17 U19-611226			50	LR
18 U19-613089			45	LR
19 U19-613290			55	LR
20 U19-615127			74	LR
21 U19-618131			78	NR
22 U19-618247			104	NR
23 U19-913034			73	NR
24 U19-914123			87	NR
25 U19-923091			71	NR
26 U19-923124			79	NR
27 U19-924091			42	LR
28 U19-924230			90	NR
29 U19-926126			55	LR

2021 SCN PRELIMINARY TEST IIB

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 IA2102	no marker data available					
2 LD02-4485 (SCN)	no marker data available					
3 U11-917032 (SCN)	no marker data available					
4 U14-910097 (SCN)	Rhg1-Peking+Rhg4	Ch13, Het LgN	none	S	S	R
5 A15118-169	Rhg1-PI88788	LgA1+Ch13	Rps1k	S	S	R
6 A15118-175	Rhg1-PI88788	Ch13	Rps1k	S	S	R
7 A15203- 19	Rhg1-Peking	LgA1+LgN+Ch13	none	R	S	R
8 A15203- 24	Rhg1-Peking	Ch13, Het LgA	none	R	S	S
9 A15204-127	Rhg1-PI88788	Ch13	none	S	S	R
10 A15208- 17	Rhg1-Peking+Rhg4	LgA1+LgN+Ch13	none	R	S	R
11 A15208- 33	Rhg1-Peking+Rhg4	LgN+Ch13	Rps1a	R	S	R
12 A15208- 41	Rhg1-Peking, Het-Rhg4	LgA1+LgN+Ch13	none	R	S	R
13 LD18-6259a	Rhg1-PI88788	LgA1+LgN	none	R	S	R
14 LD18-6303	Rhg1-PI88788	Ch13	Rps1c	S	S	R
15 U19-602215	Het Rhg1-PI88788	Ch13, Het LgN	Rps1k	S	S	R
16 U19-608294	Het Rhg4	Ch13, Het LgA	Het Rps6	Het	S	R
17 U19-611226	none	LgA1+Ch13	Rps6, Het Rps1c	Het	S	R
18 U19-613089	Het Rhg4	LgA1+Ch13	none	S	S	R
19 U19-613290	Het Rhg1-PI88788	LgA1+Ch13	Rps1c+Rps6	R	S	R
20 U19-615127	Rhg1-Peking	Ch13, Het LgN	none	R	S	R
21 U19-618131	Rhg4, Het Rhg1-Peking	LgN+Ch13	Rps1k	Het	S	R
22 U19-618247	Rhg4, Het Rhg1-Peking	LgA1+Ch13	Het Rps6	Het	S	R
23 U19-913034	Rhg1-Peking+Rhg4	Ch13	Rps1c	R	S	R
24 U19-914123	none	Ch13	none	S	S	R
25 U19-923091	Rhg1-Peking	Ch13	none	S	S	R
26 U19-923124	Rhg1-Peking+Rhg4	Ch13	none	S	S	R
27 U19-924091	Het Rhg1-PI88788	LgN+Ch13	Rps1k	R	S	R
28 U19-924230	none	Het-Lgn	Het Rps1k	S	S	R
29 U19-926126	Rhg1-Peking+Rhg4	Ch13	none	S	S	R

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN PRELIMINARY TEST IIB

Summary

Strain	Yield						Maturity date	Lodging score	Height inches	Seed			
	All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
	bu/a	rank	bu/a	rank	bu/a	rank							
	Locations	6		6			4	3	3	8	4	4	4
1	IA2102	71.2	9	71.2	9		9/17	2.8	33	15.9	1.5	35.6	17.7
2	LD02-4485 (SCN)	72.5	6	72.5	6		1	2.9	35	15.0	1.8	32.9	18.7
3	U11-917032 (SCN)	61.9	24	61.9	24		-4	3.3	31	15.9	1.9	34.0	19.5
4	U14-910097 (SCN)	75.8	2	75.8	2		6	2.5	31	15.8	1.8	33.2	19.4
5	A15118-169	70.8	10	70.8	10		-1	1.3	32	15.0	2.0	34.2	19.4
6	A15118-175	71.3	8	71.3	8		3	1.9	35	16.0	1.5	33.8	18.2
7	A15203- 19	69.6	13	69.6	13		2	1.1	32	15.5	1.5	33.7	18.4
8	A15203- 24	69.7	12	69.7	12		1	1.4	34	15.6	1.8	36.1	18.1
9	A15204-127	72.1	7	72.1	7		1	2.6	33	15.0	2.0	34.5	17.7
10	A15208- 17	77.6	1	77.6	1		0	2.7	34	16.0	1.5	34.5	18.6
11	A15208- 33	63.8	22	63.8	22		3	1.6	35	16.3	2.0	36.8	17.3
12	A15208- 41	66.9	17	66.9	17		0	1.9	32	15.6	1.8	34.8	18.5
13	LD18-6259a	61.4	25	61.4	25		0	1.1	30	15.3	1.8	34.5	18.9
14	LD18-6303	74.8	3	74.8	3		1	1.6	35	14.1	1.5	33.6	17.9
15	U19-602215	70.1	11	70.1	11		1	1.8	34	16.7	1.8	36.2	18.2
16	U19-608294	74.8	3	74.8	3		3	2.6	34	16.2	1.8	35.5	17.3
17	U19-611226	56.0	29	56.0	29		8	1.1	32	14.3	2.0	35.1	17.1
18	U19-613089	59.3	26	59.3	26		9	1.4	32	13.9	1.5	34.9	17.1
19	U19-613290	63.8	22	63.8	22		2	1.3	35	16.6	1.8	35.3	17.8
20	U19-615127	69.2	15	69.2	15		2	3.2	37	16.1	1.5	34.4	17.7
21	U19-618131	66.4	18	66.4	18		1	2.8	35	15.6	1.8	35.1	17.9
22	U19-618247	66.1	20	66.1	20		9	1.8	38	18.2	1.5	37.5	17.0
23	U19-913034	65.3	21	65.3	21		0	1.7	33	17.5	1.8	37.5	16.6
24	U19-914123	67.3	16	67.3	16		-1	2.0	33	17.7	1.8	36.4	18.0
25	U19-923091	66.1	19	66.1	19		-3	1.4	31	19.5	1.8	36.3	18.2
26	U19-923124	69.5	14	69.5	14		1	1.3	32	17.8	1.5	36.0	17.2
27	U19-924091	72.9	5	72.9	5		1	3.0	35	17.7	1.8	34.2	18.6
28	U19-924230	59.1	27	59.1	27		0	1.9	32	16.1	1.8	35.3	17.9
29	U19-926126	57.0	28	57.0	28		6	2.7	32	15.7	1.8	34.5	17.2
	Mean	67.7		67.7			1.7	2.0	33.3	16.1	1.7	35.0	18.0
	LSD(.05)	10.7		10.7			8.8	24.0	6.1				
	C.V. %	4.8		4.8			1.7	0.6	2.3				
	Replications	13		13			8	6	6				

2021 SCN PRELIMINARY TEST IIB

Yield (bu/a)

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips
		IA	IL	IL	MI	NE	NE
SCN HG Type	Strain	Inf	Inf	Inf	Inf	Inf	Inf
1	IA2102	70.7	61.3	58.1	60.6	103.7	100.2
2	LD02-4485 (SCN)	64.8	62.0	64.2	68.6	111.6	94.6
3	U11-917032 (SCN)	55.0	57.8	50.3	50.6	95.5	91.3
4	U14-910097 (SCN)	76.0	65.3	69.8	74.9	114.0	102.3
5	A15118-169	73.1	60.7	67.1	58.8	91.3	99.4
6	A15118-175	66.0	55.8	51.6	51.2	88.9	86.6
7	A15203- 19	78.1	64.2	61.1	52.6	99.6	100.7
8	A15203- 24	63.2	66.0	64.1	54.1	99.1	93.6
9	A15204-127	66.3	54.7	58.4	57.4	94.1	100.9
10	A15208- 17	61.5	51.0	49.4	66.3	96.8	94.4
11	A15208- 33	60.5	56.7	45.9	52.8	93.1	97.0
12	A15208- 41	64.1	48.4	54.9	43.7	87.8	90.0
13	LD18-6259a	82.3	66.2	66.7	73.9	107.8	100.5
14	LD18-6303	59.0	62.0	67.0	58.6	103.9	99.8
15	U19-602215	67.3	58.8	64.9	58.9	108.9	104.3
16	U19-608294	46.7	60.8	67.4	55.8	112.3	99.5
17	U19-611226	66.3	68.0	68.3	59.1	104.1	98.8
18	U19-613089	65.1	61.8	70.6	49.3	101.9	106.6
19	U19-613290	64.6	57.6	66.2	55.0	107.6	100.9
20	U19-615127	61.5	66.8	72.1	64.2	110.7	104.9
21	U19-618131	63.2	63.9	67.5	62.3	110.0	110.3
22	U19-618247	62.6	63.8	62.0	60.3	111.7	99.6
23	U19-913034	45.7	60.0	62.8	54.5	94.3	101.4
24	U19-914123	44.7	67.5	62.8	51.0	102.9	108.0
25	U19-923091	70.6	64.9	69.5	56.5	115.8	102.3
26	U19-923124	72.4	61.1	71.5	65.6	103.1	111.5
27	U19-924091	66.5	69.9	69.8	66.6	105.0	105.5
28	U19-924230	48.8	60.9	61.7	52.6	105.1	102.9
29	U19-926126	61.3	62.0	60.1	62.3	105.5	112.6
	Average	63.7	61.4	63.0	58.6	103.0	100.7
	LSD(.05)	9.8	6.2	4.6	9.9	5.9	5.1
	C.V. %	12.8	7.8	5.9	11.3	15.5	12.6
	Replications	2	2	2	3	2	2
	Row width (in.)	30	30	30	30	30	30

2021 SCN PRELIMINARY TEST IIB

Yield (rank)

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips
		IA	IL	IL	MI	NE	NE
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf
Strain							
1	IA2102	6	16	24	10	16	17
2	LD02-4485 (SCN)	14	9	15	3	5	24
3	U11-917032 (SCN)	25	27	27	27	23	27
4	U14-910097 (SCN)	3	1	4	1	2	11
5	A15118-169	4	8	10	14	27	21
6	A15118-175	12	5	26	25	28	29
7	A15203- 19	2	6	21	24	21	15
8	A15203- 24	18	18	16	21	20	26
9	A15204-127	11	2	23	16	25	13
10	A15208- 17	20	3	28	5	22	25
11	A15208- 33	23	23	29	22	26	23
12	A15208- 41	16	13	25	29	29	28
13	LD18-6259a	1	22	12	2	9	16
14	LD18-6303	24	4	11	15	15	18
15	U19-602215	8	12	14	13	8	8
16	U19-608294	27	15	9	18	3	20
17	U19-611226	10	29	7	12	14	22
18	U19-613089	13	25	3	28	19	5
19	U19-613290	15	16	13	19	10	14
20	U19-615127	21	7	1	7	6	7
21	U19-618131	17	21	8	9	7	3
22	U19-618247	19	10	19	11	4	19
23	U19-913034	28	26	17	20	24	12
24	U19-914123	29	28	17	26	18	4
25	U19-923091	7	24	6	17	1	10
26	U19-923124	5	14	2	6	17	2
27	U19-924091	9	11	4	4	13	6
28	U19-924230	26	19	20	23	12	9
29	U19-926126	22	20	22	8	11	1

2021 SCN PRELIMINARY TEST IIB

Maturity

		Ames	Pontiac	Urbana	Decatur	Cotefield	Phillips
		IA	IL	IL	MI	NE	NE
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf
Strain							
1	IA2102	9/28	9/08	9/12			9/25
2	LD02-4485 (SCN)	-1	4	3			-3
3	U11-917032 (SCN)	0	-3	-4			-7
4	U14-910097 (SCN)	2	9	10			4
5	A15118-169	3	11	10			4
6	A15118-175	1	-1	-3			-6
7	A15203- 19	0	8	7			3
8	A15203- 24	0	5	4			-2
9	A15204-127	2	3	5			-3
10	A15208- 17	-1	-3	-1			-6
11	A15208- 33	0	-1	-4			-5
12	A15208- 41	-2	-3	-3			-6
13	LD18-6259a	1	6	8			4
14	LD18-6303	2	8	6			-1
15	U19-602215	0	9	8			5
16	U19-608294	1	6	9			-1
17	U19-611226	2	12	12			2
18	U19-613089	2	9	12			7
19	U19-613290	1	8	12			6
20	U19-615127	2	9	12			5
21	U19-618131	1	8	6			3
22	U19-618247	-1	10	12			4
23	U19-913034	6	6	6			2
24	U19-914123	6	9	7			1
25	U19-923091	4	7	9			3
26	U19-923124	-1	6	7			3
27	U19-924091	2	10	9			6
28	U19-924230	2	9	9			1
29	U19-926126	4	7	6			3
Planted		5/24	5/05	5/24	5/07	5/18	5/21

2021 SCN PRELIMINARY TEST IIB

Lodging (score)

SCN HG Type	Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain						
1 IA2102		2.0	3.0			3.5
2 LD02-4485 (SCN)		2.3	2.5			3.5
3 U11-917032 (SCN)		2.3	3.0			2.5
4 U14-910097 (SCN)		2.0	2.0			2.0
5 A15118-169		2.0	2.0			2.5
6 A15118-175		1.0	1.0			1.0
7 A15203- 19		1.3	2.0			1.5
8 A15203- 24		1.5	2.8			2.5
9 A15204-127		1.5	1.8			1.0
10 A15208- 17		1.0	1.3			1.0
11 A15208- 33		1.3	1.8			1.0
12 A15208- 41		1.0	1.0			1.0
13 LD18-6259a		1.0	1.8			2.0
14 LD18-6303		1.8	2.3			1.5
15 U19-602215		1.5	2.0			1.0
16 U19-608294		1.0	1.0			1.0
17 U19-611226		1.3	1.3			1.0
18 U19-613089		2.0	2.0			1.5
19 U19-613290		2.0	2.0			1.0
20 U19-615127		1.3	1.5			1.0
21 U19-618131		1.3	1.3			1.0
22 U19-618247		1.0	1.0			1.0
23 U19-913034		1.0	1.8			1.5
24 U19-914123		1.5	1.8			1.0
25 U19-923091		1.3	1.5			1.5
26 U19-923124		1.3	1.5			1.0
27 U19-924091		1.5	1.8			2.0
28 U19-924230		1.3	1.8			1.0
29 U19-926126		1.0	1.5			2.5

2021 SCN PRELIMINARY TEST IIB

Height (inches)

SCN HG Type	Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain						
1 IA2102		35	34			33
2 LD02-4485 (SCN)		34	33			36
3 U11-917032 (SCN)		34	29			31
4 U14-910097 (SCN)		35	30			33
5 A15118-169		43	38			41
6 A15118-175		28	28			31
7 A15203- 19		34	30			35
8 A15203- 24		38	34			38
9 A15204-127		35	32			38
10 A15208- 17		26	29			30
11 A15208- 33		32	29			33
12 A15208- 41		31	29			32
13 LD18-6259a		36	30			38
14 LD18-6303		39	34			39
15 U19-602215		32	30			33
16 U19-608294		33	31			37
17 U19-611226		32	30			36
18 U19-613089		36	32			37
19 U19-613290		37	32			37
20 U19-615127		34	31			33
21 U19-618131		34	31			35
22 U19-618247		35	32			37
23 U19-913034		38	34			38
24 U19-914123		34	30			34
25 U19-923091		31	31			34
26 U19-923124		30	31			34
27 U19-924091		38	31			37
28 U19-924230		37	31			38
29 U19-926126		34	31			33

2021 SCN PRELIMINARY TEST IIB

Seed Weight (g/100)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain							
1	IA2102	18.0	14.8	15.7			18.1
2	LD02-4485 (SCN)	15.0	12.7	14.4			16.4
3	U11-917032 (SCN)	15.5	14.2	14.9			18.4
4	U14-910097 (SCN)	15.5	13.0	15.2			17.6
5	A15118-169	19.5	15.0	18.3			19.1
6	A15118-175	17.5	16.2	16.2			19.3
7	A15203- 19	18.0	15.1	16.5			19.3
8	A15203- 24	18.0	14.9	16.4			19.3
9	A15204-127	19.0	15.3	16.4			20.1
10	A15208- 17	17.0	14.1	14.9			15.7
11	A15208- 33	18.0	16.4	16.9			19.8
12	A15208- 41	17.0	14.0	15.3			17.6
13	LD18-6259a	17.5	15.6	16.7			19.4
14	LD18-6303	15.0	12.3	12.6			14.4
15	U19-602215	16.5	15.3	16.2			17.1
16	U19-608294	16.0	14.0	16.7			16.6
17	U19-611226	18.5	15.6	17.6			18.4
18	U19-613089	18.0	15.0	17.0			18.3
19	U19-613290	16.0	13.6	15.6			16.7
20	U19-615127	16.0	14.8	16.5			17.9
21	U19-618131	18.5	15.0	16.6			18.5
22	U19-618247	17.0	14.0	15.8			16.4
23	U19-913034	18.5	15.4	16.2			19.6
24	U19-914123	17.5	14.4	16.2			18.4
25	U19-923091	16.5	13.6	14.8			15.6
26	U19-923124	17.0	14.3	15.3			17.1
27	U19-924091	19.5	14.8	17.2			19.3
28	U19-924230	15.5	12.6	13.2			14.6
29	U19-926126	14.5	12.2	13.5			15.0

