2019
NORTHERN REGIONAL SOYBEAN CYST NEMATODE TESTS

Coordinated by:
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2019 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. Trasngenic (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 than 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.

ISU Emergence Scores – Emergence was assessed by counting all plants in 1 random meter of the inner two rows of each plot 35-40 days after planting. Plots were planted at a rate of 10 seeds per foot. Emergence scores are listed as percent stand.

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.

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 1,000 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:

	HG Type							
Indicator line	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

2019 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 StateUniversity
A72- 507	Amsoy x Wayne
A72-507	Amsoy x Wayne
A76-103022	AP6
A76-304020	(Beeson x AP68-1016) x (L15 x Calland)
A77-211021	Beeson x A72-507
A81-356022	Century x A76-304020
A81-356022	Century x A76-304020
A82-161034	A76-103002 x A77-211021
A86-301024	A81-356022 x Hack
A87-395012	Fayette x Asgrow A3659
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
A00-711022	A95-485020 x IA2036
A00-711024	A95-485020 x IA2036
A04-545045	Pioneer 93B86 x A00-711022
A12-961044	
A12-961054	
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
AP68-1016	Clark(5) x PI 84.946-2
AR02-101001	Pioneer P9233 x A96-591033
AR03-161009	(PI 507354 x Marcus) x IA1008
AR08-186008	Golden Harvest H-2285 x AR02-101001
AR09-191003	Agripro 97284-N00-47977 x AR02-101001
AR09-191018	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
AR1	IA2039BC x IA2021
AR10-205011	SS02-12014 x AR02-101001
Asgrow A1564	Hark x C1453

2019 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
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
C1079	Lincoln x Ogden
C1253	Blackhawk x Harosoy
C1266R	Harosoy x C1079
C1453	C1266R x C1253
CL04-132315	
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 75226	
Dairyland 99540	Stine 2660 x DSR-275
Dairyland 99846-74	
Dairyland DSR 275	
Dairyland DSR 304	
E06936	PI494182 x Skylla
E07051	IA3017 x Loda
E09088	
E10005	
E10174	U01-390489 x LD01-5907
E10928	
E11101	
E11128T	E05276-T x LD01-7323
E11955	
E12076T	
E12901	

2019 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
E13367	E07051 x E10928
E13802	
E13816	
E13902	E11955 x E07051
E13906	
E15805	
E16830-1	
Golden Harvest H-2285	
HF03-546	A95-581028 x PI 592926
HM09-W084	Dennison x HF03-546
HM8536	HW79149 x HW79022
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
Jilin 20	
Jilin 20-2	
K07-1633	IA3023 x LD00-3309
K10-8556	IA3023 x LD00-3309
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
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
LD00-1938	Pana x Savoy
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
LD02-9050	LN97-24270 x LS93-0375
LD03-7607	LN95-5817 x IA3010
LD03-7610	LN95-5817 x IA3010
LD04-13265	Syngenta S32-Z3 x U98-205355
LD04-13296	Syngenta S32-Z3 x U98-311442
LD05-16638	Dwight(3) x (Dowling x Loda)

2019 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
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
LD05-8517	LD00-2817 x Syngenta S38-T8
LD06-7620	IA3023 x LD00- 3309
LD06-7648	IA3023 x LD00-3309
LD07-3395	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)
LD08-12430a	LD02-4485(2) x (Ina x PI 200538)
LD08-12435a	LD02-4485(2) x (Ina x PI 200538)
LD08-12438a	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)
LD08-1592	LD03-7607 x LD00-3309
LD08-3994	IA2068 x LD01-7323
LD09-10220	CL0J173-6-8 x 99846-74
LD09-10911	LD00-2817 x LD02-4485
LD09-30015	LD02-4485(5) x Ripley
LD09-30224	LD05-3230 x [LD05-16638 x (Dwight x (Ina x PI 200538))]
LD09-30454	LD00-3309 x LDX08-249
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
LD10-2477	LD04-13296 x LD05-3230
LD10-5903a	M99-286047 x LD05-16638
LD10-9110	LD06-7648 x LD02-4485
LD10-9409	LD05-8517 x Syngenta 03JR101916
LD10-9823	Dairyland 75226 x LD01-7323
LD11-10927	CL04-132315 x LD06-7620
LD11-7311	Syngenta 03JR313108 x LD02-4485
LD12-6623	LD08-12430a x LD05-30588a
LD14-8030	[Titan(5) x E10005] x [Titan(5) x F1 plt (LD08-12446a x LD05-30588a)]
LD14-8035	[Titan(5) x E10005] x [Titan(5) x F1 plt (LD08-12446a x LD05-30588a)]
LDX08-249	F1 plant (LD00-3309(4) x LD07-5065)
LDX11050a	LD08-12438a x LD09-30224
LDX11-319-7-134	(LD00-3309(5) x IA3023) x (LD00-3309(2) x PI 567516C)
LG03-3020	
LG03-3780	
LG07-2249	

2019 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
LG07-6944	
LG11-6208	LG03-3020 x LG03-3780
LN93-11632	A86-301024 x Asgrow A3733
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
LS02-0425	LN93-11632 x IA1008
LS02-2213	LS93-0375 x SS94-4337
LS07-3125	SS98-7851 x LD00-3309
LS07-3131	SS98-7851 x LD00-3309
LS09-1803	LD00-1938 x LS02-2213
LS09-2659	Syngenta 98620-b1-51163 x LS02-0425
LS93-0375	Asgrow A3935 x Pioneer P9402
M00-116161	MN0901 x MN0902CN
M00-351195	MN0902CN x M95-123116
M00-365137	Jim x LN94-14862-97-2
M00-365181	Jim x LN94-14862-97-2
M02-121028	
M02-149100	MN0902CN x MN0304
M03-172059	IA2052 x MN0304
M05-353086	MN0902CN x M99-286047
M05-363022	IA1008 x MN1011CN
M06-274098	MN0902CN X MN1011CN
M06-286029	
M06-288155	M00-365137 x M99-286050
M06-288181	M00-365137 x M99-286050
M06-288190	M00-365137 x M99-286050
M06-289192	
M06-289264	M00-351195 x M00-365181
M06-289273	M00-351195 x M00-365181
M06-310036	ND01-3901 X MN1005
M06-358188	PI437161 x M94-275024
M06-380029	Jim x PI548325
M06-386029	
M06-388016	
M07-209037	M90-184111 x MN0606CN
M07-211456	M90-184111 x M02-121028
M07-260028	M00-365137 x M99-286050
M07-294030	MN1701CN x MN0602
M08-151086	M00-116161 x M99-286047

2019 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
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
M92-1708	Kato x Bell
M92-270029	M87-227 x M87-349
M92-674	Agassiz x Ozzie
M93-313135	Agassiz x M90-1437
M94-275024	
M95-123116	Parker x M92-1631
M96-356062	M92-674 x M92-1708
M97-121138	MN0302 x 9004
M97-136016	
M99-286047	IA1008 x Pioneer P9234
M99-286050	IA1008 x Pioneer P9234
MO474C	White flowered off-type in Mitchell
ND01-1690	Pioneer 9092 x ND95-958
ND01-2006	
ND01-3901	Pioneer 9071 x A96-492041
ND02-992	ND92-2381 x ND95-938
ND03-5441	Barnes x MN0602CN
ND03-7566	Barnes x MN0602CN
ND03-7747	
ND05-17649	
ND07-2205	LaMoure x ND01-1690
ND07-3761	ProSoy x ND01-2006
ND07-4027	M96-356062 x Ashtabula
ND07-4635	MN1006CN x Walsh
ND09-3153	ND02-992 x ND03-7747
ND10-2479	
ND10-2522	ND03-7566 x ND03-5441
ND10-2763	Sheyenne x ND03-5441
ND10-3048	Sheyenne x [LaMoureBC2(Rag1)]
ND10-3323	Sheyenne x [LaMoureBC2(Rag1)]
ND10-3413	ND03-7566 x [ND03-5441 x LaMoure BC2]
ND10-3459	ND03-7566 x [ND03-5441 x LaMoure BC2]
ND10-3460	ND03-7566 x [ND03-5441 x LaMoure BC2]
ND10-3495	ND03-7566 x [ND03-5441 x LaMoure BC2]
Northrup King S19-90	Pride B152 x Pella
OAC 05-21	

2019 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
P.91M10	
Pioneer 92B12	Pioneer P9221 x (Pioneer P9162 x Pioneer P9234)
Pioneer 93B86	
Pioneer P1677	Corsoy(2) x Rampage
Pioneer P2981	S20 x Hark
Pioneer P7273	
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
S09-13635	
S100	Rouge in Illini
S10-11200	
S11-17025	
S20	L15 x C1423
SA12-1530	
SA12-1532	
SA12-1541	
SD08CV-2102	M97-136016 x SD96-135-3
SD96-135-3	
SS02-12014	Hamilton x PI438489B
SS94-4337	Jack x Pioneer P9341
SS98-7851	Pioneer P9362 x Magellan
Stine 2660	
Syngenta 02JR318004	S32-Z3 x CM4035N
Syngenta 03JR101916	
Syngenta 03JR313108	
Syngenta 05BR006009	SG801122200 x 96601-B99-17498
Syngenta 98620-b1-51163	
Syngenta BN09002129	
Syngenta S20-20	

2019 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
Syngenta S25-J5	
Syngenta S32-Z3	
Syngenta S38-T8	
Syngenta S42-H1	
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 P92B12
U03-300134	NE3202 x Pioneer P92B12
U06-300925	
U09-105007	OAC 05-21 x U03-300134
U09-105007-174	
U09-118017	U01-190311 x U02-242055
U09-133021	U02-242055 X U03-200317
U09-407147	
U11-614119	U02-242055 x LD04-13265
U11-616086	U02-242055 x LD02-4485
U11-911079	LD02-4485 x U03-300134
U11-932025	U06-300925 x U03-100612
U11-935093	
U94-2306	Holt x Dairyland DSR 304
U97-201128	U94-2306 x UP1Fe-95-9
U98-205355	A94-773014 x Bell
U98-311442	A94-773014 x Bell
U99-009019	MSBP6S4 (Intermated population)
5601T	
235.T	line from Schillinger Seed Co.
435.TCS	line from Schillinger Seed Co.
5002T	

2019 NORTHERN REGIONAL SCN TEST LOCATIONS

				Uniform Tests						Preliminary Tests		
	Location	Cooperator	SCN*	00	0	I	II	III	IV	I	II	III
IL	Arthur	B. Diers	I					x				x
IL	Flora	B. Diers	I						x			
IL	Pontiac	B. Diers	I				x				x	
IL	Urbana	B. Diers	I			x	x	x	x	x	x	x
IN	West Lafayette	G. Cai	NI				x	x				
KS	Manhattan	W. Schapaugh	NI					x	x			x
KS	Riley	W. Schapaugh	NI						x			
KS	Ottawa	W. Schapaugh	NI						x			
MI	Decatur	D. Wang	I			x	x			x	x	
MN	Callaway	A. Lorenz	I	**	**							
MN	Gary	A. Lorenz	I	x	x							
MN	Thief River Falls	A. Lorenz	NI	x	x							
MN	Danvers	A. Lorenz	I			x				x		
MN	Fairfax	A. Lorenz	I			x				x		
MN	Rosemount	A. Lorenz	I			x				x		
MO	Albany	A. Scaboo	I					x	x			x
MO	Novelty	A. Scaboo	I					**	**			
MO	Clarkton	G. Shannon	I						x			
MO	Portageville	G. Shannon	NI						x			
ND	Colfax	T. Helms	I	x	x							
ND	Hillsboro	T. Helms	I	**	**							
NE	Bellwood	G. Graef	I				x	x			x	x
NE	TBA	G. Graef	I				**	**			**	**
OH	Hoytville	L. McHale	NI				**	**				
ON	Ridgetown	M. Eskandari	I			x				x		
ON	Ottawa	E. Cober	NI	x	x							
ON	St. Pauls	I. Rajcan	NI			x						
ON	Woodstock	I. Rajcan	NI		x							
TN	Jackson	P. Arelli	I						x			
		Total Tests		6	7	7	7	9	10	6	5	6

	Disease Testing			00	0	I	II	III	IV	I	II	III
MN	Iron Chlorosis	A. Lorenz	IDC	x	x	x				x		
IL	SCN Greenhouse	A. Colgrove	SCN	x	x	x	x	x	x	x	x	x

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

2019 NORTHERN REGIONAL SCN TESTS LOCATIONS
Characteristics of *Heterodera glycines* populations

				Female Index (% of Lee 74)							
		Eggs/		HG 1	HG 2	HG 3	HG 4	HG 5	HG 6	HG 7	
	Location	100cc	HG Type	Peking	88788	90763	437654	209332	89772	Cloud	Pickett
IL	Arthur	280	**2.5.7**	0	15	0	0	26	0	29	3
IL	Flora	120	**2.5.7**	0	18	0	0	18	0	24	6
IL	Pontiac	440	**2.5.7**	1	16	0	0	16	0	26	8
IL	Urbana	840	**2.5.7**	0	17	0	0	14	0	22	0
IN	West Lafayette	0	NI								
KS	Manhattan	0	NI								
KS	Riley	40	NI	no eggs found when soil was processed for increase							
KS	Ottawa	0	NI								
MI	Decatur	960		egg counts reported by cooperator, no sample submitted for HG typing							
MN	Callaway	2,000		egg counts reported by cooperator, no sample submitted for HG typing							
MN	Gary	850		egg counts reported by cooperator, no sample submitted for HG typing							
MN	Thief River Falls	<50	NI	egg counts reported by cooperator, no sample submitted for HG typing							
MN	Danvers	280	**1.2.5.7**	12	21	0	0	29	0	35	49
MN	Fairfax	360	**2.5.7**	3	26	0	0	20	1	22	17
MN	Rosemount	11760	**2.5.7**	7	33	0	0	36	0	40	40
MO	Albany	360	**2.5.7**	7	37	0	0	34	0	38	17
MO	Novelty	1840	**2.5.7**	4	29	0	0	30	0	36	18
MO	Clarkton	120	**2.5.7**	3	28	0	0	29	1	32	18
MO	Portageville		NI	no sample received							
ND	Colfax	320	**2.5.7**	0	28	0	0	19	0	30	8
ND	Hillsboro	17280	**1.2.5.7**	27	46	8	0	50	7	61	53
NE	Bellwood	40	**2.5.7**	1	15	0	0	18	0	27	3
NE	TBA			Location not planted							
OH	Hoytville			Location not planted							
ON	Ridgetown	120	**2.5.7**	3	30	1	0	35	2	43	10
ON	Ottawa		NI	no sample received							
ON	St. Pauls		NI	no sample received							
ON	Woodstock		NI	no sample received							
TN	Jackson	116		egg counts reported by cooperator							

NI = non-infested

2019 NORTHERN REGIONAL SCN TESTS SCN SCREENING

	HG 0	initial		*retest*	
	6 reps	Mean	FI	Mean	FI
	Lee	223		*117*	
HG1	PI548402	0	0	*0*	*0*
HG2	PI88788	5	2	*3*	*2*
HG3	PI90763	0	0	*0*	*0*
HG4	PI437654	0	0	*0*	*0*
HG5	PI209332	3	1	*2*	*2*
HG6	PI89772	0	0	*0*	*0*
HG7	PI548316	13	6	*6*	*5*
	PI438489B	19	9		
	Pickett	1	0		

	HG 2.5.7	initial		*retest*	
	6 reps	Mean	FI	Mean	FI
	Lee	274		*203*	
HG1	PI548402	0	0	*0*	*0*
HG2	PI88788	130	47	*94*	*46*
HG3	PI90763	0	0	*0*	*0*
HG4	PI437654	0	0	*0*	*0*
HG5	PI209332	155	57	*103*	*50*
HG6	PI89772	0	0	*0*	*0*
HG7	PI548316	193	71	*117*	*58*
	PI438489B				
	Pickett	25	9	*26*	*13*

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

			HG Type 0			HG Type 2.5.7			
	Ent	Strain	mean	FI	rating	mean	FI	rating	SCN Resistance source
U00	**1**	**MN0083**	47	**21**	**R**	165	**60**	**NR**	None
U00,0	**2**	**MN0095**	81	**36**	**MR**	278	**102**	**NR**	None
U00	**3**	**ND Rolette**	93	**42**	**LR**	283	**104**	**NR**	None
U00	**4**	**MN0208CN (SCN)**	19	**9**	**HR**	208	**76**	**NR**	PI 88788
U00	**5**	**M12-357057**	11	**5**	**HR**	86	**31**	**MR**	PI 88788
U00	**6**	**M13-257047**	31	**14**	**R**	237	**87**	**NR**	PI 88788
U00	**7**	**MCH13-109053**	21	**9**	**HR**	152	**56**	**LR**	PI 88788
U00	**8**	**MCH13-109062**	26	**12**	**R**	205	**75**	**NR**	PI 88788
U00	**9**	**ND16-2745**	66	**30**	**MR**	219	**80**	**NR**	PI 88788
U00	**10**	**ND16-8064**	30	**13**	**R**	160	**58**	**LR**	PI 88788
U00	**11**	**ND16-8909**	26	**12**	**R**	215	**78**	**NR**	PI 88788
U00	**12**	**ND16-9606**	45	**20**	**R**	198	**72**	**NR**	PI 88788
U0,I	**1**	**ND Stutsman**	73	**33**	**MR**	251	**92**	**NR**	None
U0	**3**	**MN0404CN (SCN)**	14	**6**	**HR**	171	**62**	**NR**	PI 88788
U0	**5**	**M07-296048HOLL-5**	6	**3**	**HR**	299	**109**	**NR**	PI 88788
U0	**6**	**M08-362045L**	4	**2**	**HR**	142	**52**	**LR**	PI 88788
U0	**7**	**M12-354012**	18	**8**	**HR**	187	**68**	**NR**	PI 88788
U0	**8**	**M12-366065**	12	**5**	**HR**	124	**45**	**LR**	PI 88788
U0	**9**	**M12-386012**	49	**22**	**R**	182	**67**	******	PI 88788
U0	**10**	**M13-104065**	7	**3**	**HR**	163	**60**	**NR**	PI 88788