2021 SCN PRELIMINARY TEST IIB

Seed Quality (score)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain							
1	IA2102	1.0	2.0	1.0			1.0
2	LD02-4485 (SCN)	1.0	3.0	2.0			1.0
3	U11-917032 (SCN)	1.0	2.0	2.0			1.0
4	U14-910097 (SCN)	1.0	2.0	2.0			1.0
5	A15118-169	1.0	3.0	2.0			1.0
6	A15118-175	1.0	2.0	2.0			1.0
7	A15203- 19	1.0	2.0	2.0			1.0
8	A15203- 24	1.0	3.0	2.0			1.0
9	A15204-127	1.0	4.0	4.0			1.0
10	A15208- 17	1.0	2.0	2.0			1.0
11	A15208- 33	1.0	3.0	2.0			1.0
12	A15208- 41	1.0	3.0	1.0			1.0
13	LD18-6259a	1.0	2.0	2.0			1.0
14	LD18-6303	1.0	3.0	2.0			1.0
15	U19-602215	1.0	2.0	2.0			1.0
16	U19-608294	1.0	3.0	1.0			1.0
17	U19-611226	1.0	2.0	1.0			1.0
18	U19-613089	1.0	2.0	1.0			1.0
19	U19-613290	1.0	2.0	2.0			1.0
20	U19-615127	1.0	2.0	2.0			1.0
21	U19-618131	1.0	3.0	2.0			1.0
22	U19-618247	1.0	2.0	1.0			1.0
23	U19-913034	1.0	2.0	2.0			1.0
24	U19-914123	1.0	3.0	1.0			1.0
25	U19-923091	1.0	2.0	1.0			1.0
26	U19-923124	1.0	2.0	2.0			1.0
27	U19-924091	1.0	2.0	2.0			1.0
28	U19-924230	1.0	3.0	2.0			1.0
29	U19-926126	1.0	2.0	2.0			1.0

2021 SCN PRELIMINARY TEST IIB

Protein (%)

SCN HG Type		Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain							
1	IA2102		34.0	35.1			36.0
2	LD02-4485 (SCN)		32.8	33.2			32.7
3	U11-917032 (SCN)		33.0	35.6			34.0
4	U14-910097 (SCN)		32.9	34.1			33.9
5	A15118-169		34.1	36.8			34.3
6	A15118-175		34.5	35.2			35.4
7	A15203- 19		34.9	35.9			35.6
8	A15203- 24		34.9	36.8			35.5
9	A15204-127		34.6	36.8			34.4
10	A15208- 17		30.9	33.7			33.4
11	A15208- 33		34.1	34.9			33.9
12	A15208- 41		33.1	33.6			34.3
13	LD18-6259a		32.1	36.3			34.8
14	LD18-6303		33.3	34.3			33.2
15	U19-602215		34.2	36.5			34.2
16	U19-608294		31.4	33.3			32.8
17	U19-611226		32.8	34.0			33.0
18	U19-613089		34.1	34.8			34.7
19	U19-613290		34.2	34.9			33.7
20	U19-615127		33.1	37.1			34.4
21	U19-618131		33.7	36.6			33.3
22	U19-618247		31.8	34.2			32.7
23	U19-913034		34.2	35.6			34.9
24	U19-914123		33.4	36.0			34.2
25	U19-923091		34.3	35.8			34.1
26	U19-923124		33.1	34.4			34.9
27	U19-924091		33.5	35.3			33.7
28	U19-924230		32.7	34.2			33.0
29	U19-926126		32.5	33.1			32.7

2021 SCN PRELIMINARY TEST IIB

Oil (%)

SCN HG Type	Ames IA Inf	Pontiac IL Inf	Urbana IL Inf	Decatur MI Inf	Cotefield NE Inf	Phillips NE Inf
Strain						
1 IA2102		18.6	19.2			17.4
2 LD02-4485 (SCN)		18.8	19.2			17.7
3 U11-917032 (SCN)		20.1	20.0			18.6
4 U14-910097 (SCN)		19.3	19.5			19.2
5 A15118-169		17.5	16.5			17.3
6 A15118-175		19.9	20.0			18.7
7 A15203- 19		19.1	19.2			18.1
8 A15203- 24		18.9	18.7			18.6
9 A15204-127		17.7	17.5			17.3
10 A15208- 17		21.0	19.9			18.3
11 A15208- 33		18.5	18.9			17.6
12 A15208- 41		18.8	19.6			17.6
13 LD18-6259a		19.4	18.4			18.3
14 LD18-6303		18.3	17.8			17.4
15 U19-602215		19.0	18.6			18.8
16 U19-608294		19.4	18.8			18.5
17 U19-611226		18.4	18.5			18.3
18 U19-613089		18.2	18.1			17.6
19 U19-613290		18.7	19.4			17.9
20 U19-615127		19.3	18.0			18.2
21 U19-618131		19.0	18.9			19.0
22 U19-618247		19.0	18.5			18.2
23 U19-913034		20.5	19.0			18.8
24 U19-914123		19.1	18.2			18.4
25 U19-923091		18.9	19.0			18.9
26 U19-923124		19.7	19.2			18.7
27 U19-924091		19.5	20.0			19.0
28 U19-924230		18.6	18.8			18.6
29 U19-926126		19.3	20.0			19.1

2021 SCN UNIFORM TEST III

Strain	Descriptive code	Parentage	Previous testing
1 LD11-2170 (SCN)	PLtbr	Syngenta 03JR313108 x LD05-3171	5
2 U15-606207 (SCN)	PGbf	LD07-3419 x U09-105007	3
3 LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817	5
4 U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419	2
5 CR17-1724	PTbl	LD00-3309 x L65-1274	20SCN P III
6 CR17-1905	PTbl	LD00-3309 x L65-1274	20SCN P III
7 LD16-6787	WGy	LD07-3419 x LD10-10226	1
8 LD17-2946a	WLtbl	U11-614119 x LD09-30224	20SCN P III
9 LD17-8668	PGy	E11128T x U09-105007	20SCN P III
10 LD17-10579	PLtbl	LD12-10534 x U11-920017	20SCN P III
11 LD17-10786	WLtbr	LD12-10534 x LD11-7311	20SCN P III
12 LD18-1855	PGy	LD11-7311 x LD10-10198	20PT IIIA
13 LD18-1867	WGy	LD11-7311 x LD10-10198	20PT IIIA
14 U17-304114	PGibl	U11-614093 x LD09-30224	20SCN P III
15 U18-617265	PLtbl	LD12-3903 x U11-917032	20SCN P II
16 U18-617270	PLtbl	LD12-3903 x U11-917032	20SCN P III
17 U18-913029	PLtbl	LD10-10198 x U11-911079	20SCN P III

2021 SCN UNIFORM TEST III

Strain	Gen comp	SCN res source	Traits
1 LD11-2170 (SCN)	F5	PI 88788	
2 U15-606207 (SCN)	F5	PI 88788,437654	Rps
3 LD07-3395bf (SCN)	F5	PI 88788,437654	
4 U14-910097 (SCN)	F5	PI 88788,437654	
5 CR17-1724	F5		nod NILS x SCN
6 CR17-1905	F5		nod NILS x SCN
7 LD16-6787	F5	PI 88788,437654	
8 LD17-2946a	F5	PI 88788	Rag 1
9 LD17-8668	F5	PI 88788	
10 LD17-10579	F5	PI 88788, soja	
11 LD17-10786	F5	PI 88788, soja	
12 LD18-1855	F5	PI 88788	Rps
13 LD18-1867	F5	PI 88788	Rps
14 U17-304114	F5		Exp Rps
15 U18-617265	F5	PI 88788	
16 U18-617270	F5	PI 88788	Exp Rps
17 U18-913029	F5	PI 88788	Exp Rps

2021 SCN UNIFORM TEST III

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 LD11-2170 (SCN)	No data available		85	NR
2 U15-606207 (SCN)			12	R
3 LD07-3395bf (SCN)			19	R
4 U14-910097 (SCN)			6	HR
5 CR17-1724			45	LR
6 CR17-1905			61	NR
7 LD16-6787			46	LR
8 LD17-2946a			64	NR
9 LD17-8668			71	NR
10 LD17-10579			42	redo
11 LD17-10786			29	MR
12 LD18-1855			57	LR
13 LD18-1867			67	LR
14 U17-304114			33	MR
15 U18-617265			61	NR
16 U18-617270			60	NR
17 U18-913029			55	LR

2021 SCN UNIFORM TEST III

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 LD11-2170 (SCN)	no marker data available					
2 U15-606207 (SCN)	no marker data available					
3 LD07-3395bf (SCN)	no marker data available					
4 U14-910097 (SCN)	Rhg1-Peking+Rhg4	Ch13, Het LgN	none	S	S	R
5 CR17-1724	Rhg1-PI88788	LgN+Ch13	none	R	S	R
6 CR17-1905	Rhg1-PI88788	LgN+Ch13	none	R	S	R
7 LD16-6787	Rhg1-PI88788	LgN+Ch13	none	Het	S	R
8 LD17-2946a	Rhg1-PI88788	LgA1+Ch13	Rps1k	R	S	R
9 LD17-8668	Rhg1-PI88788	Ch13	Rps6	Het	S	R
10 LD17-10579	none	Ch13, Het LgN	none	R	S	R
11 LD17-10786	Rhg1-PI88788	LgN+Ch13	Rps1k	R	S	R
12 LD18-1855	Rhg1-PI88788	LgA1+LgN+Ch13	Rps1k	R	S	R
13 LD18-1867	Rhg1-PI88788	LgA1+LgN+Ch13	Rps1k	R	S	R
14 U17-304114	Rhg1-PI88788	LgN+Ch13	none	R	S	R
15 U18-617265	Rhg1-PI88788	Ch13	Rps1c	S	S	R
16 U18-617270	Rhg1-PI88788	LgA1+Ch13	none	R	S	R
17 U18-913029	no marker data available					

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN UNIFORM TEST III

Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		7	6		1*		8	7	6	6	6	6	6	
1	LD11-2170 (SCN)	81.1	6	83.8	8	65.1	1	9/25	1.6	34	16.7	1.2	35.1	19.1
2	U15-606207 (SCN)	83.9	2	89.0	1	53.6	16	3	1.5	35	16.9	1.4	33.4	18.7
3	LD07-3395bf (SCN)	81.4	4	85.2	4	58.6	7	5	1.6	34	17.0	1.3	32.5	19.4
4	U14-910097 (SCN)	84.0	1	87.5	2	62.6	4	-1	2.5	32	16.1	1.5	33.4	19.7
5	CR17-1724	74.0	17	76.9	17	56.8	11	5	1.3	36	13.9	1.2	34.5	17.4
6	CR17-1905	76.8	14	78.7	16	64.9	2	5	1.5	36	14.2	1.2	34.2	17.3
7	LD16-6787	80.5	7	83.7	9	61.2	5	4	1.4	35	16.3	1.3	34.9	17.5
8	LD17-2946a	81.2	5	85.0	5	58.4	8	-1	2.0	34	17.2	1.5	35.2	18.2
9	LD17-8668	76.8	14	80.2	15	56.4	13	1	2.2	32	20.8	1.7	37.2	17.3
10	LD17-10579	80.0	11	82.8	11	62.8	3	0	2.1	36	20.2	1.3	34.1	18.6
11	LD17-10786	78.0	12	81.7	13	55.7	14	1	1.5	35	18.2	1.3	34.2	18.1
12	LD18-1855	80.1	10	83.5	10	59.8	6	-2	1.7	34	16.1	1.2	34.8	17.6
13	LD18-1867	82.3	3	86.7	3	55.6	15	0	1.7	35	16.3	1.5	33.7	18.4
14	U17-304114	77.8	13	81.1	14	57.9	9	1	1.6	34	16.5	1.2	34.6	17.8
15	U18-617265	80.4	8	84.1	6	57.8	10	0	1.3	34	16.3	1.3	34.1	19.6
16	U18-617270	80.2	9	84.1	7	56.6	12	3	1.5	33	18.0	1.2	34.6	19.0
17	U18-913029	76.8	14	81.9	12	45.9	17	-4	1.5	36	14.5	1.5	34.7	18.2
	Mean	79.7		83.3		58.2		1.2	1.7	34.4	16.8	1.3	34.4	18.3
	LSD(.05)	7.3		7.1		5.3		2.8	35.5	6.4				
	C.V. %	3.5		3.8		6.5		1.5	3.9	1.4				
	Replications	17		15		2		17	14	14				

*Romney, IN yield data not included in means

2021 SCN UNIFORM TEST III

2 Year Summary

Strain	Yield							Seed					
	All		Infested		Non-infested		Maturity date	Lodging score	Height inches	weight g/100	quality score	protein @13%	oil @13%
	bu/a	rank	bu/a	rank	bu/a	rank							
Locations	13		11		2		14	13	11	11	11	11	11
1 LD11-2170 (SCN)	76.4	5	77.9	5	68.8	1	9/26	1.4	33	16.3	1.1	33.8	20.1
2 U15-606207	77.3	1	80.3	1	61.1	5	2	1.3	34	16.0	1.3	32.4	19.7
3 LD07-3395bf (SCN)	76.8	4	78.5	4	67.3	3	4	1.4	33	16.1	1.4	31.6	20.3
4 U14-910097 (SCN)	77.3	1	79.1	3	67.7	2	-1	2.2	32	15.3	1.5	32.5	20.4
7 LD15- 456	77.2	3	79.8	2	63.1	4	4	1.2	35	15.6	1.3	33.7	18.3
Mean	77.0		79.1		65.6		2.4	1.5	33.4	15.9	1.3	32.8	19.7

2021 SCN UNIFORM TEST III

Yield (bu/a)

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	West
		IA	IL	IL	MO	MO	NE	IN	Lafayette
SCN HG Type	Strain	Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
1	LD11-2170 (SCN)	83.5	72.6	71.1	76.3	96.4	103.1	54.0	65.1
2	U15-606207 (SCN)	87.0	82.1	74.6	78.1	111.2	100.9	81.3	53.6
3	LD07-3395bf (SCN)	84.6	69.5	73.1	81.4	97.3	105.1	77.2	58.6
4	U14-910097 (SCN)	92.9	81.7	72.4	83.3	93.0	101.9	66.2	62.6
5	CR17-1724	79.5	69.3	64.1	67.4	90.0	90.9	52.4	56.8
6	CR17-1905	83.0	79.3	66.9	65.2	89.8	88.3	74.5	64.9
7	LD16-6787	82.9	76.1	71.5	73.2	100.4	98.0	70.3	61.2
8	LD17-2946a	89.4	77.5	68.9	75.9	103.8	94.7	60.9	58.4
9	LD17-8668	79.2	72.2	66.3	73.9	92.2	97.6	56.6	56.4
10	LD17-10579	81.7	70.7	70.6	78.6	93.7	101.7	68.9	62.8
11	LD17-10786	85.2	66.1	67.4	78.4	94.1	99.1	69.4	55.7
12	LD18-1855	86.8	61.0	68.1	81.3	102.6	101.3	65.4	59.8
13	LD18-1867	91.4	65.6	67.1	83.5	108.1	104.7	75.1	55.6
14	U17-304114	86.3	77.3	67.2	65.9	96.0	93.8	67.4	57.9
15	U18-617265	88.0	78.4	63.7	82.2	90.6	102.0	69.8	57.8
16	U18-617270	86.5	81.5	70.6	71.6	98.8	95.7	71.3	56.6
17	U18-913029	79.9	73.4	68.1	74.7	91.0	104.5	63.4	45.9
	Average	85.2	73.8	68.9	75.9	97.0	99.0	67.3	58.2
	LSD(.05)	4.8	9.0	3.9	6.4	7.1	5.4	19.2	5.3
	C.V. %	6.8	14.0	5.7	8.1	11.4	13.2	27.4	6.5
	Replications	3	2	2	3	3	2	2	2
	Row width (in.)	30	30	30	30	30	30	30	30

2021 SCN UNIFORM TEST III

Yield (rank)

SCN HG Type	Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	West
	IA Inf	IL Inf	IL Inf	MO Inf	MO Inf	NE Inf	IN NI	Lafayette IN NI
Strain								
1 LD11-2170 (SCN)	11	10	5	9	8	4	16	1
2 U15-606207 (SCN)	5	1	1	8	1	9	1	16
3 LD07-3395bf (SCN)	10	13	2	4	7	1	2	7
4 U14-910097 (SCN)	1	2	3	2	12	6	11	4
5 CR17-1724	16	14	16	15	16	16	17	11
6 CR17-1905	12	4	14	17	17	17	4	2
7 LD16-6787	13	8	4	13	5	11	6	5
8 LD17-2946a	3	6	8	10	3	14	14	8
9 LD17-8668	17	11	15	12	13	12	15	13
10 LD17-10579	14	12	6	6	11	7	9	3
11 LD17-10786	9	15	11	7	10	10	8	14
12 LD18-1855	6	17	9	5	4	8	12	6
13 LD18-1867	2	16	13	1	2	2	3	15
14 U17-304114	8	7	12	16	9	15	10	9
15 U18-617265	4	5	17	3	15	5	7	10
16 U18-617270	7	3	6	14	6	13	5	12
17 U18-913029	15	9	9	11	14	3	13	17