2019 NORTHERN REGIONAL SCN TESTS SCN SCREENING

			HG Type 0				HG Type 2.5.7		
	Ent	Strain	mean	FI	rating	mean	FI	rating	SCN Resistance source
U0	**11**	**M13-104080**	65	**29**	**MR**	128	**47**	**retest**	PI 88788
U0	***11***	***M13-104080***				*164*	***81***	***NR***	*PI 88788*
U0	**12**	**M13-104106**	6	**3**	**HR**	89	**33**	**MR**	PI 88788
U0	**13**	**M13-112029**	156	**70**	**NR**	103	**38**	**MR**	PI 88788
U0	**14**	**M13-112034**	22	**10**	**R**	302	**110**	**NR**	PI 88788
U0	**15**	**M13-118036**	40	**18**	**R**	110	**40**	**retest**	PI 88788
U0	***15***	***M13-118036***				*116*	***57***	***LR***	*PI 88788*
U0	**16**	**M13-121040**	58	**26**	**MR**	145	**53**	**LR**	PI 88788
U0	**17**	**M13-250056**	1	**1**	**HR**	8	**3**	**HR**	PI 88788
U0	**18**	**M13-251003**	13	**6**	**HR**	107	**39**	**MR**	PI 88788
U0	**19**	**M13-251018**	24	**11**	**R**	85	**31**	**MR**	PI 88788
U0	**20**	**M13-251024**	16	**7**	**HR**	166	**61**	**NR**	PI 88788
U0	**21**	**M13-252039**	24	**11**	**R**	239	**87**	**NR**	PI 88788
U0	**22**	**M13-252044**	44	**20**	**R**	257	**94**	**NR**	PI 88788
U0	**23**	**M13-257029**	25	**11**	**R**	200	**73**	**NR**	PI 88788
U0	**24**	**M13-262005**	73	**33**	**MR**	189	**69**	**NR**	PI 88788
U0	**25**	**M13-262037**	55	**24**	**R**	201	**73**	**NR**	PI 88788
U0	**26**	**ND13-4508**	81	**36**	**MR**	236	**86**	**NR**	none
U0	**27**	**ND16-2751**	17	**8**	**HR**	340	**124**	**NR**	PI 88788
U0	**28**	**ND16-3035**	42	**19**	**R**	271	**99**	**NR**	PI 88788
U0	**29**	**ND16-5820**	5	**2**	**HR**	159	**58**	**LR**	PI 88788
U0	**30**	**ND16-6908**	48	**21**	**R**	238	**87**	**NR**	PI 88788
U0	**31**	**ND16-7704**	27	**12**	**R**	230	**84**	**NR**	PI 88788
U0	**32**	**ND16-7896**	7	**3**	**HR**	169	**62**	**NR**	PI 88788
U0	**33**	**ND16-8078**	8	**3**	**HR**	211	**77**	**NR**	PI 88788
U0	**34**	**ND16-8305**	25	**11**	**R**	271	**99**	**NR**	PI 88788
U I,0	**1**	**MN1410**	126	**57**	**LR**	258	**94**	**NR**	None
U I,II	**3**	**U11-917032 (SCN)**	16	**7**	**HR**	208	**76**	**NR**	PI 88788
U I	**4**	**U14-103015**	100	**45**	**LR**	251	**92**	**NR**	None
U I	**5**	**AR17-179015**	4	**2**	**HR**	15	**5**	**HR**	PI 507354, Peking,88788
U I	**6**	**E15338**	23	**10**	**R**	218	**80**	**NR**	PI 88788

2019 NORTHERN REGIONAL SCN TESTS SCN SCREENING

			HG Type 0				HG Type 2.5.7		
	Ent	Strain	mean	FI	rating	mean	FI	rating	SCN Resistance source
U I	**7**	**M12-373033**	35	**16**	**R**	151	**55**	**LR**	PI 88788
U I	**8**	**M12-386029**	38	**17**	**retest**	213	**78**	**NR**	PI 88788
U I	***8***	***M12-386029***	*52*	***44***	**LR**				
U I	**9**	**MCH13-104087**	21	**9**	**HR**	141	**51**	**LR**	PI 88788
U I	**10**	**MCH13-104091**	14	**6**	**HR**	152	**56**	**LR**	PI 88788
P I	**5**	**E17137**	57	**26**	**MR**	263	**96**	**NR**	PI 88788
P I	**6**	**E18834**	60	**27**	**MR**	172	**63**	**NR**	PI 88788
P I	**7**	**LD16-560a**	25	**11**	**R**	186	**68**	**NR**	PI 88788
P I	**8**	**LD17-4930a**	72	**32**	**MR**	241	**88**	**NR**	PI 88788
P I	**9**	**LD17-5215a**	45	**20**	**R**	308	**113**	**NR**	PI 88788
P I	**10**	**LD17-8147**	9	**4**	**HR**	184	**67**	**NR**	PI 88788
P I	**11**	**M09-285149**	9	**4**	**HR**	185	**68**	**NR**	PI 88788
P I	**12**	**M13-104019**	58	**26**	**retest**	197	**72**	**NR**	PI 88788
P I	***12***	***M13-104019***	*88*	***75***	**NR**				
P I	**13**	**M13-113034**	127	**57**	**LR**	211	**77**	**NR**	PI 88788
P I	**14**	**M13-250019**	2	**1**	**HR**	23	**8**	**HR**	PI 88788
P I	**15**	**M13-250030**	9	**4**	**HR**	268	**98**	**NR**	PI 88788
P I	**16**	**M13-250046**	1	**0**	**HR**	30	**11**	**R**	PI 88788
P I	**17**	**M13-252012**	6	**3**	**HR**	237	**86**	**NR**	PI 88788
P I	**18**	**M13-257015**	53	**24**	**R**	286	**104**	**NR**	PI 88788
P I	**19**	**M13-262015**	29	**13**	**R**	120	**44**	**retest**	PI 88788
P I	***19***	***M13-262015***				*181*	***89***	***NR***	*PI 88788*
P I	**20**	**M13-262029**	57	**25**	**MR**	222	**81**	**NR**	PI 88788
P I	**21**	**M13-262044**	112	**50**	**LR**	308	**112**	**NR**	PI 88788
P I	**22**	**M13-262045**	18	**8**	**HR**	222	**81**	**NR**	PI 88788
P I	**23**	**M13-262050**	77	**35**	**MR**	269	**98**	**NR**	PI 88788
P I	**24**	**M13-262053**	49	**22**	**R**	240	**88**	**NR**	PI 88788
P I	**25**	**M13-262061**	110	**49**	**LR**	199	**73**	**NR**	PI 88788
P I	**26**	**M13-266009**	31	**14**	**R**	208	**76**	**NR**	PI 88788
P I	**27**	**M13-266011**	24	**11**	**R**	224	**82**	**NR**	PI 88788
P I	**28**	**U16-125012**	57	**25**	**MR**	218	**80**	**NR**	Peking

2019 NORTHERN REGIONAL SCN TESTS SCN SCREENING

			HG Type 0				HG Type 2.5.7		
	Ent	Strain	mean	FI	rating	mean	FI	rating	SCN Resistance source
U II	**1**	**IA2102**	24	**11**	**R**	180	**66**	**NR**	None
U II	**2**	**LD02-4485 (SCN)**	27	**12**	**R**	165	**60**	**NR**	PI 88788
U II,III	**4**	**U14-910097 (SCN)**	2	**1**	**HR**	6	**2**	**HR**	PI 88788,437654
U II	**5**	**AR17-279009**	14	**6**	**HR**	20	**7**	**HR**	PI 507354, Peking,88788
U II	**6**	**E15339**	11	**5**	**HR**	203	**74**	**NR**	PI 88788
U II	**7**	**E15345**	19	**9**	**HR**	165	**60**	**NR**	PI 88788
U II	**8**	**E15346T**	16	**7**	**HR**	149	**54**	**LR**	PI 88788
U II	**9**	**E15347**	27	**12**	**R**	183	**67**	**NR**	PI 88788
U II	**10**	**E15349**	13	**6**	**HR**	298	**109**	**NR**	PI 88788
U II	**11**	**E15351**	13	**6**	**HR**	224	**82**	**NR**	PI 88788
U II	**12**	**E16265**	11	**5**	**HR**	138	**50**	**retest**	PI 88788
U II	***12***	***E16265***				*213*	***105***	***NR***	*PI 88788*
U II	**13**	**E16266**	6	**3**	**HR**	309	**113**	**NR**	PI 88788
U II	**14**	**LD15-1350**	25	**11**	**R**	206	**75**	**NR**	PI 88788
U II	**15**	**LD15-5170a**	18	**8**	**HR**	38	**14**	**retest**	PI 88788
U II	***15***	***LD15-5170a***				*148*	***73***	***NR***	*PI 88788*
U II	**16**	**LD15-6268**	13	**6**	**HR**	313	**114**	**NR**	PI 88788
U II	**17**	**LD15-6280**	23	**10**	**R**	172	**63**	**NR**	PI 88788
U II	**18**	**U14-925152**	0	**0**	**HR**	3	**1**	**HR**	PI 88788,437654
P II	**5**	**E17040**	8	**4**	**HR**	213	**78**	**NR**	PI 88788
P II	**6**	**E17054**	22	**10**	**R**	220	**81**	**NR**	PI 88788
P II	**7**	**E17143**	15	**7**	**HR**	266	**97**	**NR**	PI 88788
P II	**8**	**E17167**	3	**1**	**HR**	162	**59**	**NR**	Peking
P II	**9**	**E17184**	6	**3**	**HR**	139	**51**	**LR**	PI 88788
P II	**10**	**E17203**	11	**5**	**HR**	253	**92**	**NR**	PI 88788
P II	**11**	**E17227**	23	**10**	**R**	259	**95**	**NR**	PI 88788
P II	**12**	**E17269**	37	**16**	**R**	276	**101**	**NR**	PI 88788
P II	**13**	**E17274**	21	**9**	**HR**	219	**80**	**NR**	PI 88788
P II	**14**	**E17275**	5	**2**	**HR**	211	**77**	**NR**	PI 88788
P II	**15**	**E17283**	5	**2**	**HR**	144	**53**	**LR**	PI 88788
P II	**16**	**E17506T**	9	**4**	**HR**	171	**63**	**NR**	PI 88788