2021 SCN UNIFORM TEST III

Maturity

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	West
		IA	IL	IL	MO	MO	NE	IN	Lafayette
SCN HG Type	Strain	Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
	1 LD11-2170 (SCN)	9/28	9/26	9/21	9/27	9/30	9/26	9/23	9/16
	2 U15-606207 (SCN)	-1	3	6	1	2	4	8	4
	3 LD07-3395bf (SCN)	0	5	6	3	4	5	7	7
	4 U14-910097 (SCN)	0	-1	-1	0	-3	-3	-2	2
	5 CR17-1724	5	7	8	1	2	6	7	7
	6 CR17-1905	1	5	9	1	3	8	5	6
	7 LD16-6787	2	6	6	1	3	4	7	5
	8 LD17-2946a	-1	-2	-2	0	-1	2	-6	-1
	9 LD17-8668	0	1	1	1	0	3	1	3
	10 LD17-10579	1	-3	1	0	-1	2	0	-3
	11 LD17-10786	2	-2	4	2	0	1	1	2
	12 LD18-1855	0	-4	-3	-3	-3	-1	-2	-3
	13 LD18-1867	0	-4	-3	1	0	5	1	-2
	14 U17-304114	0	1	1	-2	-1	3	2	3
	15 U18-617265	-2	0	2	1	-2	2	-2	1
	16 U18-617270	3	4	4	1	1	5	0	3
	17 U18-913029	-2	-5	-5	-5	-2	1	-7	-5
	Planted	5/24	5/24	5/24	6/10	6/03	5/21	6/1	5/15

2021 SCN UNIFORM TEST III

Lodging (score)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	West Lafayette IN NI
Strain								
1 LD11-2170 (SCN)		1.0	1.0	2.0	4.0	1.0	1.0	1.0
2 U15-606207 (SCN)		1.0	1.0	1.0	3.7	1.5	1.0	1.0
3 LD07-3395bf (SCN)		1.0	1.0	2.3	4.2	1.0	1.0	1.0
4 U14-910097 (SCN)		1.8	2.5	3.3	3.3	3.0	2.5	1.0
5 CR17-1724		1.0	1.0	1.0	3.0	1.0	1.0	1.0
6 CR17-1905		1.0	1.0	1.7	3.0	1.0	1.5	1.0
7 LD16-6787		1.0	1.0	1.7	3.3	1.0	1.0	1.0
8 LD17-2946a		1.3	1.5	2.7	4.3	1.0	2.0	1.0
9 LD17-8668		1.5	2.0	2.7	5.0	1.0	2.0	1.0
10 LD17-10579		1.5	2.0	2.7	4.3	2.0	1.0	1.0
11 LD17-10786		1.0	1.0	2.0	3.3	1.5	1.0	1.0
12 LD18-1855		1.0	1.0	2.8	4.0	1.0	1.0	1.0
13 LD18-1867		1.0	1.0	2.0	3.7	1.5	2.0	1.0
14 U17-304114		1.3	1.0	2.5	3.7	1.0	1.0	1.0
15 U18-617265		1.0	1.0	1.7	2.3	1.0	1.0	1.0
16 U18-617270		1.0	1.0	2.3	2.3	2.0	1.0	1.0
17 U18-913029		1.0	1.0	2.3	2.7	1.5	1.0	1.0

2021 SCN UNIFORM TEST III

Height (inches)

SCN HG Type		Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	West Lafayette IN NI
Strain									
1	LD11-2170 (SCN)		32	32	35	36	37		29
2	U15-606207 (SCN)		37	34	37	38	39		27
3	LD07-3395bf (SCN)		30	31	36	39	38		29
4	U14-910097 (SCN)		33	32	33	33	35		27
5	CR17-1724		35	31	39	43	40		29
6	CR17-1905		35	33	37	41	41		29
7	LD16-6787		36	32	35	40	40		30
8	LD17-2946a		34	34	33	35	39		31
9	LD17-8668		32	30	35	33	37		28
10	LD17-10579		36	34	38	39	39		31
11	LD17-10786		33	30	36	38	40		31
12	LD18-1855		32	33	33	38	38		31
13	LD18-1867		34	32	38	37	39		29
14	U17-304114		34	31	35	37	39		29
15	U18-617265		35	30	37	38	35		28
16	U18-617270		32	31	33	38	34		29
17	U18-913029		35	35	37	37	39		31

2021 SCN UNIFORM TEST III

Seed Weight (g/100)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	West Lafayette IN NI
Strain								
1 LD11-2170 (SCN)	17.4	16.3	16.4		16.9	18.2		15.1
2 U15-606207 (SCN)	17.5	16.8	16.7		17.7	17.3		15.3
3 LD07-3395bf (SCN)	18.1	16.7	16.8		16.6	18.5		15.4
4 U14-910097 (SCN)	17.2	15.9	15.2		16.2	17.9		14.4
5 CR17-1724	15.4	13.8	13.5		13.8	14.1		12.7
6 CR17-1905	15.6	13.4	14.2		14.9	14.3		12.5
7 LD16-6787	17.0	16.2	17.0		16.3	16.5		15.0
8 LD17-2946a	18.6	17.2	17.2		17.2	17.6		15.3
9 LD17-8668	22.1	21.7	19.8		21.7	22.0		17.5
10 LD17-10579	21.4	19.2	20.1		20.4	21.8		18.2
11 LD17-10786	20.2	17.6	18.3		18.5	18.4		16.4
12 LD18-1855	16.9	15.7	15.7		17.6	16.6		14.4
13 LD18-1867	17.0	16.7	16.3		17.2	16.9		14.0
14 U17-304114	17.7	16.9	16.4		16.6	16.3		15.3
15 U18-617265	17.3	16.5	15.9		15.9	17.6		15.0
16 U18-617270	18.7	18.3	16.7		19.0	18.1		17.3
17 U18-913029	14.8	14.9	14.3		14.1	15.4		13.4

2021 SCN UNIFORM TEST III

Seed Quality (score)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	West Lafayette IN NI
Strain								
1 LD11-2170 (SCN)	17.4	16.3	16.4		16.9	18.2		15.1
2 U15-606207 (SCN)	17.5	16.8	16.7		17.7	17.3		15.3
3 LD07-3395bf (SCN)	18.1	16.7	16.8		16.6	18.5		15.4
4 U14-910097 (SCN)	17.2	15.9	15.2		16.2	17.9		14.4
5 CR17-1724	15.4	13.8	13.5		13.8	14.1		12.7
6 CR17-1905	15.6	13.4	14.2		14.9	14.3		12.5
7 LD16-6787	17.0	16.2	17.0		16.3	16.5		15.0
8 LD17-2946a	18.6	17.2	17.2		17.2	17.6		15.3
9 LD17-8668	22.1	21.7	19.8		21.7	22.0		17.5
10 LD17-10579	21.4	19.2	20.1		20.4	21.8		18.2
11 LD17-10786	20.2	17.6	18.3		18.5	18.4		16.4
12 LD18-1855	16.9	15.7	15.7		17.6	16.6		14.4
13 LD18-1867	17.0	16.7	16.3		17.2	16.9		14.0
14 U17-304114	17.7	16.9	16.4		16.6	16.3		15.3
15 U18-617265	17.3	16.5	15.9		15.9	17.6		15.0
16 U18-617270	18.7	18.3	16.7		19.0	18.1		17.3
17 U18-913029	14.8	14.9	14.3		14.1	15.4		13.4

2021 SCN UNIFORM TEST III

Protein (%)

Strain	SCN HG Type	Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	West
		IA Inf	IL Inf	IL Inf	MO Inf	MO Inf	NE Inf	IN NI	Lafayette IN NI
1	LD11-2170 (SCN)	35.6	34.8	36.3		36.0	34.8		33.3
2	U15-606207 (SCN)	33.0	32.2	34.0		35.0	34.1		31.9
3	LD07-3395bf (SCN)	31.2	32.0	33.3		33.9	31.9		32.6
4	U14-910097 (SCN)	33.7	32.5	33.3		34.5	33.8		32.7
5	CR17-1724	35.0	33.6	36.4		34.3	33.7		34.1
6	CR17-1905	35.5	33.3	34.9		34.6	34.1		32.9
7	LD16-6787	34.8	34.9	36.9		35.0	33.8		34.1
8	LD17-2946a	35.8	34.9	36.3		35.1	35.6		33.5
9	LD17-8668	37.9	37.4	38.5		37.9	36.7		34.6
10	LD17-10579	35.0	33.2	35.1		34.4	34.2		32.7
11	LD17-10786	33.9	33.0	35.8		34.6	33.3		34.8
12	LD18-1855	34.9	35.1	35.6		35.5	35.0		33.1
13	LD18-1867	33.7	33.5	35.4		34.6	33.9		31.3
14	U17-304114	35.1	34.2	36.1		35.4	34.2		32.7
15	U18-617265	34.6	33.8	35.5		33.4	34.4		32.9
16	U18-617270	35.5	32.9	35.7		34.5	35.5		33.5
17	U18-913029	35.2	34.0	35.4		35.2	35.2		33.3

2021 SCN UNIFORM TEST III

Oil (%)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	West Lafayette IN NI
Strain								
1 LD11-2170 (SCN)	18.3	19.2	19.3		18.8	19.1		20.1
2 U15-606207 (SCN)	18.4	19.5	18.9		17.9	17.7		19.5
3 LD07-3395bf (SCN)	19.5	20.0	19.2		19.2	19.3		19.0
4 U14-910097 (SCN)	19.0	20.5	20.3		19.1	18.9		20.4
5 CR17-1724	17.1	17.8	16.9		17.5	17.6		17.5
6 CR17-1905	16.7	17.9	17.1		17.4	16.8		17.9
7 LD16-6787	17.3	17.5	17.3		17.4	17.8		17.6
8 LD17-2946a	17.4	18.7	17.9		18.1	17.7		19.8
9 LD17-8668	17.0	17.8	16.7		17.0	16.6		18.8
10 LD17-10579	17.6	19.5	18.7		18.4	17.7		19.6
11 LD17-10786	17.5	19.5	18.0		17.8	17.8		18.0
12 LD18-1855	16.9	18.4	17.7		17.1	16.6		18.6
13 LD18-1867	17.6	19.1	18.2		17.7	17.6		20.0
14 U17-304114	17.0	18.1	17.4		17.3	17.5		19.3
15 U18-617265	18.7	20.1	19.7		19.7	18.7		20.4
16 U18-617270	18.1	19.5	19.1		18.9	18.2		20.3
17 U18-913029	17.5	18.8	18.6		18.1	17.1		19.1

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2021 SCN PRELIMINARY TEST IIIA

Strain	Descriptive code	Parentage
1 LD11-2170 (SCN)	PLtbr	Syngenta 03JR313108 x LD05-3171
2 U15-606207 (SCN)	PGbf	LD07-3419 x U09-105007
3 LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817
4 U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419
5 A15118-197	PLtbl/gr	(U11-614119/AR11SDS-SCN) x U11-622148
6 A15203- 8	PGibl	(AR11-113050/AR12-327073) x LD07-3419
7 A15203- 59	WGbf	(AR11-113050/AR12-327073) x LD07-3419
8 A15203- 80	PGy/gr	(AR11-113050/AR12-327073) x LD07-3419
9 A15208-104	PLt+Gbl/ibl	(AR12-127102/AR12-327073) x LD07-3419
10 A15208-105	PLtbl	(AR12-127102/AR12-327073) x LD07-3419
11 A15208-113	PLtbl	(AR12-127102/AR12-327073) x LD07-3419
12 A15208-144	PLt+Tbl	(AR12-127102/AR12-327073) x LD07-3419
13 A15208-201	PLtbl	(AR12-127102/AR12-327073) x LD07-3419
14 CR15-0616	PLtbl	CL05-4637 x AR08-286003
15 CR15-1385	WLtbl	4J10534 x LD06-7620
16 LD18-1767	PLtbl	LD10-10226 x LD10-9168
17 LD18-1991	WLtbl	LD12-8677 x LD12-3903
18 LD18-4251	PLt+Gbl/ibl	U11-932025 x LD10-10198
19 LD18-5711	WLtbr	LG12-2177 x M09-285149
20 LD18-6520	WLtbr	U11-616086 x LD11-2170
21 LD18-6579	P+WLtLbr	U11-616086 x LD11-2170
22 LD18-6596	WLty	U11-616086 x LD11-2170
23 LD18-7142	PLtLbr	U11-616086 x LD09-30224
24 LD18-7244	PGibl	U11-932025 x LD11-7311
25 LD18-10364	WLtLbr	LG12-2177 x LD15-9224

2021 SCN PRELIMINARY TEST IIIA

Strain	Gen comp	SCN res source	Traits
1 LD11-2170 (SCN)	F5	PI 88788	
2 U15-606207 (SCN)	F5	PI 88788,437654	Rps
3 LD07-3395bf (SCN)	F5	PI 88788,437654	
4 U14-910097 (SCN)	F5	PI 88788,437654	
5 A15118-197	F5	PI 88788	
6 A15203- 8	F5	PI 88788, PI 437654, PI 438489B	
7 A15203- 59	F5	PI 88788, PI 437654, PI 438489B	
8 A15203- 80	F5	PI 88788, PI 437654, PI 438489B	
9 A15208-104	F5	PI 88788, PI 437654, PI 507354	
10 A15208-105	F5	PI 88788, PI 437654, PI 507354	
11 A15208-113	F5	PI 88788, PI 437654, PI 507354	
12 A15208-144	F5	PI 88788, PI 437654, PI 507354	
13 A15208-201	F5	PI 88788, PI 437654, PI 507354	
14 CR15-0616	F5		
15 CR15-1385	F5	PI 88788	
16 LD18-1767	F5	PI 88788	
17 LD18-1991	F5	PI 88788	
18 LD18-4251	F5	PI 88788	
19 LD18-5711	F5	PI 88788	
20 LD18-6520	F5	PI 88788	
21 LD18-6579	F5	PI 88788	
22 LD18-6596	F5	PI 88788	
23 LD18-7142	F5	PI 88788	
24 LD18-7244	F5	PI 88788	
25 LD18-10364	F5	PI 88788, 567516C	SCN QTL

2021 SCN PRELIMINARY TEST IIIA

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 LD11-2170 (SCN)	No data available		85	NR
2 U15-606207 (SCN)			12	R
3 LD07-3395bf (SCN)			19	R
4 U14-910097 (SCN)			6	HR
5 A15118-197			30	MR
6 A15203- 8			77	NR
7 A15203- 59			15	R
8 A15203- 80			64	NR
9 A15208-104			10	R
10 A15208-105			13	R
11 A15208-113			15	R
12 A15208-144			20	R
13 A15208-201			5	HR
14 CR15-0616			59	LR
15 CR15-1385			28	MR
16 LD18-1767			30	MR
17 LD18-1991			41	LR
18 LD18-4251			49	LR
19 LD18-5711			26	MR
20 LD18-6520			42	LR
21 LD18-6579			51	LR
22 LD18-6596			65	NR
23 LD18-7142			42	LR
24 LD18-7244			76	NR
25 LD18-10364			46	LR

2021 SCN PRELIMINARY TEST IIIA

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 LD11-2170 (SCN)	no marker data available					
2 U15-606207 (SCN)	no marker data available					
3 LD07-3395bf (SCN)	no marker data available					
4 U14-910097 (SCN)	Rhg1-Peking+Rhg4	Ch13, Het LgN	none	S	S	R
5 A15118-197	none	Ch13	Rps1k	S	S	R
6 A15203- 8	Rhg1-PI88788 + Rhg4	LgA1+LgN	none	R	S	R
7 A15203- 59	Rhg1-Peking+Rhg4	LgA1+LgN	none	R	S	R
8 A15203- 80	Rhg1-Peking	LgN+Ch13	none	S	S	Het
9 A15208-104	Rhg1-Peking+Rhg4	Ch13	none	R	S	R
10 A15208-105	Rhg1-Peking+Rhg4	Ch13	none	R	S	R
11 A15208-113	Rhg1-Peking+Rhg4	LgN+Ch13	Rps1a	R	S	R
12 A15208-144	none	Ch13	none	S	S	R
13 A15208-201	Rhg4	Ch13, Het LgA	none	S	S	S
14 CR15-0616	no marker data available					
15 CR15-1385	no marker data available					
16 LD18-1767	Rhg1-PI88788	LgN+Ch13	none	Het	S	R
17 LD18-1991	Rhg1-PI88788	LgA1+Ch13	Rps1c	R	S	R
18 LD18-4251	Rhg1-PI88788	LgA1+Ch13	none	R	S	R
19 LD18-5711	Rhg1-PI88788	Ch13	Rps1c	S	S	R
20 LD18-6520	Rhg1-PI88788	none	Rps1k	S	S	R
21 LD18-6579	Rhg1-PI88788	Ch13	Rps1k	R	S	R
22 LD18-6596	Rhg1-PI88788	LgN+Ch13	Rps1k	Het	S	R
23 LD18-7142	Rhg1-PI88788	LgA1+LgN, Het Ch13	none	S	S	R
24 LD18-7244	Rhg1-PI88788	LgN+Ch13	Rps1k	S	S	R
25 LD18-10364	Het Rhg1-PI88788	LgN+Ch13	Rps1k	Het	S	R

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN PRELIMINARY TEST IIIA

Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		7		5		1*		8	7	6	6	6	6	6
1	LD11-2170 (SCN)	83.3	5	84.3	6	77.2	5	9/27	1.9	34	16.9	1.3	34.6	19.1
2	U15-606207 (SCN)	85.0	2	87.4	2	70.5	16	1	1.8	36	16.8	1.3	32.6	18.7
3	LD07-3395bf (SCN)	82.1	9	83.0	11	76.9	6	3	2.1	35	17.3	1.6	32.3	19.3
4	U14-910097 (SCN)	83.0	7	85.5	4	67.9	19	-1	2.8	34	16.0	1.6	32.9	19.4
5	A15118-197	83.6	4	83.9	8	82.0	2	3	2.5	40	17.5	1.5	34.5	18.3
6	A15203- 8	78.2	16	79.4	17	71.1	14	0	1.5	35	16.0	1.4	34.6	18.1
7	A15203- 59	79.7	14	80.7	14	73.3	10	0	1.9	39	15.2	1.5	34.0	17.7
8	A15203- 80	75.8	22	77.5	22	65.5	24	1	2.3	36	18.3	1.4	34.6	18.6
9	A15208-104	79.6	15	79.5	15	80.0	4	1	2.0	37	16.8	1.5	32.8	18.7
10	A15208-105	68.0	25	66.7	25	75.8	7	0	2.4	39	17.1	1.8	33.9	18.5
11	A15208-113	77.4	18	78.2	21	73.0	11	0	2.2	38	15.4	1.3	31.5	19.1
12	A15208-144	74.9	23	75.7	23	70.5	16	1	2.0	36	15.6	1.3	32.8	18.3
13	A15208-201	70.6	24	70.2	24	73.0	11	2	2.0	39	15.1	1.6	32.4	18.3
14	CR15-0616	77.4	18	79.5	15	64.4	25	7	1.2	40	15.2	1.7	34.3	18.6
15	CR15-1385	83.0	7	84.9	5	71.8	13	5	2.5	40	14.9	1.7	33.8	17.7
16	LD18-1767	86.6	1	87.6	1	80.5	3	1	2.6	36	16.9	1.4	33.9	18.5
17	LD18-1991	81.9	10	83.0	11	75.8	7	1	1.5	37	17.9	1.4	34.7	18.1
18	LD18-4251	83.2	6	85.9	3	66.9	21	1	1.7	34	16.6	1.6	35.2	17.6
19	LD18-5711	77.5	17	79.4	17	66.7	23	-1	2.9	38	17.0	1.8	34.2	19.1
20	LD18-6520	81.7	12	83.1	10	73.4	9	1	1.8	35	14.9	1.3	33.3	18.8
21	LD18-6579	81.9	10	83.8	9	70.7	15	0	3.5	40	16.4	1.6	34.7	18.4
22	LD18-6596	83.9	3	84.1	7	83.0	1	4	1.5	35	15.9	1.6	33.6	18.3
23	LD18-7142	77.3	20	78.7	19	69.2	18	2	2.8	37	17.3	1.5	32.7	19.0
24	LD18-7244	80.3	13	82.5	13	66.9	22	-1	2.3	35	19.2	1.6	36.0	18.2
25	LD18-10364	77.0	21	78.6	20	67.6	20	2	2.8	39	17.7	1.3	35.8	18.3
	Mean	79.7		80.9		72.5		1.4	2.2	36.9	16.6	1.5	33.8	18.5
	C.V. %	8.5		8.8		5.1		8.8	24.0	5.8				
	LSD(2-sided,.05)	5.0		5.7		7.7		1.7	0.6	1.7				
	Replications	14		12		2		14	12	12				

*Romney, IN yield data not included in means

2021 SCN PRELIMINARY TEST IIIA

Yield (bu/a)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain								
1 LD11-2170 (SCN)	73.0	82.2	73.2	72.4	110.5	94.8	72.6	77.2
2 U15-606207 (SCN)	81.0	86.2	73.8	81.5	97.0	104.9	85.4	70.5
3 LD07-3395bf (SCN)	79.5	81.6	70.4	74.4	95.1	96.9	72.4	76.9
4 U14-910097 (SCN)	61.7	90.3	76.0	74.2	105.9	104.9	70.1	67.9
5 A15118-197	74.9	80.4	70.1	72.3	108.2	97.3	50.7	82.0
6 A15203- 8	66.1	73.0	67.0	76.4	101.5	92.5	76.4	71.1
7 A15203- 59	78.6	85.7	61.6	74.6	97.2	86.7	78.0	73.3
8 A15203- 80	73.0	80.9	64.1	65.9	85.0	96.2	71.1	65.5
9 A15208-104	72.1	77.7	64.2	72.6	92.8	97.6	66.0	80.0
10 A15208-105	47.7	58.6	61.8	59.9	91.7	80.6	59.7	75.8
11 A15208-113	70.9	72.9	65.6	70.2	96.7	92.8	65.1	73.0
12 A15208-144	71.8	75.5	63.0	60.1	93.7	89.8	56.2	70.5
13 A15208-201	72.6	52.4	65.3	57.0	84.5	89.5	70.9	73.0
14 CR15-0616	76.5	79.4	68.7	69.3	93.8	89.5	84.9	64.4
15 CR15-1385	71.5	86.9	72.4	80.5	108.5	89.8	87.6	71.8
16 LD18-1767	88.6	87.9	71.9	80.4	107.4	89.7	85.4	80.5
17 LD18-1991	83.9	80.6	69.8	69.9	95.8	98.0	58.0	75.8
18 LD18-4251	86.8	81.0	70.7	66.8	109.0	101.4	74.7	66.9
19 LD18-5711	81.4	71.1	65.9	64.5	99.8	93.4	32.7	66.7
20 LD18-6520	72.1	79.4	70.4	77.5	100.5	98.6	83.6	73.4
21 LD18-6579	69.2	90.0	72.1	72.3	98.2	100.8	71.9	70.7
22 LD18-6596	79.0	79.9	74.7	71.8	103.0	96.0	71.8	83.0
23 LD18-7142	78.4	71.3	69.3	70.2	96.4	86.6	72.6	69.2
24 LD18-7244	78.0	80.5	66.8	75.3	99.2	95.2	71.7	66.9
25 LD18-10364	80.7	74.8	69.7	73.2	92.9	80.2	54.3	67.6
Average	74.7	78.4	68.7	71.3	98.6	93.7	69.7	72.5
C.V. %	11.6	14.0	4.9	5.5	5.8	6.9	20.1	5.1
LSD(2-sided,.05)	18.0	22.6	7.0	8.0	11.8	16.0	28.9	7.7
Replications	2	2	2	2	2	2	2	2
Row width (in.)	30	30	30	30	30	30	30	30

2021 SCN PRELIMINARY TEST IIIA

Yield (rank)

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	Manhattan
		IA	IL	IL	MO	MO	NE	IN	KS
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
Strain									
1	LD11-2170 (SCN)	15	7	4	12	1	13	10	5
2	U15-606207 (SCN)	5	5	3	1	14	2	3	16
3	LD07-3395bf (SCN)	7	8	9	8	18	9	11	6
4	U14-910097 (SCN)	24	1	1	9	6	1	17	19
5	A15118-197	13	13	11	13	4	8	24	2
6	A15203- 8	23	20	16	5	8	16	7	14
7	A15203- 59	9	6	25	7	13	22	6	10
8	A15203- 80	14	10	22	21	24	10	15	24
9	A15208-104	18	17	21	11	22	7	18	4
10	A15208-105	25	24	24	24	23	24	20	7
11	A15208-113	21	21	19	16	15	15	19	12
12	A15208-144	19	18	23	23	20	18	22	17
13	A15208-201	16	25	20	25	25	20	16	11
14	CR15-0616	12	15	15	19	19	21	4	25
15	CR15-1385	20	4	5	2	3	17	1	13
16	LD18-1767	1	3	7	3	5	19	2	3
17	LD18-1991	3	11	12	18	17	6	21	8
18	LD18-4251	2	9	8	20	2	3	8	21
19	LD18-5711	4	23	18	22	10	14	25	23
20	LD18-6520	17	16	9	4	9	5	5	9
21	LD18-6579	22	2	6	13	12	4	12	15
22	LD18-6596	8	14	2	15	7	11	13	1
23	LD18-7142	10	22	14	16	16	23	9	18
24	LD18-7244	11	12	17	6	11	12	14	22
25	LD18-10364	6	19	13	10	21	25	23	20

2021 SCN PRELIMINARY TEST IIIA

Maturity

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	Manhattan
		IA	IL	IL	MO	MO	NE	IN	KS
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
Strain									
1	LD11-2170 (SCN)	10/02	9/26	9/20	9/27	9/29	9/28	9/27	9/26
2	U15-606207 (SCN)	-3	3	5	1	2	3	1	-2
3	LD07-3395bf (SCN)	0	5	7	2	5	3	3	3
4	U14-910097 (SCN)	-2	1	2	0	4	-2	-3	-6
5	A15118-197	2	4	5	4	3	6	-4	1
6	A15203- 8	-2	2	4	2	3	-3	-3	-2
7	A15203- 59	-1	0	2	2	2	2	-4	-3
8	A15203- 80	-1	2	6	-3	2	1	0	-2
9	A15208-104	-1	4	3	1	2	2	-3	-3
10	A15208-105	6	-3	0	1	3	4	-4	-5
11	A15208-113	0	1	0	1	3	2	-3	-1
12	A15208-144	-4	2	3	2	1	5	-1	1
13	A15208-201	-2	2	4	2	4	2	1	1
14	CR15-0616	4	11	15	4	7	6	4	3
15	CR15-1385	8	7	8	2	7	6	3	2
16	LD18-1767	-2	2	5	1	4	3	0	-3
17	LD18-1991	-1	2	5	0	3	3	-3	3
18	LD18-4251	-3	2	4	5	2	2	0	-8
19	LD18-5711	-6	-2	1	2	-1	3	0	-5
20	LD18-6520	2	1	3	-1	3	2	2	-5
21	LD18-6579	-4	1	3	1	3	3	-3	-3
22	LD18-6596	2	5	6	2	6	4	1	3
23	LD18-7142	-4	5	6	2	2	4	0	-2
24	LD18-7244	-2	-1	1	3	1	3	-1	-8
25	LD18-10364	-2	3	6	2	2	5	0	-1
Planted		5/24	5/24	5/24	6/10	6/03	5/21	6/01	6/04

2021 SCN PRELIMINARY TEST IIIA

Lodging (score)

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	Manhattan
		IA	IL	IL	MO	MO	NE	IN	KS
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
Strain									
1	LD11-2170 (SCN)		1.5	1.0	4.0	4.0	1.0	1.0	1.0
2	U15-606207 (SCN)		1.3	1.0	3.0	3.5	1.0	1.0	1.5
3	LD07-3395bf (SCN)		1.5	1.0	4.5	4.0	1.0	1.0	2.0
4	U14-910097 (SCN)		2.5	2.0	3.5	4.3	3.0	2.0	2.0
5	A15118-197		2.3	2.0	4.5	5.0	2.0	1.0	1.0
6	A15203- 8		1.0	1.0	1.0	4.5	1.0	1.0	1.0
7	A15203- 59		1.5	1.0	4.5	3.5	1.0	1.0	1.0
8	A15203- 80		2.5	1.0	3.3	5.0	1.0	1.0	2.0
9	A15208-104		2.3	1.0	2.0	5.0	2.0	1.0	1.0
10	A15208-105		1.5	2.0	4.0	5.0	1.0	1.0	2.0
11	A15208-113		1.8	1.0	4.5	4.5	1.0	1.0	1.5
12	A15208-144		1.8	1.0	2.0	5.0	1.0	2.5	1.0
13	A15208-201		1.8	1.0	3.0	4.5	2.0	1.0	1.0
14	CR15-0616		1.3	1.5	1.0	1.8	1.0	1.0	1.0
15	CR15-1385		2.3	2.0	2.5	4.5	3.5	1.0	2.0
16	LD18-1767		1.5	1.0	5.0	5.0	3.0	1.0	1.5
17	LD18-1991		1.3	1.0	1.5	3.5	1.0	1.0	1.0
18	LD18-4251		1.5	1.0	1.0	4.0	1.0	1.0	2.5
19	LD18-5711		1.8	2.5	5.0	5.0	3.0	1.0	2.0
20	LD18-6520		1.3	1.0	2.5	4.5	1.0	1.0	1.5
21	LD18-6579		2.3	2.0	5.0	5.0	3.0	4.0	3.5
22	LD18-6596		1.5	1.0	2.0	3.3	1.0	1.0	1.0
23	LD18-7142		1.8	1.0	4.5	5.0	3.5	1.0	2.5
24	LD18-7244		1.5	1.0	3.8	5.0	1.0	2.0	2.0
25	LD18-10364		1.8	2.0	5.0	5.0	2.0	1.0	3.0

2021 SCN PRELIMINARY TEST IIIA

Height (inches)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain								
1 LD11-2170 (SCN)		36	32	32	32	35		39
2 U15-606207 (SCN)		36	33	38	37	36		38
3 LD07-3395bf (SCN)		36	32	33	37	36		36
4 U14-910097 (SCN)		35	33	32	35	32		35
5 A15118-197		41	36	37	38	40		46
6 A15203- 8		33	32	33	36	37		37
7 A15203- 59		41	35	38	38	39		40
8 A15203- 80		36	34	31	37	37		39
9 A15208-104		37	34	33	39	37		41
10 A15208-105		35	37	35	40	43		45
11 A15208-113		38	35	35	37	39		42
12 A15208-144		39	34	31	40	36		40
13 A15208-201		36	36	38	40	40		42
14 CR15-0616		38	37	37	43	44		43
15 CR15-1385		41	36	38	39	41		45
16 LD18-1767		37	35	36	35	34		39
17 LD18-1991		38	34	33	38	38		39
18 LD18-4251		33	32	31	34	36		39
19 LD18-5711		35	36	40	35	36		43
20 LD18-6520		36	32	34	34	35		38
21 LD18-6579		42	39	37	40	38		42
22 LD18-6596		36	32	32	37	36		39
23 LD18-7142		35	35	37	37	34		43
24 LD18-7244		36	30	31	37	37		41
25 LD18-10364		41	35	40	33	40		43

2021 SCN PRELIMINARY TEST IIIA

Seed Weight (g/100)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain								
1 LD11-2170 (SCN)	16.0	17.0	16.5		17.4	17.8		16.5
2 U15-606207 (SCN)	16.0	17.0	17.2		16.5	18.1		16.1
3 LD07-3395bf (SCN)	16.5	17.6	17.0		16.6	18.6		17.7
4 U14-910097 (SCN)	16.5	16.1	15.5		15.8	17.6		14.7
5 A15118-197	17.5	17.0	17.2		17.8	18.5		17.1
6 A15203- 8	15.5	15.8	16.4		15.6	17.2		15.3
7 A15203- 59	15.0	15.8	14.7		15.4	16.2		14.3
8 A15203- 80	18.5	19.4	18.0		17.5	19.7		16.9
9 A15208-104	16.0	16.9	15.8		17.3	18.0		16.6
10 A15208-105	18.0	16.3	15.8		18.2	18.3		15.9
11 A15208-113	14.5	15.8	14.5		17.1	16.6		14.2
12 A15208-144	16.0	15.8	15.0		15.9	16.4		14.5
13 A15208-201	15.0	14.4	14.6		15.4	16.5		14.6
14 CR15-0616	16.0	15.0	14.1		16.5	15.2		14.1
15 CR15-1385	15.0	15.2	14.5		15.1	16.0		13.7
16 LD18-1767	17.0	16.4	15.7		17.2	17.1		18.0
17 LD18-1991	18.0	18.1	17.7		16.9	19.1		17.9
18 LD18-4251	18.0	16.2	16.1		16.4	17.7		15.4
19 LD18-5711	17.0	16.7	17.0		17.3	18.2		15.6
20 LD18-6520	15.0	14.8	14.5		15.1	16.0		14.3
21 LD18-6579	16.5	17.1	15.7		16.9	16.9		15.3
22 LD18-6596	16.0	16.2	15.9		16.1	16.2		14.7
23 LD18-7142	17.5	17.4	17.8		17.3	17.7		15.8
24 LD18-7244	20.0	19.0	18.6		20.1	20.5		16.9
25 LD18-10364	18.5	17.2	17.1		17.4	18.4		17.3

2021 SCN PRELIMINARY TEST IIIA

Seed Quality (score)

SCN HG Type		Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain									
1	LD11-2170 (SCN)	1.0	2.0	1.0		1.0	1.0		2.0
2	U15-606207 (SCN)	1.0	1.0	2.0		1.0	1.0		2.0
3	LD07-3395bf (SCN)	1.0	2.0	2.0		1.5	1.0		2.0
4	U14-910097 (SCN)	1.0	2.0	2.0		1.5	1.0		2.0
5	A15118-197	1.0	2.0	2.0		1.2	1.0		2.0
6	A15203- 8	1.0	1.0	2.0		1.5	1.0		2.0
7	A15203- 59	1.0	2.0	2.0		2.0	1.0		1.0
8	A15203- 80	1.0	2.0	1.0		1.5	1.0		2.0
9	A15208-104	1.0	2.0	2.0		1.0	1.0		2.0
10	A15208-105	1.0	2.0	3.0		1.5	1.0		2.0
11	A15208-113	1.0	1.0	2.0		1.0	1.0		2.0
12	A15208-144	1.0	1.0	2.0		1.5	1.0		1.0
13	A15208-201	1.0	2.0	2.0		1.5	1.0		2.0
14	CR15-0616	1.0	2.0	2.0		2.0	1.0		2.0
15	CR15-1385	1.0	2.0	2.0		2.0	1.0		2.0
16	LD18-1767	1.0	1.0	2.0		1.5	1.0		2.0
17	LD18-1991	1.0	2.0	2.0		1.5	1.0		1.0
18	LD18-4251	1.0	2.0	2.0		1.5	1.0		2.0
19	LD18-5711	1.0	2.0	3.0		1.5	1.0		2.0
20	LD18-6520	1.0	1.0	1.0		1.5	1.0		2.0
21	LD18-6579	1.0	2.0	2.0		1.5	1.0		2.0
22	LD18-6596	1.0	2.0	2.0		1.5	1.0		2.0
23	LD18-7142	1.0	2.0	2.0		1.0	1.0		2.0
24	LD18-7244	1.0	2.0	2.0		1.5	1.0		2.0
25	LD18-10364	1.0	2.0	1.0		1.0	1.0		2.0

2021 SCN PRELIMINARY TEST IIIA

Protein (%)