2019 NORTHERN REGIONAL SCN TESTS SCN SCREENING

			HG Type 0				HG Type 2.5.7		
	Ent	Strain	mean	FI	rating	mean	FI	rating	SCN Resistance source
P II	**17**	**E17508**	28	**13**	**R**	202	**74**	**NR**	PI 88788
P II	**18**	**E17801-08**	96	**43**	**LR**	228	**83**	**NR**	PI 88788
P II	**19**	**E17804-01**	3	**1**	**HR**	154	**56**	**LR**	PI 88788
P II	**20**	**LD16-4302a**	4	**2**	**HR**	172	**63**	**NR**	PI 88788
P II	**21**	**LD16-4766a**	7	**3**	**HR**	125	**46**	**LR**	PI 88788
P II	**22**	**LD16-4852**	10	**4**	**HR**	134	**49**	**LR**	PI 88788
P II	**23**	**LD16-4942a**	12	**6**	**HR**	173	**63**	**NR**	PI 88788
P II	**24**	**LD16-6557**	16	**7**	**HR**	204	**74**	**NR**	PI 88788,437654
P II	**25**	**LD16-6830**	2	**1**	**HR**	222	**81**	**NR**	PI 88788,437654
P II	**26**	**LD16-6924**	28	**13**	**R**	170	**62**	**NR**	PI 88788,437654
P II	**27**	**LD16-7136**	15	**7**	**R**	142	**52**	**LR**	PI 88788,437654
P II	**28**	**U17-908050**	86	**39**	**MR**	130	**48**	**LR**	PI 88788,437654
U III	**1**	**LD11-2170 (SCN)**	21	**9**	**retest**	228	**83**	**NR**	PI 88788
U III	***1***	***LD11-2170 (SCN)***	*11*	***9***	**HR**				
U III	**2**	**IA3048 (SCN)**	4	**2**	**HR**	203	**74**	**NR**	PI 88788
U III,IV	**3**	**LD07-3395bf (SCN)**	7	**3**	**HR**	10	**4**	**HR**	PI 88788,437654
U III	**5**	**E16184**	6	**3**	**HR**	320	**117**	**NR**	PI 88788
U III	**6**	**E16380**	8	**3**	**HR**	250	**91**	**NR**	PI 88788
U III	**7**	**LD15- 456**	7	**3**	**HR**	174	**64**	**NR**	PI 88788
U III	**8**	**LD15- 467**	16	**7**	**HR**	214	**78**	**NR**	PI 88788
U III	**9**	**LD15-1477**	19	**9**	**HR**	169	**62**	**NR**	PI 88788
U III	**10**	**LD15-6762**	25	**11**	**R**	206	**75**	**NR**	PI 88788
U III	**11**	**LD15-5776793**	33	**15**	**R**	237	**87**	**retest**	PI 88788
U III	***11***	***LD15-5776793***				*162*	***80***	***NR***	*PI 88788*
U III	**12**	**LD15-5782791**	23	**10**	**R**	180	**66**	**NR**	PI 88788
U III	**13**	**LD15-5789800**	3	**1**	**HR**	166	**61**	**NR**	PI 88788
U III	**14**	**SA13-1385**	16	**7**	**HR**	208	**76**	**NR**	PI 88788
U III	**15**	**SA14-9653**	11	**5**	**HR**	247	**90**	**NR**	PI 88788
U III	**16**	**U14-211226**	33	**15**	**R**	151	**55**	**LR**	PI 88788
U III	**17**	**U15-606207**	0	**0**	**HR**	5	**2**	**HR**	PI 88788,437654

2019 NORTHERN REGIONAL SCN TESTS SCN SCREENING

			HG Type 0			HG Type 2.5.7			
	Ent	Strain	mean	FI	rating	mean	FI	rating	SCN Resistance source
P III	**5**	**LD16-3374**	15	**7**	**HR**	167	**61**	**NR**	PI 88788,437654
P III	**6**	**LD16-4047**	50	**22**	**R**	114	**42**	**retest**	PI 88788,437654
P III	***6***	***LD16-4047***				*97*	***48***	***LR***	*PI 88788,437654*
P III	**7**	**LD16-6787**	13	**6**	**HR**	111	**40**	**retest**	PI 88788,437654
P III	***7***	***LD16-6787***				*125*	***61***	***NR***	*PI 88788,437654*
P III	**8**	**LD16-6886**	99	**44**	**LR**	165	**60**	**NR**	PI 88788,437654
P III	**9**	**LD16-6888**	50	**22**	**R**	135	**49**	**LR**	PI 88788,437654
P III	**10**	**LD16-6893**	25	**11**	**R**	180	**66**	**NR**	PI 88788,437654
P III	**11**	**LD16-7126**	17	**8**	**HR**	138	**50**	**LR**	PI 88788,437654
P III	**12**	**LD16-7622**	2	**1**	**HR**	11	**4**	**retest**	PI 88788,437654
P III	***12***	***LD16-7622***				*3*	***1***	***HR***	*PI 88788,437654*
P III	**13**	**LD16-7637**	12	**5**	**HR**	159	**58**	**retest**	PI 88788,437654
P III	***13***	***LD16-7637***				*5*	***2***	***HR***	*PI 88788,437654*
P III	**14**	**LD16-7669**	5	**2**	**HR**	102	**37**	**retest**	PI 88788,437654
P III	***14***	***LD16-7669***				*113*	***56***	***LR***	*PI 88788,437654*
P III	**15**	**SA16-1961**	20	**9**	**HR**	163	**60**	**NR**	PI 88788
P III	**16**	**SA16-2194**	20	**9**	**HR**	167	**61**	**NR**	PI 88788
P III	**17**	**SA16-10349**	79	**36**	**MR**	202	**74**	**NR**	PI 88788
P III	**18**	**SA16-12014**	42	**19**	**R**	230	**84**	**NR**	PI 88788
P III	**19**	**SA16-12491**	11	**5**	**HR**	141	**51**	**LR**	PI 88788
P III	**20**	**SA16-12880**	7	**3**	**HR**	166	**61**	**NR**	PI 88788
U IV	**1**	**LD06-7620 SCN)**	34	**15**	**R**	196	**72**	**NR**	PI 88788
U IV	**2**	**LD00-2817P (SCN)**	5	**2**	**HR**	6	**2**	**HR**	PI 88788, 437654
U IV	**4**	**JTN-4218**	1	**0**	**HR**	77	**28**	**MR**	PI 494182
U IV	**5**	**JTN-4319**	4	**2**	**HR**	17	**6**	**HR**	PI 437655
U IV	**6**	**JTN-4419**	1	**0**	**HR**	11	**4**	**HR**	PI 437655
U IV	**7**	**JTN-4519**	30	**13**	**R**	143	**52**	**LR**	PI 494182
U IV	**8**	**K16-1114**	15	**7**	**HR**	141	**51**	**LR**	PI 88788
U IV	**9**	**K16-1200**	15	**7**	**HR**	174	**64**	**NR**	PI 88788
U IV	**10**	**K16-1208**	24	**11**	**HR**	157	**57**	**LR**	PI 88788
U IV	**11**	**K16-1231**	3	**1**	**HR**	152	**56**	**LR**	PI 88788

2019 NORTHERN REGIONAL SCN TESTS SCN SCREENING

			HG Type 0				HG Type 2.5.7			
	Ent	Strain	mean	FI	rating	mean	FI	rating	SCN Resistance source
U IV	**12**	**K16-1540**	8	**4**	**HR**	159	**58**	**LR**	PI 88788
U IV	**13**	**K16-1687**	22	**10**	**R**	187	**68**	**NR**	PI 88788
U IV	**14**	**K16-1729**	10	**4**	**HR**	127	**46**	**LR**	PI 88788
U IV	**15**	**LD15-3818**	13	**6**	**HR**	167	**61**	**NR**	PI 88788
U IV	**16**	**LD15-8589**	18	**8**	**HR**	151	**55**	**LR**	PI 88788, 468916
U IV	**17**	**LD16-2955**	5	**2**	**HR**	218	**80**	**NR**	PI 88788, 437654
U IV	**18**	**LD17-9900**	11	**5**	**HR**	138	**50**	**LR**	PI 88788,567516C
U IV	**19**	**LD17-9904**	1	**0**	**HR**	125	**46**	**LR**	PI 88788,567516C
U IV	**20**	**LD17-9937**	4	**2**	**HR**	135	**49**	**retest**	PI 88788,567516C
U IV	***20***	***LD17-9937***				*	*****		*PI 88788,567516C*
U IV	**21**	**S15-10879C**	39	**17**	**R**	137	**50**	**LR**	
U IV	**22**	**SA16-11227**	9	**4**	**HR**	182	**66**	**NR**	PI 88788
U IV	**23**	**SA16-12348**	11	**5**	**HR**	205	**75**	**NR**	PI 88788