SCN HG Type		Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain									
1	LD11-2170 (SCN)	33.0	34.9	36.2		34.9	34.7		33.9
2	U15-606207 (SCN)	30.9	30.9	33.5		34.2	33.6		32.7
3	LD07-3395bf (SCN)	29.8	31.9	33.4		33.3	32.5		32.9
4	U14-910097 (SCN)	32.7	31.1	33.3		33.9	33.7		32.9
5	A15118-197	35.0	34.6	34.7		34.7	34.3		33.6
6	A15203- 8	33.5	34.6	36.0		35.1	34.7		33.7
7	A15203- 59	32.5	34.0	35.0		35.3	34.3		32.9
8	A15203- 80	33.7	35.1	34.7		35.3	34.6		34.1
9	A15208-104	32.0	32.2	34.1		33.8	32.8		32.1
10	A15208-105	35.1	32.3	33.3		35.4	34.3		33.0
11	A15208-113	30.2	30.7	31.9		32.5	32.5		31.2
12	A15208-144	32.4	31.7	33.7		34.1	33.5		31.7
13	A15208-201	32.5	31.1	32.2		33.9	32.6		32.3
14	CR15-0616	34.8	32.6	35.3		34.8	34.5		33.6
15	CR15-1385	33.4	34.0	35.1		33.4	33.6		33.5
16	LD18-1767	33.3	33.6	35.2		34.3	34.1		33.3
17	LD18-1991	34.3	35.3	36.5		34.2	34.6		33.3
18	LD18-4251	35.2	35.8	35.4		35.6	34.8		34.6
19	LD18-5711	34.8	33.7	35.7		35.0	33.5		32.7
20	LD18-6520	32.9	32.9	33.0		34.1	33.8		32.9
21	LD18-6579	34.8	34.8	35.7		35.5	34.3		33.2
22	LD18-6596	33.9	33.5	35.0		34.1	32.5		32.6
23	LD18-7142	33.3	32.9	34.1		32.8	32.2		31.2
24	LD18-7244	35.4	37.3	37.4		36.6	34.4		35.2
25	LD18-10364	35.1	35.3	37.7		35.5	35.6		35.6

2021 SCN PRELIMINARY TEST IIIA

Oil (%)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain								
1 LD11-2170 (SCN)	18.3	19.4	19.1		18.8	19.1		19.9
2 U15-606207 (SCN)	18.9	19.4	18.8		17.4	18.1		19.4
3 LD07-3395bf (SCN)	19.5	19.7	19.2		18.6	18.9		19.6
4 U14-910097 (SCN)	19.4	20.5	19.6		18.4	19.1		19.7
5 A15118-197	17.2	18.9	18.5		18.3	17.7		19.4
6 A15203- 8	18.0	18.5	17.8		17.8	17.4		18.9
7 A15203- 59	17.4	17.9	17.9		16.6	17.3		19.1
8 A15203- 80	18.5	19.0	18.4		17.8	18.5		19.6
9 A15208-104	18.4	19.4	18.7		18.3	18.4		19.1
10 A15208-105	17.6	19.7	19.2		17.9	17.8		18.8
11 A15208-113	18.9	19.7	19.3		19.2	18.1		19.5
12 A15208-144	18.4	18.7	18.2		17.7	18.0		19.0
13 A15208-201	17.5	19.2	18.7		17.9	17.9		18.7
14 CR15-0616	18.7	19.3	18.3		18.1	18.1		19.1
15 CR15-1385	17.5	17.8	17.6		17.2	17.7		18.1
16 LD18-1767	18.3	18.7	18.5		17.9	18.4		19.0
17 LD18-1991	17.9	18.0	17.5		18.1	18.1		19.0
18 LD18-4251	17.1	18.1	17.4		17.2	17.3		18.7
19 LD18-5711	18.1	19.8	18.5		19.2	18.7		20.1
20 LD18-6520	18.7	18.8	19.2		18.4	18.3		19.2
21 LD18-6579	17.8	19.0	18.2		18.1	18.3		19.2
22 LD18-6596	17.9	17.9	18.4		17.8	18.6		19.2
23 LD18-7142	18.3	19.5	18.6		19.0	19.1		19.7
24 LD18-7244	17.7	17.9	18.4		18.0	18.4		18.7
25 LD18-10364	18.4	18.8	17.8		18.6	17.9		18.1

2021 SCN PRELIMINARY TEST IIIB

Strain	Descriptive code	Parentage
1 LD11-2170 (SCN)	PLtbr	Syngenta 03JR313108 x LD05-3171
2 U15-606207 (SCN)	PGbf	LD07-3419 x U09-105007
3 LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817
4 U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419
5 LD18-9934	PLtbl/br	LD11-7311 x LD13-8470
6 LD18-10395	PTbl	LG12-2177 x LD15-9224
7 LD19-10302	PLtLbr	LD11-7311 x LD13-8769
8 LD19-10352	WLtbr	LD11-7311 x LD13-8769
9 SA18-11280	PLtbl	SA13-3135 x LD11-2170
10 SA18-14099	PLtbr	SA13-1363 x LD11-2170
11 SA18-7406	PLtbr	SA13-5761 x LD11-2170
12 U19-604175	PGbf	U14-910097 x LD11-2170
13 U19-604203	PLtbr	U14-910097 x LD11-2170
14 U19-605170	PGbf/ibl	U14-910097 x SA13-1310
15 U19-607156	PLtbr	U14-910097 x U14-924158
16 U19-608187	PGbf/ibl	U14-910097 x U14-924158
17 U19-610076	PLtgr	ORC_3713N x U14-924158
18 U19-612131	PGbf	U14-910097 x U14-903100
19 U19-613113	PLtbr	U14-910097 x U14-903100
20 U19-613153	PLtbr	U14-925152 x U14-903100
21 U19-615114	PGbf	U14-910097 x LD12-3903
22 U19-615141	PLtbr	U14-910097 x U14-903100
23 U19-615243	PLtbr	U14-903100 x SA13-1310
24 U19-913196	PGibl	U14-925152 x SA13-1310
25 U19-922214	PLtbl	U14-903100 x U14-924158
26 U19-928235	WLtbl	SA13-1385 x U14-924158

2021 SCN PRELIMINARY TEST IIIB

Strain	Gen comp	SCN res source	Traits
1 LD11-2170 (SCN)	F5	PI 88788	
2 U15-606207 (SCN)	F5	PI 88788,437654	Rps
3 LD07-3395bf (SCN)	F5	PI 88788,437654	
4 U14-910097 (SCN)	F5	PI 88788,437654	
5 LD18-9934	F5	PI 88788, 468916	SCN soja
6 LD18-10395	F5	PI 88788, 567516C	SCN QTL
7 LD19-10302	F5	PI 88788, 468916	SCN soja
8 LD19-10352	F5	PI 88788, 468916	SCN soja
9 SA18-11280	F5	PI 88788	
10 SA18-14099	F5	PI 88788	
11 SA18-7406	F5	PI 88788	Rps1c
12 U19-604175	F5	PI 88788,437654	Rps
13 U19-604203	F5	PI 88788,437654	Rps
14 U19-605170	F5	PI 88788,437654	
15 U19-607156	F5	PI 88788,437654	Rps, IDC
16 U19-608187	F5	PI 88788,437654	Rps, IDC
17 U19-610076	F5	PI 88788,437654	IDC
18 U19-612131	F5	PI 88788,437654	Rps
19 U19-613113	F5	PI 88788,437654	Rps
20 U19-613153	F5	PI 88788,437654	IDC, Rps, Rps3a
21 U19-615114	F5	PI 88788,437654	Rps
22 U19-615141	F5	PI 88788,437654	Rps
23 U19-615243	F5		
24 U19-913196	F5	PI 88788,437654	IDC
25 U19-922214	F5	PI 88788,437654	IDC, Rps, Rps3a
26 U19-928235	F5	PI 88788,437654	IDC

2021 SCN PRELIMINARY TEST IIIB

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 LD11-2170 (SCN)	No data available		85	NR
2 U15-606207 (SCN)			12	R
3 LD07-3395bf (SCN)			19	R
4 U14-910097 (SCN)			6	HR
5 LD18-9934			48	redo
6 LD18-10395			40	LR
7 LD19-10302			22	R
8 LD19-10352			7	HR
9 SA18-11280			68	NR
10 SA18-14099			60	NR
11 SA18-7406			53	LR
12 U19-604175			55	LR
13 U19-604203			15	R
14 U19-605170			70	NR
15 U19-607156			37	MR
16 U19-608187			23	R
17 U19-610076			73	NR
18 U19-612131			74	NR
19 U19-613113			8	HR
20 U19-613153			52	LR
21 U19-615114			88	NR
22 U19-615141			62	NR
23 U19-615243			42	LR
24 U19-913196			40	LR
25 U19-922214			10	R
26 U19-928235			21	R

2021 SCN PRELIMINARY TEST IIIB

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 LD11-2170 (SCN)	no marker data available					
2 U15-606207 (SCN)	no marker data available					
3 LD07-3395bf (SCN)	no marker data available					
4 U14-910097 (SCN)	Rhg1-Peking+Rhg4	Ch13, Het LgN	none	S	S	R
5 LD18-9934	Rhg1-PI88788	LgN+Ch13	Rps1k	S	S	R
6 LD18-10395	none	LgN+Ch13	none	Het	S	R
7 LD19-10302	Rhg1-PI88788	LgN+Ch13	none	S	S	S
8 LD19-10352	Rhg1-PI88788	LgN+Ch13	Rps1k	R	S	Het
9 SA18-11280	Rhg1-PI88788	LgN+Ch13	none	S	S	R
10 SA18-14099	Rhg1-PI88788	LgN		S	S	R
11 SA18-7406	Rhg1-PI88788	LgA1+LgN, Het Ch13	Rps1c	S	S	R
12 U19-604175	Rhg1-PI88788 + Rhg4	Ch13	Het Rps1k	Het	S	R
13 U19-604203	Rhg4, Het Rhg1-Peking	Het LgA+Ch13	Rps1k	Het	S	R
14 U19-605170	Het Rhg1-PI88788	Ch13, Het LgA+LgN	none	S	S	R
15 U19-607156	Rhg1-Peking+Rhg4	Ch13	none	S	S	R
16 U19-608187	Rhg1-Peking+Rhg4	Ch13, Het LgN	none	S	S	R
17 U19-610076	Rhg1-PI88788	Ch13	Rps1c	S	S	R
18 U19-612131	none	LgA1+Ch13	none	S	S	R
19 U19-613113	Rhg1-Peking+Rhg4	LgA1+Ch13	Rps6	S	S	R
20 U19-613153	Rhg1-Peking	Ch13	none	R	S	R
21 U19-615114	Rhg1-Peking	LgA1+Ch13	Rps1c	Het	S	R
22 U19-615141	none	Ch13	Rps6	S	S	R
23 U19-615243	none	Ch13	none	S	S	R
24 U19-913196	Rhg4, Het Rhg1-88788 &Peking	LgN+Ch13	none	Het	S	R
25 U19-922214	Rhg4, Het Rhg1-Peking	LgA+Ch13, Het LgN	none	S	S	R
26 U19-928235	Het Rhg1-PI88788	Ch13	none	S	S	R

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN PRELIMINARY TEST IIIB

Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		8		6		1*		8	7	6	6	6	6	6
1	LD11-2170 (SCN)	79.9	14	80.4	15	76.8	8	926	1.9	35	16.7	1.3	34.5	19.4
2	U15-606207 (SCN)	85.2	2	86.2	2	79.1	3	2	1.6	35	16.9	1.5	33.7	18.6
3	LD07-3395bf (SCN)	81.7	9	81.9	11	80.3	2	4	1.9	35	17.4	1.5	32.8	19.1
4	U14-910097 (SCN)	83.9	4	85.2	5	75.8	9	-1	2.8	34	16.4	1.6	33.6	19.4
5	LD18-9934	77.4	21	78.1	22	73.4	14	2	2.1	40	15.2	1.3	34.3	17.9
6	LD18-10395	80.2	13	81.1	14	74.9	11	5	2.6	39	15.4	1.2	34.1	18.5
7	LD19-10302	81.2	12	83.3	10	68.5	21	3	2.2	43	17.1	1.5	34.8	18.4
8	LD19-10352	83.5	6	84.5	7	77.8	5	4	1.5	37	17.9	1.5	34.9	17.9
9	SA18-11280	78.6	16	79.4	19	73.9	13	3	1.6	39	12.2	0.8	34.4	17.8
10	SA18-14099	75.2	26	75.3	26	74.3	12	5	1.4	32	16.4	1.4	34.8	18.3
11	SA18-7406	76.7	23	76.6	24	76.9	7	6	2.1	37	16.2	1.5	34.3	18.8
12	U19-604175	75.6	25	76.5	25	70.2	19	-1	1.8	33	16.4	1.3	35.2	19.1
13	U19-604203	83.8	5	85.2	6	75.6	10	3	2.2	35	16.4	1.5	34.4	18.9
14	U19-605170	83.4	7	85.5	3	70.9	18	3	1.9	38	16.6	1.5	33.0	18.9
15	U19-607156	84.4	3	85.3	4	78.7	4	2	1.7	34	15.8	1.5	33.6	19.0
16	U19-608187	87.1	1	88.8	1	77.1	6	1	2.0	35	15.5	1.3	33.6	19.1
17	U19-610076	76.1	24	77.9	23	65.3	25	1	1.6	36	17.0	1.5	34.1	19.1
18	U19-612131	81.9	8	81.6	12	83.4	1	1	1.5	35	16.6	1.2	32.4	19.0
19	U19-613113	81.6	11	84.0	8	67.1	24	3	1.9	37	17.4	1.3	34.2	18.7
20	U19-613153	77.5	20	78.3	21	73.0	15	2	1.5	36	15.8	1.3	33.8	18.7
21	U19-615114	78.6	17	79.7	17	71.5	16	2	2.0	33	16.5	1.2	34.8	19.0
22	U19-615141	77.2	22	78.4	20	70.2	19	1	2.1	38	16.8	1.2	33.6	18.2
23	U19-615243	78.2	19	80.1	16	67.2	23	4	1.3	33	17.4	1.5	35.1	18.2
24	U19-913196	78.5	18	79.7	18	71.1	17	-1	1.7	36	16.5	1.5	34.5	19.0
25	U19-922214	79.3	15	81.1	13	68.5	22	-1	1.3	35	15.4	1.3	32.3	19.3
26	U19-928235	81.6	10	83.3	9	71.5	26	1	1.7	39	15.9	1.5	32.9	19.2
	Mean	80.3		81.4		78.0		2.2	1.8	36.2	16.3	1.4	34.0	18.7
	C.V. %	7.2		7.5		4.3		0.3	32.8	5.7				
	LSD(2-sided,.05)	4.3		4.9		6.5		2.1	0.5	1.7				
	Replications	14		12		2								

*Romney, IN yield data not included in means

2021 SCN PRELIMINARY TEST IIIB

Yield (bu/a)

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	Manhattan
		IA	IL	IL	MO	MO	NE	IN	KS
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
Strain									
1	LD11-2170 (SCN)	69.4	78.3	70.0	72.1	90.6	102.1	65.6	76.8
2	U15-606207 (SCN)	87.1	72.6	69.0	74.5	106.0	108.0	74.1	79.1
3	LD07-3395bf (SCN)	80.3	82.4	70.3	68.7	92.1	97.5	66.3	80.3
4	U14-910097 (SCN)	87.4	82.8	73.7	66.4	100.8	100.2	35.1	75.8
5	LD18-9934	90.0	88.0	68.1	42.8	94.2	85.3	37.7	73.4
6	LD18-10395	81.0	84.0	65.1	71.0	98.3	87.0	64.3	74.9
7	LD19-10302	81.6	83.2	69.3	67.4	97.1	101.0	52.8	68.5
8	LD19-10352	87.3	93.4	70.3	57.9	94.1	103.8	66.1	77.8
9	SA18-11280	76.7	70.0	64.3	70.6	97.8	96.8	52.9	73.9
10	SA18-14099	82.8	74.7	61.3	53.9	91.0	88.2	33.6	74.3
11	SA18-7406	75.2	85.8	63.5	65.4	85.3	84.6	66.4	76.9
12	U19-604175	82.5	72.1	64.0	52.7	85.9	101.8	54.4	70.2
13	U19-604203	87.9	85.0	70.9	63.6	106.4	97.3	44.4	75.6
14	U19-605170	86.2	84.7	64.9	76.8	97.9	102.7	58.7	70.9
15	U19-607156	92.0	86.8	70.3	46.4	111.2	105.3	58.1	78.7
16	U19-608187	83.9	87.8	71.5	73.2	108.7	107.8	46.2	77.1
17	U19-610076	82.7	75.1	62.0	64.3	86.5	96.8	47.7	65.3
18	U19-612131	70.1	77.5	61.5	73.2	95.0	112.3	47.6	83.4
19	U19-613113	77.8	89.1	66.5	72.2	98.8	99.6	60.0	67.1
20	U19-613153	73.7	83.2	66.6	57.2	90.9	98.2	66.2	73.0
21	U19-615114	72.4	78.7	70.0	74.2	85.3	97.8	46.3	71.5
22	U19-615141	65.5	87.3	60.5	70.3	90.7	96.2	49.5	70.2
23	U19-615243	71.4	82.7	60.1	65.2	93.8	107.3	66.1	67.2
24	U19-913196	79.9	78.0	67.1	66.6	91.0	95.8	54.5	71.1
25	U19-922214	76.9	78.5	65.0	70.8	93.9	101.5	48.5	68.5
26	U19-928235	79.0	85.8	67.6	73.9	91.5	101.8	29.7	71.5
Average		80.0	81.8	66.7	65.8	95.2	99.1	53.6	78.0
C.V. %		4.9	8.6	4.7	10.2	8.5	5.5	31.0	4.3
LSD(2-sided,.05)		8.0	14.4	6.4	14.0	16.7	13.6	34.2	6.5
Replications		2	2	2	2	2	2	2	2
Row width (in.)		30	30	30	30	30	30	30	30