* all small roots

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2019 SCN UNIFORM TEST 00

	Strain	Descriptive code	Parentage	Previous testing
1	MN0083	WTy	MN97-121138 x MN0091	1
2	MN0095	PGibl	M92-270029 x M93-313135	4
3	ND Rolette	PGbf	MN0095 x ND05-17649	18 UT 00
4	MN0208CN (SCN)	WTy	MN0902CN x MN0201	4
5	M12-357057	WTy	ND07-4635 x M06-274098	1
6	M13-257047	PGy	M07-209037 x LD08-12441a	New
7	MCH13-109053	WTbr+y	M06-289264 x M06-380029	1
8	MCH13-109062	P+WT+Gy	M06-289264 x M06-380029	1
9	ND16-2745	PGbf	ND10-3459 x ND07-2205	New
10	ND16-8064	PGy	ND10-3460 x ND10-3323	New
11	ND16-8909	WGy	ND10-2763 x ND07-3761	New
12	ND16-9606	WGy	ND10-2763 x M05-363022	New

	Strain	Gen comp	SCN res source	Traits
1	MN0083	F5	None	Rps6
2	MN0095	F5	None	Rps1
3	ND Rolette	F4	None	
4	MN0208CN (SCN)	F5	PI 88788	Rps1a
5	M12-357057	F5	PI 88788	
6	M13-257047	F5	PI 88788	
7	MCH13-109053	F5	PI 88788	
8	MCH13-109062	F5	PI 88788	
9	ND16-2745	F4	PI 88788	
10	ND16-8064	F4	PI 88788	
11	ND16-8909	F4	PI 88788	
12	ND16-9606	F4	PI 88788	

2019 SCN UNIFORM TEST 00

		IL SCN screen				MN IDC
		HG Type 0		HG Type 2.5.7		
	Strain	FI	rating	FI	rating	score
1	MN0083	21	R	60	NR	1.7
2	MN0095	36	MR	102	NR	1.5
3	ND Rolette	42	LR	104	NR	1.2
4	MN0208CN (SCN)	9	HR	76	NR	2.8
5	M12-357057	5	HR	31	MR	1.5
6	M13-257047	14	R	87	NR	2.8
7	MCH13-109053	9	HR	56	LR	1.7
8	MCH13-109062	12	R	75	NR	1.8
9	ND16-2745	30	MR	80	NR	2.0
10	ND16-8064	13	R	58	LR	2.2
11	ND16-8909	12	R	78	NR	4.0
12	ND16-9606	20	R	72	NR	3.2

2019 SCN UNIFORM TEST 00

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	quality	weight	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	score	g/100	@13%	@13%
	Locations	**3**		1*		2		4	4	3	3	3	3	3
1	MN0083	**39.6**	**12**	41.8	12	38.6	11	9/16	1.0	30	14.9	1.7	34.6	17.5
2	MN0095	**46.1**	**8**	52.2	9	43.0	7	1	1.0	30	13.0	1.7	34.0	17.9
3	ND Rolette	**51.7**	**4**	60.4	6	47.3	3	-2	1.0	31	12.8	1.3	33.6	17.7
4	MN0208CN (SCN)	**42.5**	**11**	47.6	11	39.9	10	5	1.5	33	14.2	1.4	35.4	17.6
5	M12-357057	**45.4**	**9**	61.6	5	37.3	12	2	1.0	28	15.8	1.6	34.0	16.4
6	M13-257047	**50.0**	**5**	62.3	4	43.9	6	7	1.0	32	18.4	1.7	34.2	17.8
7	MCH13-109053	**47.6**	**7**	57.5	7	42.6	8	6	1.3	29	14.2	1.3	32.9	18.2
8	MCH13-109062	**43.6**	**10**	48.2	10	41.3	9	5	1.3	29	12.8	1.3	32.9	17.8
9	ND16-2745	**49.4**	**6**	53.0	8	47.6	2	6	1.0	27	15.4	1.3	33.3	17.9
10	ND16-8064	**57.8**	**1**	67.8	1	52.8	1	6	1.0	32	15.0	1.7	32.8	17.8
11	ND16-8909	**53.3**	**2**	67.4	2	46.3	5	2	1.0	26	16.1	1.4	31.8	18.2
12	ND16-9606	**53.2**	**3**	65.2	3	47.1	4	1	1.0	28	16.0	1.6	32.4	18.3
	Mean	**48.3**		58.1		44.0			1.1	30	14.9	1.5	33.5	17.8
	LSD(.05)	**5.0**		9.4		5.5								
	C.V. %	**10.9**		9.7		10.8								
	Replications	**9**		3		6								

*Colfax, ND yield data not included in means

2 Year Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**6**		3		3		7	7	5	5	5	5	5
1	MN0083	**40.2**	**6**	40.8	6	39.6	6	9/12	1.0	26	15.3	1.7	35.7	17.3
2	MN0095	**46.3**	**2**	46.0	4	46.7	1	2	1.0	26	13.6	1.8	34.8	18.0
4	MN0208CN (SCN)	**44.1**	**5**	44.5	5	43.8	4	4	1.3	30	14.3	1.8	36.3	17.5
5	M12-357057	**46.3**	**3**	51.0	1	41.6	5	2	1.0	25	16.0	2.1	35.3	16.3
7	MCH13-109053	**48.1**	**1**	50.5	2	45.8	2	6	1.1	28	14.6	1.5	33.9	18.1
8	MCH13-109062	**45.6**	**4**	46.1	3	45.1	3	4	1.2	26	13.5	1.5	33.8	17.7

2019 SCN UNIFORM TEST 00

Yield (bu/a)

		Gary MN	Colfax ND	Thief River Falls MN	Ottawa ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	41.8	23.7	43.2	34.5
2	MN0095	52.2	32.5	49.2	36.7
3	ND Rolette	60.4	26.0	56.2	39.3
4	MN0208CN (SCN)	47.6	30.6	42.9	37.9
5	M12-357057	61.6	27.6	43.0	30.8
6	M13-257047	62.3	17.1	50.9	37.2
7	MCH13-109053	57.5	22.3	49.7	35.5
8	MCH13-109062	48.2	25.7	48.0	32.7
9	ND16-2745	53.0	22.8	54.7	40.5
10	ND16-8064	67.8	34.8	62.3	44.1
11	ND16-8909	67.4	21.7	56.9	35.9
12	ND16-9606	65.2	32.3	53.0	40.0
	Average	58.1	26.4	52.0	37.1
	LSD(.05)	9.4	8.3	10.8	7.1
	C.V. %	9.7	19.7	12.5	8.8
	Replications	3	3	3	3
	Row width (in.)	10	30	10	15

Yield (rank)

		Gary MN	Colfax ND	Thief River Falls MN	Ottawa ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	12	8	10	3
2	MN0095	9	2	8	6
3	ND Rolette	6	6	3	9
4	MN0208CN (SCN)	11	4	12	8
5	M12-357057	5	5	11	1
6	M13-257047	4	12	6	7
7	MCH13-109053	7	10	7	4
8	MCH13-109062	10	7	9	2
9	ND16-2745	8	9	4	11
10	ND16-8064	1	1	1	12
11	ND16-8909	2	11	2	5
12	ND16-9606	3	3	5	10

2019 SCN UNIFORM TEST 00

Maturity

		Gary	Colfax	Thief River Falls	Ottawa
		MN	ND	MN	ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	9/24	9/16	9/21	9/03
2	MN0095	-4	-1	3	5
3	ND Rolette	-6	-1	-2	3
4	MN0208CN (SCN)	-3	3	7	11
5	M12-357057	-4	4	3	6
6	M13-257047	-2	15	8	7
7	MCH13-109053	1	8	6	10
8	MCH13-109062	0	6	5	8
9	ND16-2745	0	8	4	10
10	ND16-8064	-2	9	6	11
11	ND16-8909	-4	9	-1	5
12	ND16-9606	-4	4	0	4
	Planted	5/17	6/5	5/18	5/21

Lodging (score)

		Gary	Colfax	Thief River Falls	Ottawa
		MN	ND	MN	ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	1.0	1.0	1.0	1.0
2	MN0095	1.0	1.0	1.0	1.0
3	ND Rolette	1.0	1.0	1.0	1.0
4	MN0208CN (SCN)	3.0	1.0	1.0	1.0
5	M12-357057	1.0	1.0	1.0	1.0
6	M13-257047	1.0	1.0	1.0	1.0
7	MCH13-109053	2.0	1.0	1.0	1.0
8	MCH13-109062	2.0	1.0	1.0	1.0
9	ND16-2745	1.0	1.0	1.0	1.0
10	ND16-8064	1.0	1.0	1.0	1.0
11	ND16-8909	1.0	1.0	1.0	1.0
12	ND16-9606	1.0	1.0	1.0	1.0

2019 SCN UNIFORM TEST 00

Height (inches)

		Gary	Colfax	Thief River Falls	Ottawa
		MN	ND	MN	ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	35		31	25
2	MN0095	36		30	24
3	ND Rolette	37		32	25
4	MN0208CN (SCN)	39		33	28
5	M12-357057	34		28	20
6	M13-257047	39		33	24
7	MCH13-109053	34		28	24
8	MCH13-109062	32		30	25
9	ND16-2745	31		27	22
10	ND16-8064	38		33	23
11	ND16-8909	30		26	21
12	ND16-9606	34		29	22

Seed Weight (g/100)

		Gary	Colfax	Thief River Falls	Ottawa
		MN	ND	MN	ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	16.4		14.7	13.7
2	MN0095	13.5		12.5	13.0
3	ND Rolette	13.4		12.0	13.0
4	MN0208CN (SCN)	13.6		14.4	14.5
5	M12-357057	16.2		15.9	15.4
6	M13-257047	18.8		17.8	18.6
7	MCH13-109053	14.1		14.6	13.9
8	MCH13-109062	12.4		12.8	13.2
9	ND16-2745	15.8		14.8	15.6
10	ND16-8064	14.4		15.7	14.9
11	ND16-8909	16.6		15.9	15.7
12	ND16-9606	16.4		15.4	16.2

2019 SCN UNIFORM TEST 00

Seed Quality (score)

		Gary MN	Colfax ND	Thief River Falls MN	Ottawa ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	1.0		2.0	2.0
2	MN0095	1.0		2.0	2.0
3	ND Rolette	1.0		1.0	2.0
4	MN0208CN (SCN)	1.0		1.0	2.3
5	M12-357057	1.0		1.0	2.7
6	M13-257047	1.0		1.0	3.0
7	MCH13-109053	1.0		1.0	2.0
8	MCH13-109062	1.0		1.0	2.0
9	ND16-2745	1.0		1.0	2.0
10	ND16-8064	1.0		1.0	3.0
11	ND16-8909	1.0		1.0	2.3

2019 SCN UNIFORM TEST 00

Protein (%)

		Gary	Colfax	Thief River Falls	Ottawa
		MN	ND	MN	ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	.		34.6	34.7
2	MN0095	34.2		34.2	33.5
3	ND Rolette	33.4		32.8	34.7
4	MN0208CN (SCN)	35.8		35.0	35.4
5	M12-357057	34.1		33.4	34.5
6	M13-257047	34.1		33.7	34.9
7	MCH13-109053	33.0		33.7	32.0
8	MCH13-109062	33.6		32.7	32.3
9	ND16-2745	33.0		33.3	33.4
10	ND16-8064	32.9		33.2	32.4
11	ND16-8909	32.4		31.9	31.1
12	ND16-9606	32.2		32.7	32.3

Oil (%)

		Gary	Colfax	Thief River Falls	Ottawa
		MN	ND	MN	ON
	SCN HG Type	Inf	2.5.7	NI	NI
	Strain				
1	MN0083	.		16.6	18.4
2	MN0095	17.8		17.1	18.8
3	ND Rolette	17.6		17.4	18.2
4	MN0208CN (SCN)	17.3		17.0	18.6
5	M12-357057	15.4		16.8	16.9
6	M13-257047	17.8		17.6	18.1
7	MCH13-109053	17.9		18.3	18.6
8	MCH13-109062	17.6		17.6	18.3
9	ND16-2745	16.4		18.4	19.0
10	ND16-8064	17.5		17.5	18.3
11	ND16-8909	17.7		18.2	18.6
12	ND16-9606	18.3		18.3	18.3

2019 SCN UNIFORM TEST 0

	Strain	Descriptive code	Parentage	Previous testing
1	ND Stutsman	PGy	Sheyenne x LaMoure	1
2	MN0095	PGibl	M92-270029 x M93-313135	8
3	MN0404CN (SCN)	PTbl	MN0902CN x MN0304	1
4	MN1410	WGbf	Unknown	13
5	M07-296048HOLL-5	PTy	[M07-296048(4) x M05-319034LL] x [M07-296048(4) x M10-237089HO]	New
6	M08-362045L	WLtbl	MN0606CN x U03-100612	1
7	M12-354012	WLty	AR10-205011 x ND07-4027	1
8	M12-366065	WTy	M07-211456 x M06-310036	18SCN U00
9	M12-386012	WGy	M06-289192 x M06-286029	1
10	M13-104065	WTy	M07-260028 x M05-353086	New
11	M13-104080	PT+Gy	M07-260028 x M05-353086	New
12	M13-104106	PTy	M07-260028 x M05-353086	New
13	M13-112029	PGy	ND09-3153 x M08-151086	New
14	M13-112034	PT+Gy	ND09-3153 x M08-151086	New
15	M13-118036	P+WGy	M06-288155 x U09-118017	New
16	M13-121040	PTy	AR08-186008 x M02-149100	New
17	M13-250056	WGbf	M06-288190 x AR09-191018	New
18	M13-251003	PGy	M06-289273 x AR09-291011	New
19	M13-251018	WGy	M06-289273 x AR09-291011	New
20	M13-251024	PGy	M06-289273 x AR09-291011	New
21	M13-252039	PGbf	M07-294030 x E07051	New
22	M13-252044	PGbf	M07-294030 x E07051	New
23	M13-257029	WTy	M07-209037 x LD08-12441a	New
24	M13-262005	PGbf	M03-172059 x LD08-12435a	New
25	M13-262037	PGibl	M03-172059 x LD08-12435a	New
26	ND13-4508	WGy	P.91M10 x Sheyenne	18 UT 0
27	ND16-2751	PGy	ND10-3459 x ND07-2205	New
28	ND16-3035	WGy	ND10-2763 x ND10-2522	New
29	ND16-5820	WGy	ND10-2763 x M05-363022	New
30	ND16-6908	P+WGy	ND10-2763 x ND10-2522	New
31	ND16-7704	PGy	ND10-3413 x ND10-3048	New
32	ND16-7896	WGbf	ND10-3495 x ND Stutsman	New
33	ND16-8078	P+WGy	ND10-3460 x ND10-3323	New
34	ND16-8305	WGy	ND10-2479 x ND10-2522	New

2019 SCN UNIFORM TEST 0

	Strain	Gen comp	SCN res source	Traits
1	ND Stutsman	F4	None	
2	MN0095	F5	None	Rps1
3	MN0404CN (SCN)	F5	PI 88788	Rps1k
4	MN1410	F5	None	
5	M07-296048HOLL-5	BC3F3	PI 88788	HOLL
6	M08-362045L	F5	PI 88788	
7	M12-354012	F5	PI 88788	
8	M12-366065	F5	PI 88788	
9	M12-386012	F5	PI 88788	
10	M13-104065	F5	PI 88788	
11	M13-104080	F5	PI 88788	
12	M13-104106	F5	PI 88788	
13	M13-112029	F5	PI 88788	
14	M13-112034	F5	PI 88788	
15	M13-118036	F5	PI 88788	
16	M13-121040	F5	PI 88788	
17	M13-250056	F5	PI 88788	
18	M13-251003	F5	PI 88788	
19	M13-251018	F5	PI 88788	
20	M13-251024	F5	PI 88788	
21	M13-252039	F5	PI 88788	
22	M13-252044	F5	PI 88788	
23	M13-257029	F5	PI 88788	
24	M13-262005	F5	PI 88788	
25	M13-262037	F5	PI 88788	
26	ND13-4508	F4	none	
27	ND16-2751	F4	PI 88788	
28	ND16-3035	F4	PI 88788	
29	ND16-5820	F4	PI 88788	
30	ND16-6908	F4	PI 88788	
31	ND16-7704	F4	PI 88788	
32	ND16-7896	F4	PI 88788	
33	ND16-8078	F4	PI 88788	
34	ND16-8305	F4	PI 88788	

2019 SCN UNIFORM TEST 0

		IL SCN screen				MN IDC
		HG Type 0		HG Type 2.5.7		
	Strain	FI	rating	FI	rating	score
1	ND Stutsman	33	MR	92	NR	1.7
2	MN0095	36	MR	102	NR	1.2
3	MN0404CN (SCN)	6	HR	62	NR	3.0
4	MN1410	57	LR	94	NR	3.8
5	M07-296048HOLL-5	3	HR	109	NR	1.8
6	M08-362045L	2	HR	52	LR	2.8
7	M12-354012	8	HR	68	NR	3.8
8	M12-366065	5	HR	45	LR	3.2
9	M12-386012	22	R	67	**	2.7
10	M13-104065	3	HR	60	NR	1.5
11	M13-104080	29	MR	81	NR	1.3
12	M13-104106	3	HR	33	MR	1.7
13	M13-112029	70	NR	38	MR	2.2
14	M13-112034	10	R	110	NR	3.5
15	M13-118036	18	R	57	LR	3.2
16	M13-121040	26	MR	53	LR	2.7
17	M13-250056	1	HR	3	HR	3.3
18	M13-251003	6	HR	39	MR	1.7
19	M13-251018	11	R	31	MR	4.5
20	M13-251024	7	HR	61	NR	2.3
21	M13-252039	11	R	87	NR	4.0
22	M13-252044	20	R	94	NR	4.3
23	M13-257029	11	R	73	NR	3.5
24	M13-262005	33	MR	69	NR	4.3
25	M13-262037	24	R	73	NR	4.0
26	ND13-4508	36	MR	86	NR	3.2
27	ND16-2751	8	HR	124	NR	2.5
28	ND16-3035	19	R	99	NR	4.5
29	ND16-5820	2	HR	58	LR	3.8
30	ND16-6908	21	R	87	NR	4.7
31	ND16-7704	12	R	84	NR	3.5
32	ND16-7896	3	HR	62	NR	1.0
33	ND16-8078	3	HR	77	NR	3.3
34	ND16-8305	11	R	99	NR	2.7