2021 SCN PRELIMINARY TEST IIIB

Yield (rank)

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	Manhattan
		IA	IL	IL	MO	MO	NE	IN	KS
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
Strain									
1	LD11-2170 (SCN)	25	19	7	8	22	8	7	8
2	U15-606207 (SCN)	6	24	10	2	4	2	1	3
3	LD07-3395bf (SCN)	14	16	4	13	16	17	3	2
4	U14-910097 (SCN)	4	14	1	16	5	13	24	9
5	LD18-9934	2	3	11	26	12	25	23	14
6	LD18-10395	13	11	16	9	7	24	8	11
7	LD19-10302	12	12	9	14	10	12	15	22
8	LD19-10352	5	1	4	21	13	6	5	5
9	SA18-11280	19	26	19	11	9	19	14	13
10	SA18-14099	9	23	24	23	18	23	25	12
11	SA18-7406	20	7	21	17	25	26	2	7
12	U19-604175	11	25	20	24	24	9	13	20
13	U19-604203	3	9	3	20	3	18	22	10
14	U19-605170	7	10	18	1	8	7	10	19
15	U19-607156	1	6	4	25	1	5	11	4
16	U19-608187	8	4	2	5	2	3	21	6
17	U19-610076	10	22	22	19	23	20	18	26
18	U19-612131	24	21	23	5	11	1	19	1
19	U19-613113	17	2	15	7	6	14	9	25
20	U19-613153	21	12	14	22	20	15	4	15
21	U19-615114	22	17	7	3	25	16	20	16
22	U19-615141	26	5	25	12	21	21	16	21
23	U19-615243	23	15	26	18	15	4	6	24
24	U19-913196	15	20	13	15	18	22	12	18
25	U19-922214	18	18	17	10	14	11	17	23
26	U19-928235	16	8	12	4	17	10	26	17

2021 SCN PRELIMINARY TEST IIIB

Maturity

		Ames	Arthur	Urbana	Albany	Rock Port	Phillips	Romney	Manhattan
		IA	IL	IL	MO	MO	NE	IN	KS
SCN HG Type		Inf	Inf	Inf	Inf	Inf	Inf	NI	NI
Strain									
1	LD11-2170 (SCN)	10/02	9/24	9/20	9/27	9/28	9/27	9/24	9/26
2	U15-606207 (SCN)	-4	6	3	1	3	3	3	3
3	LD07-3395bf (SCN)	-2	6	8	0	5	5	8	4
4	U14-910097 (SCN)	-4	3	1	-1	1	-2	-1	-6
5	LD18-9934	1	2	7	-1	5	2	3	-3
6	LD18-10395	1	6	9	2	5	7	6	2
7	LD19-10302	0	7	8	1	6	3	3	0
8	LD19-10352	-2	6	8	2	6	5	6	4
9	SA18-11280	-2	5	6	2	6	2	3	4
10	SA18-14099	2	8	7	1	4	5	9	5
11	SA18-7406	2	9	8	2	8	5	6	6
12	U19-604175	-6	1	-1	-2	1	5	-1	-2
13	U19-604203	-1	6	7	-1	4	3	4	4
14	U19-605170	-2	5	7	2	5	3	6	2
15	U19-607156	-4	4	5	-1	1	4	3	2
16	U19-608187	-3	6	3	-1	4	1	2	-4
17	U19-610076	-3	1	3	0	3	3	3	-2
18	U19-612131	-2	3	4	0	1	1	3	-3
19	U19-613113	-3	7	7	1	5	3	3	-1
20	U19-613153	-2	4	6	-2	4	3	3	-3
21	U19-615114	-2	5	7	-1	4	2	6	-2
22	U19-615141	-4	3	8	-1	5	3	0	-4
23	U19-615243	3	5	9	2	2	6	6	1
24	U19-913196	-2	-1	-1	-1	1	-1	-1	-6
25	U19-922214	-5	1	0	-1	-1	-1	3	-7
26	U19-928235	-3	3	3	0	4	4	3	-2
Planted		5/24	5/24	5/24	6/10	6/03	5/21	6/01	6/04

2021 SCN PRELIMINARY TEST IIIB

Lodging (score)

SCN HG Type		Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain									
1	LD11-2170 (SCN)		1.5	1.5	3.5	4.0	1.0	1.0	1.0
2	U15-606207 (SCN)		1.0	1.0	2.5	4.0	1.0	1.0	1.0
3	LD07-3395bf (SCN)		1.8	1.0	2.5	3.8	2.0	1.0	1.0
4	U14-910097 (SCN)		2.3	2.5	4.5	4.5	2.0	1.0	3.0
5	LD18-9934		2.5	1.0	1.0	4.5	3.0	1.0	1.5
6	LD18-10395		2.5	1.0	5.0	4.5	3.0	1.0	1.0
7	LD19-10302		2.0	2.0	3.0	4.0	2.0	1.0	1.5
8	LD19-10352		1.3	1.0	1.0	3.5	1.0	1.0	1.5
9	SA18-11280		1.3	1.0	2.5	3.0	1.5	1.0	1.0
10	SA18-14099		1.3	1.0	2.0	2.3	1.0	1.0	1.0
11	SA18-7406		2.0	1.0	2.8	3.3	3.0	1.0	1.5
12	U19-604175		1.5	2.0	1.5	4.5	1.0	1.0	1.0
13	U19-604203		2.3	1.0	4.0	4.0	2.0	1.0	1.0
14	U19-605170		2.0	1.0	3.5	3.5	1.0	1.0	1.0
15	U19-607156		2.0	1.5	1.0	4.5	1.0	1.0	1.0
16	U19-608187		1.3	1.0	3.5	3.5	1.0	2.5	1.5
17	U19-610076		1.8	1.0	1.5	4.0	1.0	1.0	1.0
18	U19-612131		1.3	1.0	2.0	3.0	1.0	1.0	1.0
19	U19-613113		1.5	1.0	4.0	4.0	1.0	1.0	1.0
20	U19-613153		2.0	1.0	1.5	3.3	1.0	1.0	1.0
21	U19-615114		1.3	1.0	3.0	4.0	2.0	1.0	1.5
22	U19-615141		2.0	1.0	4.0	4.0	1.0	1.0	2.0
23	U19-615243		1.3	1.0	1.0	3.0	1.0	1.0	1.0
24	U19-913196		1.3	1.0	2.0	3.5	1.0	1.0	2.0
25	U19-922214		1.0	1.0	2.0	2.3	1.0	1.0	1.0
26	U19-928235		1.3	1.0	1.5	4.0	2.0	1.0	1.0

2021 SCN PRELIMINARY TEST IIIB

Height (inches)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain								
1 LD11-2170 (SCN)		37	32	31	37	37		37
2 U15-606207 (SCN)		33	31	34	37	35		37
3 LD07-3395bf (SCN)		36	32	31	38	34		36
4 U14-910097 (SCN)		34	32	33	35	34		37
5 LD18-9934		46	36	29	42	43		45
6 LD18-10395		39	35	35	41	40		44
7 LD19-10302		45	38	37	43	45		48
8 LD19-10352		39	32	31	39	40		40
9 SA18-11280		38	34	35	41	42		44
10 SA18-14099		30	29	26	35	37		35
11 SA18-7406		38	34	33	41	37		40
12 U19-604175		35	31	28	34	32		39
13 U19-604203		36	32	33	36	36		37
14 U19-605170		38	33	36	40	41		41
15 U19-607156		35	31	28	37	35		36
16 U19-608187		36	30	34	36	36		40
17 U19-610076		39	33	31	35	39		41
18 U19-612131		36	31	32	36	36		38
19 U19-613113		40	33	33	39	39		40
20 U19-613153		38	33	31	39	38		39
21 U19-615114		34	29	31	34	35		36
22 U19-615141		42	33	33	40	41		41
23 U19-615243		32	28	29	33	38		38
24 U19-913196		37	33	36	34	37		39
25 U19-922214		36	31	32	35	39		38
26 U19-928235		39	34	33	37	45		43

2021 SCN PRELIMINARY TEST IIIB

Seed Weight (g/100)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain								
1 LD11-2170 (SCN)	16.5	16.2	16.3		15.9	17.7		17.3
2 U15-606207 (SCN)	17.0	16.4	17.5		16.6	17.4		16.4
3 LD07-3395bf (SCN)	17.5	17.3	17.3		16.7	18.9		16.7
4 U14-910097 (SCN)	16.5	16.4	16.4		15.8	18.0		15.5
5 LD18-9934	15.2	15.6	15.1		15.4	15.6		14.3
6 LD18-10395	15.1	15.4	15.9		15.7	16.2		14.3
7 LD19-10302	18.1	17.3	16.9		17.1	17.5		15.6
8 LD19-10352	16.6	18.2	18.0		17.1	18.7		18.7
9 SA18-11280	14.5	14.0	14.1		15.1	15.5		0.0
10 SA18-14099	17.0	16.4	16.1		16.2	16.7		16.0
11 SA18-7406	16.3	16.2	15.7		15.2	16.9		16.7
12 U19-604175	16.6	16.2	16.3		16.2	17.4		15.8
13 U19-604203	15.7	15.7	15.7		16.8	16.8		17.5
14 U19-605170	17.1	16.5	16.3		16.6	17.1		16.3
15 U19-607156	15.7	15.5	16.0		15.5	16.8		15.2
16 U19-608187	15.2	14.9	16.0		15.3	16.6		14.9
17 U19-610076	17.4	16.6	16.7		17.9	17.8		15.5
18 U19-612131	16.5	16.3	16.8		16.0	17.7		16.5
19 U19-613113	17.2	17.8	17.2		17.7	19.1		15.5
20 U19-613153	15.6	15.9	16.0		15.5	17.4		14.3
21 U19-615114	16.7	16.3	16.6		15.8	17.3		16.5
22 U19-615141	16.1	16.7	16.8		16.8	18.0		16.3
23 U19-615243	17.8	17.2	17.1		16.9	18.4		16.7
24 U19-913196	16.4	16.8	17.4		15.1	18.4		14.9
25 U19-922214	15.2	15.3	15.2		14.8	17.3		14.7
26 U19-928235	16.0	16.3	16.8		16.1	16.5		13.5

2021 SCN PRELIMINARY TEST IIIB

Seed Quality (score)

SCN HG Type		Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain									
1	LD11-2170 (SCN)	1.0	2.0	1.0		1.0	1.0		2.0
2	U15-606207 (SCN)	1.0	2.0	2.0		1.0	1.0		2.0
3	LD07-3395bf (SCN)	1.0	2.0	2.0		1.0	1.0		2.0
4	U14-910097 (SCN)	1.0	2.0	2.0		1.5	1.0		2.0
5	LD18-9934	1.0	2.0	1.0		1.0	1.0		2.0
6	LD18-10395	1.0	2.0	1.0		1.0	1.0		1.0
7	LD19-10302	1.0	1.0	2.0		2.0	1.0		2.0
8	LD19-10352	1.0	1.0	2.0		2.0	1.0		2.0
9	SA18-11280	1.0	1.0	1.0		1.0	1.0		0.0
10	SA18-14099	1.0	1.0	2.0		1.5	1.0		2.0
11	SA18-7406	1.0	2.0	1.0		1.0	1.0		3.0
12	U19-604175	1.0	1.0	2.0		1.0	1.0		2.0
13	U19-604203	1.0	2.0	2.0		1.0	1.0		2.0
14	U19-605170	1.0	2.0	2.0		1.0	1.0		2.0
15	U19-607156	1.0	2.0	2.0		1.0	1.0		2.0
16	U19-608187	1.0	2.0	1.0		1.0	1.0		2.0
17	U19-610076	1.0	1.0	2.0		1.0	1.0		3.0
18	U19-612131	1.0	1.0	1.0		1.0	1.0		2.0
19	U19-613113	1.0	2.0	1.0		1.0	1.0		2.0
20	U19-613153	1.0	1.0	1.0		1.5	1.0		2.0
21	U19-615114	1.0	1.0	1.0		1.0	1.0		2.0
22	U19-615141	1.0	1.0	2.0		1.0	1.0		1.0
23	U19-615243	1.0	2.0	2.0		1.0	1.0		2.0
24	U19-913196	1.0	2.0	2.0		1.0	1.0		2.0
25	U19-922214	1.0	1.0	2.0		1.0	1.0		2.0
26	U19-928235	1.0	2.0	2.0		1.0	1.0		2.0

2021 SCN PRELIMINARY TEST IIIB

Protein (%)

SCN HG Type		Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain									
1	LD11-2170 (SCN)	34.0	34.3	36.3		33.9	34.6		34.2
2	U15-606207 (SCN)	33.0	32.9	35.0		34.6	33.9		32.9
3	LD07-3395bf (SCN)	31.8	31.6	33.5		34.1	32.7		33.1
4	U14-910097 (SCN)	33.2	33.3	34.7		34.2	33.7		32.6
5	LD18-9934	33.9	34.2	36.1		34.4	34.0		33.2
6	LD18-10395	34.2	33.8	36.5		33.6	32.7		33.7
7	LD19-10302	35.4	34.7	35.9		33.5	34.7		34.6
8	LD19-10352	35.1	34.4	36.5		34.2	34.5		34.7
9	SA18-11280	34.0	33.0	35.9		34.9	34.5		33.8
10	SA18-14099	34.7	34.4	36.4		34.5	35.2		33.6
11	SA18-7406	33.9	33.7	35.2		34.2	35.7		33.4
12	U19-604175	35.1	35.6	36.5		35.4	34.7		33.8
13	U19-604203	34.1	33.8	35.2		35.0	34.7		33.7
14	U19-605170	33.4	32.4	33.0		33.4	33.4		32.7
15	U19-607156	33.5	33.0	34.7		33.9	33.4		33.0
16	U19-608187	33.4	32.5	35.3		34.4	33.3		32.5
17	U19-610076	33.7	33.2	35.5		35.4	32.8		33.9
18	U19-612131	32.1	32.1	33.9		33.1	31.7		31.5
19	U19-613113	33.9	33.5	34.9		35.2	34.8		32.7
20	U19-613153	33.6	33.3	35.0		34.2	34.2		32.6
21	U19-615114	36.1	32.6	35.9		35.4	34.9		34.1
22	U19-615141	34.4	32.3	34.3		34.1	33.3		33.5
23	U19-615243	36.1	34.9	37.1		34.8	33.5		34.2
24	U19-913196	33.7	34.4	35.5		34.5	34.6		34.3
25	U19-922214	31.8	30.9	33.8		33.1	32.1		31.9
26	U19-928235	32.9	32.7	34.1		33.2	32.3		32.1

2021 SCN PRELIMINARY TEST IIIB

Oil (%)

SCN HG Type	Ames IA Inf	Arthur IL Inf	Urbana IL Inf	Albany MO Inf	Rock Port MO Inf	Phillips NE Inf	Romney IN NI	Manhattan KS NI
Strain								
1 LD11-2170 (SCN)	18.8	20.0	19.0		18.9	19.1		20.5
2 U15-606207 (SCN)	18.6	19.3	18.3		17.7	18.0		19.7
3 LD07-3395bf (SCN)	18.9	20.0	19.4		18.9	18.8		18.8
4 U14-910097 (SCN)	18.7	19.8	19.6		19.0	19.0		20.5
5 LD18-9934	17.5	18.2	17.1		17.9	17.6		18.8
6 LD18-10395	17.6	18.7	18.2		18.5	18.4		19.4
7 LD19-10302	17.1	18.7	17.7		18.7	18.7		19.3
8 LD19-10352	17.1	18.0	17.8		18.1	17.7		19.0
9 SA18-11280	17.2	18.7	17.3		17.1	18.1		18.4
10 SA18-14099	17.5	18.8	18.1		18.1	17.5		19.8
11 SA18-7406	18.5	18.7	18.8		19.0	18.3		19.6
12 U19-604175	18.4	19.5	18.7		18.8	18.8		20.3
13 U19-604203	18.1	19.3	19.0		18.4	18.6		20.0
14 U19-605170	18.3	19.3	19.3		18.5	18.7		19.5
15 U19-607156	18.6	18.7	19.1		18.9	18.5		20.0
16 U19-608187	18.3	19.5	19.5		18.7	18.9		19.9
17 U19-610076	18.9	20.1	18.9		18.5	18.8		19.3
18 U19-612131	18.8	19.2	18.6		18.7	18.3		19.9
19 U19-613113	18.5	18.6	18.9		18.3	18.3		19.7
20 U19-613153	18.4	19.0	19.1		18.3	17.9		19.6
21 U19-615114	18.1	19.9	18.8		18.7	18.5		19.9
22 U19-615141	17.5	18.9	18.0		18.1	18.2		18.6
23 U19-615243	17.2	18.7	17.8		18.0	18.2		19.1
24 U19-913196	18.6	19.6	19.1		18.4	18.1		19.9
25 U19-922214	18.7	20.1	19.4		18.9	18.9		19.9
26 U19-928235	18.1	19.6	19.3		19.2	18.5		20.4

2021 SCN UNIFORM TEST IV

Strain	Descriptive code	Parentage	Previous testing
1 LD15-3818 (SCN)	PLtbl	LD09-3913 x Syngenta BN09002129	3
2 LD00-2817P (SCN)	PGibl	Ina x Dwight	12
3 LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817	7
4 JTN-4120	WTbr	LG01-5822 x AR8 SCN	1
5 JTN-4220	WTbr	LG01-5822 x AR8 SCN	1
6 K17-6388	PLtbl	LG11-6208 x K11-2363T	1
7 K17-6484	PLtbl	LG11-6208 x K11-2363T	1
8 K18-1247	WLtbl	LG11-6208 x K11-2363B	New
9 K18-1396	PGibl	LG11-2963 x K11-2363B	New
10 K18-1471	PTbl	LG11-2963 x K11-2363B	New
11 K18-1783	PLtbl	LD00-3309 x K11-2363T	New
12 K18-1944	WLtbl	LD07-3395bf x K11-2363T	New
13 K18-2044	PGibl	LD07-3395bf x K11-2363T	New
14 K18-2401	PGibl	LD09-30224 x K11-2363T	New
15 K18-2419	PGibl	LD09-30224 x K11-2363T	New
16 LD17-10473L	WLtbl	LD07-3395bf x LD12-00268	1
17 LD18-2922	WLtbl	LD07-3395bf x LD12-8677	New
18 LD18-2925	WLtbl	LD07-3395bf x LD12-8677	New
19 LD18-3068	WLtbl	LD13-3673 x U11-614093	New
20 LD18-4159	WLtbl	LD12-8677 x LG11-6760	New
21 LD18-4165	P+WLtbl	LD12-8677 x LG11-6760	New
22 LD18-10010	PLtbl	LD11-10069 x LD13-8470	New
23 S18-6346	PLtbl	S11-20124 x S13-4214	New
24 S18-6470	WLtbl	S11-17025 x S13-4214	New
25 SA18-12111	PLtbl	LD07-3395bf x SA13-1363	New
26 SA18-7490	PLtbr	SA13-5761 x LD11-2170	New
27 SA18-9109	PGibl	SA13-2692 x K13-1515	New

2021 SCN UNIFORM TEST IV

Strain	Gen comp	SCN res source	Traits
1 LD15-3818 (SCN)	F5	PI 88788	
2 LD00-2817P (SCN)	F5	PI 88788, 437654	
3 LD07-3395bf (SCN)	F5	PI 88788, 437654	
4 JTN-4120	F12	PI 88788, Columbia	
5 JTN-4220	F12	PI 88788, Columbia	
6 K17-6388	F5	PI88788	
7 K17-6484	F5	PI88788	STS
8 K18-1247	F4	88788	
9 K18-1396	F4	88788	
10 K18-1471	F4	88788	
11 K18-1783	F4	88788	
12 K18-1944	F4	88788, 437654	
13 K18-2044	F4	88788, 437654	
14 K18-2401	F4	88788	
15 K18-2419	F4	88788	
16 LD17-10473L	F5	PI 88788, 437654	
17 LD18-2922	F5	PI 88788, 437654	
18 LD18-2925	F5	PI 88788, 437654	
19 LD18-3068	F5	PI 88788	
20 LD18-4159	F5	PI 88788	
21 LD18-4165	F5	PI 88788	
22 LD18-10010	F5	PI 88788, 468916	SCN soja
23 S18-6346		Peking	Oil, RKN
24 S18-6470		Peking	SCN, RN
25 SA18-12111	F5	PI 88788,437654	
26 SA18-7490	F5	PI 88788	Rps1k
27 SA18-9109	F5	PI 88788	

2021 SCN UNIFORM TEST IV

Strain	IL SCN screen			
	HG Type 0		HG Type 2.5.7	
	FI	rating	FI	rating
1 LD15-3818 (SCN)	No data available		66	NR
2 LD00-2817P (SCN)			8	HR
3 LD07-3395bf (SCN)			19	R
4 JTN-4120			42	redo
5 JTN-4220			19	R
6 K17-6388			58	LR
7 K17-6484			39	MR
8 K18-1247			52	LR
9 K18-1396			46	LR
10 K18-1471			45	LR
11 K18-1783			61	NR
12 K18-1944			40	LR
13 K18-2044			88	NR
14 K18-2401			55	redo
15 K18-2419			49	redo
16 LD17-10473L			12	R
17 LD18-2922			34	MR
18 LD18-2925			66	NR
19 LD18-3068			67	NR
20 LD18-4159			35	MR
21 LD18-4165			48	LR
22 LD18-10010			33	MR
23 S18-6346			55	LR
24 S18-6470			28	redo
25 SA18-12111			60	NR
26 SA18-7490			77	NR
27 SA18-9109			39	MR

2021 SCN UNIFORM TEST IV

Predicted resistance genes based on SNP marker analysis

	SCN	Iron Chlorosis	Phytophthora	BSR	FLS	SC
Strain						
1 LD15-3818 (SCN)	no marker data available					
2 LD00-2817P (SCN)	Rhg1-Peking+Rhg4	LgA1	none	S	S	R
3 LD07-3395bf (SCN)	no marker data available					
4 JTN-4120	Rhg1-PI88788	LgA+Ch13	Rps1c	R	S	R
5 JTN-4220	Het Rhg1-PI88788 + Rhg4	Ch13, Het LgA+LgN	Rps1c		Het	R
6 K17-6388	Rhg1-PI88788	Ch13, Het LgA	none	R	S	R
7 K17-6484	Rhg1-PI88788	LgN+Ch13	none	R	S	R
8 K18-1247	Rhg1-PI88788	LgN+Ch13	none	R	S	R
9 K18-1396	Rhg1-PI88788	LgN+Ch13	Rps1c	R	S	R
10 K18-1471	Rhg1-PI88788	LgN+Ch13	Rps1c	R	S	R
11 K18-1783	Rhg1-PI88788	LgN+Ch13	none	R	S	R
12 K18-1944	Rhg1-PI88788	LgN+Ch13	none	Het	S	R
13 K18-2044	Rhg1-PI88788 + Rhg4	LgN+Ch13	none	S	S	R
14 K18-2401	Rhg1-PI88788	LgA1+LgN+Ch13	none	R	S	R
15 K18-2419	Het Rhg1-PI88788	Ch13, Het LgA+LgN	Het Rps1k	Het	S	R
16 LD17-10473L	Rhg1-Peking+Rhg4	Ch13, Het LgN	Het Rps1c	R	S	R
17 LD18-2922	Rhg1-PI88788	Ch13	Rps1c	R	S	R
18 LD18-2925	Rhg1-PI88788	Ch13	Rps1c	S	S	R
19 LD18-3068	none	Ch13	Rps1k	R	S	R
20 LD18-4159	Rhg1-PI88788	LgN+Ch13	none	R	S	R
21 LD18-4165	Rhg1-PI88788	Ch13, Het LgN	Rps1c	R	S	R
22 LD18-10010	none	Ch13, Het LgN	Het Rps1c	R	S	R
23 S18-6346	Het Rhg1-Peking	LgA1	none	Het	S	R
24 S18-6470	Rhg1-Peking	LgA1+Ch13	Rps1c	S	R	S
25 SA18-12111	none	Ch13, Het LgN	none	Het	S	R
26 SA18-7490	none	Ch13	none	S	S	R
27 SA18-9109	Rhg1-PI88788	Ch13	Rps6	R	S	R

BSR=Brown Leaf Spot, FLS=Frogeye Leaf Spot, SC=Stem Canker

2021 SCN UNIFORM TEST IV

Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		8	5	3	8	8	8	7	7	6	6			
1	LD15-3818 (SCN)	61.7	15	63.1	11	59.2	20	926	1.3	30	15.2	2.8	35.4	18.9
2	LD00-2817P (SCN)	56.8	24	57.6	23	55.1	24	1	1.7	34	13.3	2.7	33.7	18.9
3	LD07-3395bf (SCN)	59.9	20	61.8	13	56.5	23	-2	1.7	27	15.4	2.6	34.0	19.1
4	JTN-4120	38.4	27	38.9	27	37.3	27	3	2.4	36	12.0	2.3	35.2	16.7
5	JTN-4220	42.1	26	42.7	26	40.8	26	4	2.8	37	11.2	2.3	35.4	16.5
6	K17-6388	65.9	5	64.5	6	67.9	7	3	1.5	32	14.3	2.1	33.9	17.9
7	K17-6484	63.1	13	61.7	14	65.1	10	0	2.0	32	15.2	2.7	34.5	18.6
8	K18-1247	67.4	2	65.3	2	70.7	3	5	2.5	33	13.6	2.3	35.3	17.6
9	K18-1396	66.5	4	64.3	8	69.9	4	-2	2.2	33	14.1	2.0	34.6	18.6
10	K18-1471	65.5	6	62.8	12	69.6	5	2	2.2	31	14.5	2.1	36.5	17.7
11	K18-1783	64.8	7	63.6	10	66.3	8	2	1.3	30	14.1	2.6	34.8	18.3
12	K18-1944	60.8	17	60.1	17	61.7	17	1	1.1	29	16.0	2.5	32.8	19.1
13	K18-2044	64.7	8	65.2	4	63.6	13	0	1.6	29	14.7	2.9	32.8	19.0
14	K18-2401	67.1	3	64.5	6	71.1	2	2	2.2	31	15.6	2.4	34.9	18.3
15	K18-2419	64.6	9	64.8	5	63.9	12	2	1.6	30	14.3	2.6	33.8	19.1
16	LD17-10473L	63.4	12	63.9	9	62.4	14	0	1.6	30	14.8	2.4	34.4	19.1
17	LD18-2922	58.2	23	58.6	22	57.3	22	-1	1.8	28	18.7	2.8	35.8	18.5
18	LD18-2925	60.8	17	59.7	20	62.4	14	-2	1.5	28	16.4	2.7	35.3	18.6
19	LD18-3068	67.7	1	65.3	2	71.3	1	0	1.1	30	17.3	2.3	35.4	18.4
20	LD18-4159	63.9	11	60.5	16	69.2	6	-1	1.3	31	16.7	2.6	34.0	19.6
21	LD18-4165	61.3	16	60.6	15	62.1	16	0	1.4	30	18.2	2.8	35.9	18.9
22	LD18-10010	64.6	9	66.5	1	61.0	19	-2	2.3	32	14.8	2.4	35.1	18.6
23	S18-6346	59.4	21	56.0	25	64.8	11	5	2.3	35	14.8	2.4	34.2	18.5
24	S18-6470	62.1	14	59.9	18	65.3	9	5	2.5	34	14.3	2.5	35.5	17.8
25	SA18-12111	55.3	25	57.6	23	51.2	25	-1	1.9	31	13.0	2.2	31.9	19.7
26	SA18-7490	60.5	19	59.7	19	61.3	18	1	1.4	31	14.7	2.4	35.2	19.3
27	SA18-9109	58.8	22	59.0	21	58.1	21	-1	1.5	29	12.9	2.2	33.1	19.0
	Mean	60.9		60.3		61.7		26.8	1.8	31.0	14.8	2.5		
	C.V. %	8.4		8.9		7.5		7.1	27.9	7.3				
	LSD(2-sided,.05)	2.9		3.9		4.3		1.1	0.3	1.3				
	Replications	22		13		9		22	22	22				

2021 SCN UNIFORM TEST IV

2 Year Summary

Strain	Locations	Yield						Maturity date	Lodging score	Height inches	Seed			
		All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
		bu/a	rank	bu/a	rank	bu/a	rank							
		13		9		4		14	14	14	12	12	10	10
1	LD15-3818 (SCN)	60.5	3	61.5	3	58.1	3	927	1.2	30	15.1	2.5	34.7	19.8
2	LD00-2817P (SCN)	55.0	6	55.6	6	53.4	6	2	1.6	34	13.3	2.6	33.5	19.3
3	LD07-3395bf (SCN)	56.5	5	59.0	5	53.4	5	-2	1.5	28	15.2	2.6	32.7	19.7
4	JTN-4120	40.2	8	40.4	8	38.0	8	4	2.3	37	11.9	2.2	34.5	17.4
5	JTN-4220	42.0	7	42.9	7	40.0	7	5	2.4	37	11.5	2.1	35.0	16.9
6	K17-6388	63.4	1	63.0	1	63.7	1	3	1.3	32	14.4	2.1	33.4	18.7
7	K17-6484	61.5	2	61.1	4	59.1	2	0	1.6	31	15.1	2.5	34.1	19.3
16	LD17-10473L	60.2	4	62.0	2	57.7	4	0	1.4	30	14.5	2.2	34.0	19.7
	Mean	54.9		55.7		52.9		1.9	1.7	32.6	13.7	2.4	33.9	18.7

2021 SCN UNIFORM TEST IV

		Yield (bu/a)							
SCN HG Type		Flora IL Inf	Urbana IL Inf	Ottawa KS Inf	Albany MO Inf	Jackson TN 1,2,5,7	Manhattan KS NI	Clarkton MO NI	Portage- ville MO NI
Strain									
1	LD15-3818 (SCN)	71.3	76.9	56.5	66.7	48.1	72.4	69.3	35.9
2	LD00-2817P (SCN)	67.7	65.1	52.0	71.5	35.9	65.1	62.0	38.2
3	LD07-3395bf (SCN)	79.7	72.8	47.7	77.9	35.2	75.5	57.5	36.3
4	JTN-4120	40.5	38.7	39.2	44.1	35.8	36.8	43.6	31.4
5	JTN-4220	43.9	42.0	42.6	46.4	42.6	43.2	45.5	33.7
6	K17-6388	66.0	68.7	57.5	72.3	61.9	71.7	82.3	49.8
7	K17-6484	61.9	70.4	51.7	70.2	58.3	69.9	76.8	48.6
8	K18-1247	75.0	69.9	56.1	74.0	56.1	73.4	85.5	53.3
9	K18-1396	73.3	72.7	57.7	74.0	47.8	72.4	82.8	54.5
10	K18-1471	78.1	67.3	54.6	69.1	48.8	73.8	79.3	55.6
11	K18-1783	70.3	72.1	55.5	72.0	52.4	72.4	79.7	46.8
12	K18-1944	67.9	68.4	48.4	68.2	51.8	67.8	78.2	39.0
13	K18-2044	81.0	71.0	54.8	73.0	50.4	75.0	69.7	46.1
14	K18-2401	67.4	75.7	55.3	74.5	53.7	76.3	87.7	49.3
15	K18-2419	73.7	72.4	55.2	72.2	54.5	71.6	77.8	42.4
16	LD17-10473L	78.1	74.5	52.7	71.4	46.6	76.6	72.9	37.5
17	LD18-2922	75.5	70.4	44.6	76.2	30.3	70.2	62.9	38.9
18	LD18-2925	77.6	67.4	46.8	76.2	34.5	74.3	69.6	43.2
19	LD18-3068	83.6	73.0	54.4	72.3	47.5	74.4	84.6	55.0
20	LD18-4159	74.2	70.5	49.5	67.6	44.7	69.9	83.1	54.6
21	LD18-4165	65.6	73.2	47.3	74.0	46.9	69.8	70.7	45.8
22	LD18-10010	79.2	77.6	54.8	74.3	50.7	64.5	70.0	48.6
23	S18-6346	67.3	59.8	55.5	62.3	39.2	59.5	76.0	58.8
24	S18-6470	78.6	67.9	54.0	58.2	45.0	63.0	78.3	54.5
25	SA18-12111	73.0	65.5	42.6	64.9	46.0	68.7	52.6	32.3
26	SA18-7490	72.6	67.3	44.1	73.8	44.9	67.4	72.3	44.2
27	SA18-9109	73.1	65.1	51.2	67.4	42.2	69.4	69.0	35.8
Average		71.0	68.0	51.0	69.1	46.4	68.3	71.8	44.8
LSD(.05)		6.8	3.3	6.2	9.0	13.3	6.5	7.2	9.4
C.V. %		10.0	4.6	5.2	10.2	10.1	7.3	10.1	8.2
Replications		2	2	3	3	3	3	3	3
Row width (in.)		30	30	30	30	30	30	30	30

2021 SCN UNIFORM TEST IV

Yield (rank)

		Flora	Urbana	Ottawa	Albany	Jackson	Manhattan	Clarkton	Portage-
		IL	IL	KS	MO	TN	KS	MO	ville
SCN HG Type		Inf	Inf	Inf	Inf	1.2.5.7	NI	NI	MO
Strain									NI
1	LD15-3818 (SCN)	17	2	3	22	11	11	20	23
2	LD00-2817P (SCN)	20	23	15	15	23	22	23	20
3	LD07-3395bf (SCN)	3	7	20	1	25	3	24	22
4	JTN-4120	27	27	27	27	24	27	27	27
5	JTN-4220	26	26	25	26	20	26	26	25
6	K17-6388	23	16	2	11	1	12	6	8
7	K17-6484	25	13	16	17	2	16	12	10
8	K18-1247	10	15	4	6	3	8	2	7
9	K18-1396	13	8	1	6	12	9	5	5
10	K18-1471	6	20	11	18	10	7	8	2
11	K18-1783	18	10	5	14	6	9	7	12
12	K18-1944	19	17	19	19	7	20	10	18
13	K18-2044	2	11	9	10	9	4	18	13
14	K18-2401	21	3	7	4	5	2	1	9
15	K18-2419	12	9	8	13	4	13	11	17
16	LD17-10473L	6	4	14	16	15	1	14	21
17	LD18-2922	9	13	23	2	27	14	22	19
18	LD18-2925	8	19	22	2	26	6	19	16
19	LD18-3068	1	6	12	11	13	5	3	3
20	LD18-4159	11	12	18	20	19	15	4	4
21	LD18-4165	24	5	21	6	14	17	16	14
22	LD18-10010	4	1	9	5	8	23	17	10
23	S18-6346	22	25	5	24	22	25	13	1
24	S18-6470	5	18	13	25	17	24	9	5
25	SA18-12111	15	22	25	23	16	19	25	26
26	SA18-7490	16	21	24	9	18	21	15	15
27	SA18-9109	14	23	17	21	21	18	21	24