**rep data too variable to rate

2019 SCN UNIFORM TEST 0
Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**4**		1*		3		5	5	4	4	4	4	4
1	ND Stutsman	**47.2**	**6**	60.4	10	42.8	4	9/27	1.0	30	14.6	1.1	33.8	17.6
2	MN0095	**40.6**	**31**	52.9	30	36.6	29	-11	1.0	28	12.1	1.4	34.6	17.9
3	MN0404CN (SCN)	**41.9**	**28**	55.3	25	37.4	27	-8	1.6	30	13.9	1.1	33.5	18.1
4	MN1410	**47.4**	**5**	57.7	18	43.9	2	6	1.0	32	17.3	1.2	33.4	18.1
5	M07-296048HOLL-5	**44.1**	**17**	53.8	28	40.9	12	3	1.2	33	16.7	1.1	34.6	16.2
6	M08-362045L	**43.7**	**19**	58.3	15	38.8	22	0	1.0	26	15.6	1.3	33.5	18.2
7	M12-354012	**47.9**	**2**	65.9	2	41.9	8	0	1.0	30	14.9	1.4	33.2	18.2
8	M12-366065	**42.0**	**26**	54.5	27	37.8	26	-4	1.2	29	14.4	1.1	33.4	18.1
9	M12-386012	**42.7**	**24**	55.6	24	38.4	24	-3	1.0	27	17.0	1.6	35.9	17.6
10	M13-104065	**44.3**	**16**	57.9	17	39.7	15	-2	1.0	31	18.9	1.4	34.0	17.2
11	M13-104080	**37.0**	**34**	42.0	34	36.6	28	-7	1.0	30	15.8	1.3	34.2	17.4
12	M13-104106	**42.4**	**25**	60.5	9	36.4	30	-4	1.0	28	18.0	1.1	34.1	17.1
13	M13-112029	**38.4**	**32**	49.7	33	34.6	33	-4	1.0	28	14.1	1.1	33.9	18.2
14	M13-112034	**38.1**	**33**	52.9	31	33.2	34	-5	1.0	28	15.0	1.1	34.4	18.2
15	M13-118036	**48.3**	**1**	59.9	11	44.4	1	0	1.0	28	15.7	1.1	33.2	17.6
16	M13-121040	**41.8**	**29**	50.5	32	38.9	21	0	1.0	31	14.5	1.4	32.2	18.5
17	M13-250056	**47.9**	**2**	61.1	8	43.4	3	2	1.0	32	15.8	1.1	32.4	18.2
18	M13-251003	**46.2**	**10**	59.4	12	41.8	9	-3	1.0	31	16.7	1.3	33.0	17.5
19	M13-251018	**45.2**	**13**	64.4	3	38.8	22	0	1.0	28	17.9	1.1	33.4	17.6
20	M13-251024	**46.8**	**8**	62.2	7	41.7	10	-1	1.0	32	15.4	1.2	33.2	17.3
21	M13-252039	**42.8**	**22**	56.5	21	38.3	25	8	1.1	30	17.6	1.6	33.1	16.9
22	M13-252044	**46.5**	**9**	58.4	14	42.6	6	7	1.2	27	17.7	1.6	32.9	17.4
23	M13-257029	**43.8**	**18**	56.0	23	39.7	15	0	1.0	30	16.7	1.1	35.6	17.8
24	M13-262005	**44.5**	**15**	57.2	20	40.2	14	2	1.0	27	16.6	1.2	33.3	18.3
25	M13-262037	**45.7**	**11**	55.3	26	42.5	7	4	1.0	28	16.2	1.3	33.2	18.0
26	ND13-4508	**42.8**	**22**	53.5	29	39.3	19	0	1.0	27	16.8	1.2	33.9	17.2
27	ND16-2751	**45.4**	**12**	57.5	19	41.4	11	5	1.0	30	15.6	1.1	32.8	17.9
28	ND16-3035	**41.0**	**30**	62.5	6	39.5	18	-8	1.0	27	15.2	1.2	32.5	18.1
29	ND16-5820	**47.0**	**7**	69.2	1	39.6	17	0	1.0	26	16.0	1.2	33.5	18.0
30	ND16-6908	**41.9**	**27**	59.0	13	36.1	32	-8	1.0	25	15.6	1.2	32.5	18.3
31	ND16-7704	**44.8**	**14**	58.1	16	40.3	13	-6	1.0	25	14.5	1.3	33.2	18.1
32	ND16-7896	**43.4**	**20**	56.1	22	39.1	20	-3	1.4	29	15.3	1.2	34.6	17.5
33	ND16-8078	**47.9**	**2**	63.1	5	42.8	4	5	1.0	30	16.5	1.3	33.5	17.8
34	ND16-8305	**43.2**	**21**	63.9	4	36.4	30	-6	1.0	23	15.5	1.1	32.9	18.3
	Mean	**44.0**		57.4		39.6			1.0	29	15.9	1.2	33.6	17.8
	LSD(.05)	**4.5**		7.5		4.7								
	C.V. %	**12.7**		8.0		12.8								
	Replications	**12**		3		9								

*Colfax, ND yield data not included in means

2019 SCN UNIFORM TEST 0

2 Year Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**11**		5		6		12	12	10	10	10	10	10
1	ND Stutsman	**50.5**	**4**	51.7	4	48.9	2	9/21	1.2	31	15.4	1.5	34.1	17.9
2	MN0095	**41.7**	**7**	43.5	7	40.1	5	-8	1.1	26	13.2	1.5	34.8	18.2
3	MN0404CN (SCN)	**43.5**	**6**	47.8	6	40.6	5	-7	1.8	29	14.5	1.5	34.1	18.5
4	MN1410	**53.9**	**1**	56.4	2	52.3	1	5	1.5	35	17.9	1.4	34.5	18.1
6	M08-362045L	**51.8**	**2**	57.3	1	47.4	3	0	1.3	28	15.9	1.4	34.4	18.4
7	M12-354012	**51.5**	**3**	56.4	2	47.9	3	-1	1.5	30	15.3	2.2	34.4	18.3
9	M12-386012	**47.5**	**5**	51.5	5	42.4	4	-3	1.1	29	16.7	1.6	35.9	17.8

2019 SCN UNIFORM TEST 0
Yield (bu/a)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	60.4	42.4	58.6	43.3	26.6
2	MN0095	52.9	25.9	46.3	36.0	25.0
3	MN0404CN (SCN)	55.3	18.3	48.6	34.7	25.8
4	MN1410	57.7	47.6	52.5	46.4	34.0
5	M07-296048HOLL-5	53.8	30.6	46.1	38.5	36.6
6	M08-362045L	58.3	42.4	54.8	34.1	30.7
7	M12-354012	65.9	39.1	50.1	44.4	35.2
8	M12-366065	54.5	34.1	47.2	39.5	25.9
9	M12-386012	55.6	31.9	53.5	38.3	23.9
10	M13-104065	57.9	28.9	44.6	42.7	28.5
11	M13-104080	42.0	29.3	48.4	33.5	27.3
12	M13-104106	60.5	24.1	41.4	35.2	30.6
13	M13-112029	49.7	31.5	47.0	30.4	29.7
14	M13-112034	52.9	32.6	43.1	27.3	24.8
15	M13-118036	59.9	37.2	56.0	41.8	35.5
16	M13-121040	50.5	28.8	51.7	36.0	31.0
17	M13-250056	61.1	37.1	49.7	42.1	38.9
18	M13-251003	59.4	38.3	48.8	41.3	38.4
19	M13-251018	64.4	38.3	45.2	37.9	33.0
20	M13-251024	62.2	37.8	51.6	35.0	35.5
21	M13-252039	56.5	40.6	46.5	35.0	42.6
22	M13-252044	58.4	31.4	41.5	46.7	39.7
23	M13-257029	56.0	33.0	49.1	35.7	29.2
24	M13-262005	57.2	26.5	54.6	35.1	32.3
25	M13-262037	55.3	38.0	54.2	38.9	32.3
26	ND13-4508	53.5	35.7	51.4	40.3	29.6
27	ND16-2751	57.5	47.3	47.2	41.4	36.7
28	ND16-3035	62.5	39.7	47.6	39.9	28.2
29	ND16-5820	69.2	36.9	54.0	36.1	29.9
30	ND16-6908	59.0	35.4	49.4	35.0	24.8
31	ND16-7704	58.1	37.3	52.3	37.4	28.1
32	ND16-7896	56.1	37.9	45.1	40.4	35.2
33	ND16-8078	63.1	41.9	56.1	39.8	29.1
34	ND16-8305	63.9	31.3	49.0	36.2	24.5
	Average	57.4	35.0	49.2	38.1	31.2
	LSD(.05)	7.5	14.8	7.0	9.8	5.7
	C.V. %	8.0	26.5	8.8	13.2	11.1
	Replications	3	3	3	3	3
	Row width (in.)	10	30	10	15	14