2021 SCN UNIFORM TEST IV

Maturity

		Flora	Urbana	Ottawa	Albany	Jackson	Manhattan	Clarkton	Portage-
		IL	IL	KS	MO	TN	KS	MO	ville
SCN HG Type	Strain	Inf	Inf	Inf	Inf	1.2.5.7	NI	NI	MO
									NI
1	LD15-3818 (SCN)	9/23	9/28	9/30	10/1	9/17	9/27	9/24	9/28
2	LD00-2817P (SCN)	2	1	1	4	1	0	1	-2
3	LD07-3395bf (SCN)	-2	-2	0	-1	-6	-1	0	-5
4	JTN-4120	5	6	0	4	4	3	0	1
5	JTN-4220	8	8	1	5	5	4	0	1
6	K17-6388	2	3	1	2	3	5	2	2
7	K17-6484	-1	-1	1	-2	-2	2	0	1
8	K18-1247	2	6	3	8	4	6	5	3
9	K18-1396	-1	-2	1	-1	-6	0	-2	-4
10	K18-1471	-1	2	1	5	-2	5	2	3
11	K18-1783	-1	3	1	2	0	5	3	3
12	K18-1944	-1	3	1	4	-3	2	1	0
13	K18-2044	-1	0	1	0	-2	1	1	1
14	K18-2401	2	4	1	4	-1	5	3	0
15	K18-2419	1	3	2	1	2	4	4	0
16	LD17-10473L	-2	-1	1	-1	-1	1	2	0
17	LD18-2922	-2	-2	-5	-1	-2	0	0	0
18	LD18-2925	-3	-2	-3	-1	-5	-1	0	1
19	LD18-3068	-3	1	0	0	-2	1	3	1
20	LD18-4159	-1	-1	0	-1	-2	-1	-1	-2
21	LD18-4165	-1	0	0	0	-1	3	0	-3
22	LD18-10010	-4	0	0	0	-3	-1	-3	-3
23	S18-6346	4	3	2	13	6	2	3	8
24	S18-6470	6	5	2	6	8	5	6	3
25	SA18-12111	0	0	0	-1	-3	1	-3	-4
26	SA18-7490	-1	2	1	3	-3	4	4	0
27	SA18-9109	-1	0	1	0	-2	4	-2	-5
Planted		5/20	5/21	5/13	6/10	5/20	6/04	5/11	5/15

2021 SCN UNIFORM TEST IV

Lodging (score)

SCN HG Type		Flora	Urbana	Ottawa	Albany	Jackson	Manhattan	Clarkton	Portage-
		IL Inf	IL Inf	KS Inf	MO Inf	TN 1.2.5.7	KS NI	MO NI	ville MO NI
Strain									
1	LD15-3818 (SCN)	2.0	1.0	1.0	1.5	1.7	1.0	1.0	1.0
2	LD00-2817P (SCN)	3.5	1.0	1.0	2.7	1.3	1.3	1.3	1.3
3	LD07-3395bf (SCN)	3.0	2.0	1.0	2.3	1.7	1.0	1.3	1.0
4	JTN-4120	3.0	3.0	1.0	3.0	2.7	2.0	2.3	2.3
5	JTN-4220	3.5	3.0	1.0	3.0	3.3	2.3	3.7	2.3
6	K17-6388	3.0	1.0	1.0	1.7	2.0	1.0	1.7	1.0
7	K17-6484	4.0	1.5	1.0	1.7	2.0	1.7	2.7	1.3
8	K18-1247	4.5	2.0	1.0	3.5	2.7	1.3	2.7	2.3
9	K18-1396	4.5	2.0	1.0	2.7	2.0	1.0	3.0	1.7
10	K18-1471	4.0	1.5	1.0	3.3	2.3	1.7	1.7	2.0
11	K18-1783	2.8	1.0	1.0	1.0	1.3	1.0	1.3	1.0
12	K18-1944	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13	K18-2044	3.8	1.0	1.0	2.3	1.7	1.0	1.0	1.0
14	K18-2401	4.0	1.5	1.0	3.8	2.3	1.3	2.0	1.7
15	K18-2419	2.8	1.5	1.0	1.3	2.0	1.0	1.3	1.7
16	LD17-10473L	2.8	1.5	1.0	2.0	1.3	1.0	1.3	1.7
17	LD18-2922	3.5	2.0	1.0	3.3	1.3	1.7	1.0	0.9
18	LD18-2925	3.0	1.0	1.0	3.0	1.0	1.0	1.0	1.0
19	LD18-3068	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	LD18-4159	2.8	1.0	1.0	1.7	1.0	1.0	1.0	1.0
21	LD18-4165	3.5	1.0	1.0	1.7	1.3	1.0	1.0	1.0
22	LD18-10010	3.8	2.5	1.0	4.2	2.0	2.0	1.7	1.3
23	S18-6346	4.0	1.5	1.0	2.7	2.0	2.0	2.7	2.3
24	S18-6470	4.3	2.0	1.0	3.0	2.3	2.0	3.3	2.0
25	SA18-12111	3.5	1.0	1.0	3.3	2.0	1.0	2.0	1.0
26	SA18-7490	1.8	1.0	1.0	2.0	1.7	1.0	1.0	2.0
27	SA18-9109	4.3	1.0	1.0	1.7	1.0	1.0	1.0	1.0

2021 SCN UNIFORM TEST IV

Height (inches)

		Flora IL Inf	Urbana IL Inf	Ottawa KS Inf	Albany MO Inf	Jackson TN 1.2.5.7	Manhattan KS NI	Clarkton MO NI	Portage- ville MO NI
SCN HG Type									
Strain									
1	LD15-3818 (SCN)	42	34	25	30	30	38	24	18
2	LD00-2817P (SCN)	46	37	25	41	32	46	25	22
3	LD07-3395bf (SCN)	40	32	22	31	25	35	18	16
4	JTN-4120	36	37	29	39	41	46	35	28
5	JTN-4220	36	37	31	37	38	47	39	30
6	K17-6388	43	37	24	37	29	42	26	21
7	K17-6484	44	34	25	33	30	41	28	22
8	K18-1247	44	36	26	33	31	41	28	23
9	K18-1396	44	35	25	33	30	39	30	25
10	K18-1471	42	34	24	33	30	39	24	25
11	K18-1783	41	32	24	31	29	39	24	18
12	K18-1944	42	32	23	30	26	36	25	19
13	K18-2044	40	33	23	30	27	35	23	19
14	K18-2401	42	35	25	35	29	40	23	22
15	K18-2419	38	35	22	31	29	37	24	23
16	LD17-10473L	41	34	24	33	29	38	24	18
17	LD18-2922	38	32	23	31	29	37	21	16
18	LD18-2925	38	30	22	32	25	35	22	18
19	LD18-3068	41	32	25	31	28	36	26	20
20	LD18-4159	43	33	25	33	29	40	25	22
21	LD18-4165	41	35	24	33	29	38	20	19
22	LD18-10010	41	35	26	36	32	43	24	21
23	S18-6346	45	38	28	38	33	45	29	24
24	S18-6470	47	33	28	36	33	44	29	23
25	SA18-12111	40	33	24	35	28	39	26	19
26	SA18-7490	42	34	25	35	29	40	25	22
27	SA18-9109	42	30	24	31	28	38	20	19

2021 SCN UNIFORM TEST IV

Seed Weight (g/100)

SCN HG Type		Flora	Urbana	Ottawa	Albany	Jackson	Manhattan	Clarkton	Portage-
		IL Inf	IL Inf	KS Inf	MO Inf	TN 1.2.5.7	KS NI	MO NI	ville MO NI
Strain									
1	LD15-3818 (SCN)	14.3	16.4	15.7		14.4	15.5	14.9	14.9
2	LD00-2817P (SCN)	12.7	14.5	13.8		12.6	13.1	13.1	13.1
3	LD07-3395bf (SCN)	16.1	16.9	16.5		14.3	14.6	14.8	14.8
4	JTN-4120	16.2	11.4	11.0		12.6	10.7	11.0	11.0
5	JTN-4220	10.9	11.4	10.1		11.9	11.3	11.4	11.4
6	K17-6388	12.1	15.7	15.0		14.2	14.9	14.2	14.2
7	K17-6484	14.4	16.7	14.6		14.5	16.1	14.9	14.9
8	K18-1247	12.6	14.7	13.1		12.9	14.8	13.7	13.7
9	K18-1396	13.7	15.5	14.6		13.2	14.0	14.0	14.0
10	K18-1471	13.5	15.8	13.9		12.8	15.6	14.9	14.9
11	K18-1783	13.2	15.5	14.0		13.1	14.5	14.2	14.2
12	K18-1944	14.4	17.9	17.5		14.2	16.2	15.8	15.8
13	K18-2044	15.0	15.9	15.3		13.0	14.7	14.4	14.4
14	K18-2401	14.3	17.6	15.6		14.4	15.8	15.8	15.8
15	K18-2419	13.8	15.8	13.9		14.0	15.2	13.6	13.6
16	LD17-10473L	14.5	15.1	16.9		13.8	13.9	14.7	14.7
17	LD18-2922	18.5	20.9	19.7		16.3	19.3	18.1	18.1
18	LD18-2925	15.7	17.4	18.0		14.3	16.9	16.4	16.4
19	LD18-3068	17.1	18.2	16.6		15.3	18.8	17.7	17.7
20	LD18-4159	16.4	17.6	16.7		16.2	16.5	16.9	16.9
21	LD18-4165	17.1	18.8	19.2		17.2	19.6	17.9	17.9
22	LD18-10010	14.0	15.9	15.0		13.9	15.9	14.4	14.4
23	S18-6346	13.3	15.7	16.2		14.7	15.2	14.4	14.4
24	S18-6470	14.0	15.1	15.0		13.8	14.7	13.8	13.8
25	SA18-12111	12.9	13.9	13.6		12.1	13.3	12.5	12.5
26	SA18-7490	13.6	16.1	15.2		14.2	15.5	14.2	14.2
27	SA18-9109	13.0	13.8	13.6		12.1	13.0	12.5	12.5

2021 SCN UNIFORM TEST IV

Seed Quality (score)

SCN HG Type		Flora	Urbana	Ottawa	Albany	Jackson	Manhattan	Clarkton	Portage-
		IL Inf	IL Inf	KS Inf	MO Inf	TN 1.2.5.7	KS NI	MO NI	ville MO NI
Strain									
1	LD15-3818 (SCN)	2.0	2.0	2.0		3.3	2.0	4.7	3.3
2	LD00-2817P (SCN)	3.0	2.0	2.0		4.0	2.0	4.0	2.1
3	LD07-3395bf (SCN)	2.0	2.0	1.0		4.3	2.0	4.0	3.0
4	JTN-4120	2.0	2.0	2.0		2.7	2.0	3.3	2.0
5	JTN-4220	2.0	2.0	2.0		3.0	2.0	3.0	2.0
6	K17-6388	2.0	1.0	2.0		2.3	2.0	3.7	2.0
7	K17-6484	3.0	2.0	2.0		2.7	2.0	4.0	3.0
8	K18-1247	2.0	2.0	2.0		2.0	2.0	3.3	2.7
9	K18-1396	1.0	2.0	1.0		2.7	2.0	3.0	2.0
10	K18-1471	2.0	1.0	2.0		2.7	2.0	3.0	1.7
11	K18-1783	2.0	2.0	2.0		3.0	3.0	4.0	2.0
12	K18-1944	2.0	2.0	2.0		3.0	2.0	4.7	2.0
13	K18-2044	3.0	2.0	2.0		3.7	2.0	5.0	2.3
14	K18-2401	2.0	1.0	2.0		3.3	2.0	4.3	2.0
15	K18-2419	2.0	2.0	2.0		3.3	2.0	4.7	2.0
16	LD17-10473L	1.0	1.0	1.0		4.0	2.0	4.7	3.0
17	LD18-2922	2.0	2.0	2.0		4.0	2.0	4.7	2.7
18	LD18-2925	2.0	1.0	2.0		4.0	2.0	5.0	3.0
19	LD18-3068	2.0	1.0	1.0		3.0	2.0	4.3	3.0
20	LD18-4159	3.0	1.0	2.0		3.3	2.0	4.0	2.7
21	LD18-4165	3.0	2.0	2.0		3.0	2.0	4.3	3.0
22	LD18-10010	2.0	2.0	2.0		3.0	2.0	3.3	2.3
23	S18-6346	2.0	1.0	2.0		3.3	2.0	4.0	2.7
24	S18-6470	3.0	1.0	2.0		3.3	2.0	3.7	2.5
25	SA18-12111	2.0	1.0	2.0		3.0	1.0	4.3	2.0
26	SA18-7490	2.0	1.0	2.0		3.3	2.0	4.0	2.3
27	SA18-9109	2.0	2.0	1.0		3.3	2.0	3.3	2.0

2021 SCN UNIFORM TEST IV

Protein (%)

SCN HG Type	Flora IL Inf	Urbana IL Inf	Ottawa KS Inf	Albany MO Inf	Jackson TN 1.2.5.7	Manhattan KS NI	Clarkton MO NI	Portage- ville MO NI
Strain								
1 LD15-3818 (SCN)	35.4	37.7	34.3		35.4	34.3		35.1
2 LD00-2817P (SCN)	32.7	34.5	33.7		35.9	32.8		32.7
3 LD07-3395bf (SCN)	32.5	33.3	34.7		36.9	32.6		34.3
4 JTN-4120	37.0	36.3	34.5		36.6	34.8		31.8
5 JTN-4220	36.1	37.1	34.5		35.5	35.6		33.8
6 K17-6388	34.2	34.3	34.0		34.5	33.2		33.2
7 K17-6484	36.7	35.3	33.5		34.3	33.0		34.0
8 K18-1247	34.3	36.4	35.2		35.9	36.2		33.6
9 K18-1396	35.4	35.6	34.5		35.4	33.5		33.3
10 K18-1471	36.5	37.6	35.9		36.8	36.1		36.0
11 K18-1783	35.2	36.1	35.2		34.4	33.7		34.1
12 K18-1944	33.6	33.8	33.1		32.3	31.5		32.7
13 K18-2044	33.2	32.9	33.0		33.7	30.4		33.6
14 K18-2401	34.8	36.5	34.8		35.5	34.5		33.4
15 K18-2419	33.9	34.4	32.6		35.2	33.8		32.9
16 LD17-10473L	33.5	35.5	35.2		34.6	32.5		34.9
17 LD18-2922	36.2	36.3	36.8		36.1	33.8		35.7
18 LD18-2925	34.8	35.8	36.0		36.4	34.1		34.7
19 LD18-3068	36.1	37.5	35.5		35.4	34.3		33.5
20 LD18-4159	34.4	34.5	34.3		34.9	32.6		33.6
21 LD18-4165	36.8	36.7	35.8		35.0	35.6		35.3
22 LD18-10010	34.9	35.9	34.0		35.1	35.3		35.4
23 S18-6346	34.3	34.4	33.7		34.7	33.8		34.1
24 S18-6470	36.5	36.6	35.0		35.6	34.5		34.8
25 SA18-12111	32.7	32.9	31.6		31.8	31.9		30.6
26 SA18-7490	34.1	37.3	36.1		35.0	34.9		33.9
27 SA18-9109	33.3	34.5	32.6		33.5	32.1		32.4

2021 SCN UNIFORM TEST IV

Oil (%)

SCN HG Type		Flora IL Inf	Urbana IL Inf	Ottawa KS Inf	Albany MO Inf	Jackson TN 1.2.5.7	Manhattan KS NI	Clarkton MO NI	Portage- ville MO NI
Strain									
1	LD15-3818 (SCN)	18.5	17.9	18.8		20.1	19.4		18.9
2	LD00-2817P (SCN)	19.8	18.5	18.9		18.5	18.4		19.0
3	LD07-3395bf (SCN)	19.6	19.1	18.9		20.0	19.2		17.9
4	JTN-4120	15.9	15.9	16.9		17.1	16.7		17.6
5	JTN-4220	16.1	16.0	16.7		16.9	16.1		16.9
6	K17-6388	17.3	17.5	18.5		18.3	18.0		18.1
7	K17-6484	17.0	18.7	19.0		19.9	19.2		18.0
8	K18-1247	18.4	17.1	17.2		18.3	17.2		17.4
9	K18-1396	18.3	17.9	17.8		19.7	18.8		18.8
10	K18-1471	17.4	17.4	18.0		18.8	17.4		17.4
11	K18-1783	17.9	17.5	18.0		19.4	18.8		17.9
12	K18-1944	17.3	18.9	19.2		20.7	19.1		19.2
13	K18-2044	18.5	18.6	19.0		19.9	19.6		18.2
14	K18-2401	18.3	17.3	18.3		19.1	18.3		18.4
15	K18-2419	19.2	18.9	19.4		19.8	18.6		18.4
16	LD17-10473L	19.2	18.9	17.7		20.3	19.6		18.9
17	LD18-2922	18.0	18.4	17.8		19.8	18.8		18.3
18	LD18-2925	18.0	18.3	18.0		19.7	19.2		18.7
19	LD18-3068	17.7	17.8	18.4		19.8	18.5		18.3
20	LD18-4159	19.0	18.8	19.5		20.4	20.2		19.5
21	LD18-4165	17.9	18.3	19.1		20.4	18.9		18.6
22	LD18-10010	18.0	17.6	19.2		20.2	18.4		18.1
23	S18-6346	18.1	18.6	18.4		19.4	18.4		18.0
24	S18-6470	16.9	17.3	17.8		19.0	18.2		17.7
25	SA18-12111	19.2	18.8	19.8		20.7	19.3		20.0
26	SA18-7490	19.5	17.9	18.7		20.6	19.3		19.9
27	SA18-9109	19.1	17.9	19.0		19.7	19.1		19.1