2019 SCN UNIFORM TEST 0

Yield (rank)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	10	3	1	4	27
2	MN0095	30	32	27	22	30
3	MN0404CN (SCN)	25	34	20	30	29
4	MN1410	18	1	9	2	11
5	M07-296048HOLL-5	28	27	28	16	6
6	M08-362045L	15	4	4	31	16
7	M12-354012	2	8	14	3	9
8	M12-366065	27	20	24	14	28
9	M12-386012	24	23	8	17	34
10	M13-104065	17	29	31	5	23
11	M13-104080	34	28	21	32	26
12	M13-104106	9	33	34	25	17
13	M13-112029	33	24	25	33	19
14	M13-112034	31	22	32	34	31
15	M13-118036	11	15	3	7	7
16	M13-121040	32	30	11	23	15
17	M13-250056	8	16	15	6	3
18	M13-251003	12	9	19	9	4
19	M13-251018	3	9	29	18	12
20	M13-251024	7	13	12	28	7
21	M13-252039	21	6	26	29	1
22	M13-252044	14	25	33	1	2
23	M13-257029	23	21	17	24	21
24	M13-262005	20	31	5	26	13
25	M13-262037	26	11	6	15	13
26	ND13-4508	29	18	13	11	20
27	ND16-2751	19	2	23	8	5
28	ND16-3035	6	7	22	12	24
29	ND16-5820	1	17	7	21	18
30	ND16-6908	13	19	16	27	31
31	ND16-7704	16	14	10	19	25
32	ND16-7896	22	12	30	10	9
33	ND16-8078	5	5	2	13	22
34	ND16-8305	4	26	18	20	33

Maturity

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	10/01	9/27	10/07	9/16	9/22
2	MN0095	-11	-12	-17	-12	-3
3	MN0404CN (SCN)	-11	-8	-11	-10	-2
4	MN1410	11	7	3	6	4
5	M07-296048HOLL-5	4	9	-1	3	2
6	M08-362045L	-2	0	-5	3	2
7	M12-354012	0	1	-6	0	3
8	M12-366065	-8	-3	-8	-3	0
9	M12-386012	-5	-3	-5	0	-3
10	M13-104065	-6	-4	-6	2	2
11	M13-104080	-10	-6	-8	-8	-5
12	M13-104106	-7	-3	-10	0	-1
13	M13-112029	-5	-3	-9	-2	0
14	M13-112034	-8	-3	-11	-3	-2
15	M13-118036	2	1	-2	1	-3
16	M13-121040	-1	2	-4	0	4
17	M13-250056	5	4	-1	0	3
18	M13-251003	8	9	-37	2	3
19	M13-251018	5	7	-19	2	3
20	M13-251024	-1	0	-5	1	1
21	M13-252039	12	12	0	5	11
22	M13-252044	8	13	0	1	12
23	M13-257029	6	-1	-8	-1	3
24	M13-262005	5	4	1	1	1
25	M13-262037	5	9	2	0	4
26	ND13-4508	-1	3	-5	2	1
27	ND16-2751	13	3	1	3	4
28	ND16-3035	-10	-8	-16	-4	-3
29	ND16-5820	-1	0	-5	2	2
30	ND16-6908	-9	-3	-16	-8	-2
31	ND16-7704	-8	-2	-13	-4	-1
32	ND16-7896	-6	-4	-3	0	-1
33	ND16-8078	8	5	3	6	5
34	ND16-8305	-9	-6	-12	-2	0
	Planted	5/17	6/05	5/18	5/21	6/14

Lodging (score)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	1.0	1.0	1.0	1.0	1.0
2	MN0095	1.0	1.0	1.0	1.0	1.0
3	MN0404CN (SCN)	3.0	1.0	1.0	1.0	1.8
4	MN1410	1.0	1.0	1.0	1.0	1.0
5	M07-296048HOLL-5	2.0	1.0	1.0	1.0	1.1
6	M08-362045L	1.0	1.0	1.0	1.0	1.0
7	M12-354012	1.0	1.0	1.0	1.0	1.0
8	M12-366065	2.0	1.0	1.0	1.0	1.0
9	M12-386012	1.0	1.0	1.0	1.0	1.0
10	M13-104065	1.0	1.0	1.0	1.0	1.0
11	M13-104080	1.0	1.0	1.0	1.0	1.0
12	M13-104106	1.0	1.0	1.0	1.0	1.0
13	M13-112029	1.0	1.0	1.0	1.0	1.0
14	M13-112034	1.0	1.0	1.0	1.0	1.0
15	M13-118036	1.0	1.0	1.0	1.0	1.0
16	M13-121040	1.0	1.0	1.0	1.0	1.1
17	M13-250056	1.0	1.0	1.0	1.0	1.0
18	M13-251003	1.0	1.0	1.0	1.0	1.0
19	M13-251018	1.0	1.0	1.0	1.0	1.0
20	M13-251024	1.0	1.0	1.0	1.0	1.0
21	M13-252039	1.0	1.0	1.0	1.3	1.0
22	M13-252044	2.0	1.0	1.0	1.0	1.0
23	M13-257029	1.0	1.0	1.0	1.0	1.0
24	M13-262005	1.0	1.0	1.0	1.0	1.0
25	M13-262037	1.0	1.0	1.0	1.0	1.0
26	ND13-4508	1.0	1.0	1.0	1.0	1.0
27	ND16-2751	1.0	1.0	1.0	1.0	1.0
28	ND16-3035	1.0	1.0	1.0	1.0	1.0
29	ND16-5820	1.0	1.0	1.0	1.0	1.0
30	ND16-6908	1.0	1.0	1.0	1.0	1.0
31	ND16-7704	1.0	1.0	1.0	1.0	1.0
32	ND16-7896	1.0	1.0	3.0	1.0	1.0
33	ND16-8078	1.0	1.0	1.0	1.0	1.0
34	ND16-8305	1.0	1.0	1.0	1.0	1.0

2019 SCN PRELIMINARY TEST III

Height (inches)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	39		33	27	23
2	MN0095	37		33	22	19
3	MN0404CN (SCN)	34		34	29	22
4	MN1410	42		35	26	26
5	M07-296048HOLL-5	39		36	29	28
6	M08-362045L	34		30	21	19
7	M12-354012	36		34	28	22
8	M12-366065	37		32	26	22
9	M12-386012	33		31	22	20
10	M13-104065	38		33	29	25
11	M13-104080	38		34	26	23
12	M13-104106	35		30	23	22
13	M13-112029	38		34	21	21
14	M13-112034	38		30	22	22
15	M13-118036	36		31	24	23
16	M13-121040	37		35	26	24
17	M13-250056	38		35	28	27
18	M13-251003	37		36	29	24
19	M13-251018	35		34	24	20
20	M13-251024	40		32	28	27
21	M13-252039	41		34	24	23
22	M13-252044	35		30	24	20
23	M13-257029	35		33	26	26
24	M13-262005	33		33	22	21
25	M13-262037	33		32	24	23
26	ND13-4508	34		30	24	21
27	ND16-2751	43		32	26	20
28	ND16-3035	33		32	23	18
29	ND16-5820	34		29	19	22
30	ND16-6908	33		29	21	17
31	ND16-7704	31		29	22	19
32	ND16-7896	35		32	25	23
33	ND16-8078	39		34	24	22
34	ND16-8305	28		28	20	15

2019 SCN UNIFORM TEST 0

Seed Weight (g/100)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	14.4		14.5	15.0	14.4
2	MN0095	12.2		12.4	12.0	11.7
3	MN0404CN (SCN)	15.0		14.3	13.0	13.3
4	MN1410	17.0		17.2	18.9	16.2
5	M07-296048HOLL-5	16.8		17.0	17.1	15.8
6	M08-362045L	16.0		15.6	16.3	14.6
7	M12-354012	15.4		14.3	14.8	14.9
8	M12-366065	15.2		13.9	13.8	14.5
9	M12-386012	17.3		16.8	18.1	15.6
10	M13-104065	19.0		20.1	18.5	17.9
11	M13-104080	16.1		16.1	15.9	15.2
12	M13-104106	18.5		17.1	18.7	17.6
13	M13-112029	15.2		13.7	13.8	13.5
14	M13-112034	15.5		14.6	14.5	15.2
15	M13-118036	14.9		16.5	16.1	15.1
16	M13-121040	14.9		14.6	14.0	14.5
17	M13-250056	16.3		16.0	15.5	15.2
18	M13-251003	16.2		17.7	17.0	15.8
19	M13-251018	18.0		18.9	17.4	17.2
20	M13-251024	15.7		15.7	14.9	15.2
21	M13-252039	18.0		18.2	16.8	17.3
22	M13-252044	17.8		17.6	17.7	17.6
23	M13-257029	16.5		17.1	16.4	16.9
24	M13-262005	17.9		17.8	15.8	14.8
25	M13-262037	15.7		16.1	16.5	16.4
26	ND13-4508	16.8		17.0	17.5	15.8
27	ND16-2751	16.3		15.6	15.2	15.1
28	ND16-3035	15.7		15.0	14.5	15.4
29	ND16-5820	16.8		16.0	15.7	15.6
30	ND16-6908	15.4		15.7	14.7	16.4
31	ND16-7704	14.4		14.3	14.4	14.8
32	ND16-7896	15.2		16.6	14.9	14.5
33	ND16-8078	16.6		16.2	17.2	15.8
34	ND16-8305	15.4		15.3	15.5	15.9

2019 SCN UNIFORM TEST 0

Seed Quality (score)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	1.0		1.0	1.0	1.5
2	MN0095	1.0		1.0	2.0	1.5
3	MN0404CN (SCN)	1.0		1.0	1.0	1.5
4	MN1410	1.0		1.0	1.3	1.5
5	M07-296048HOLL-5	1.0		1.0	1.0	1.5
6	M08-362045L	1.0		1.0	1.7	1.5
7	M12-354012	1.0		1.0	2.0	1.5
8	M12-366065	1.0		1.0	1.0	1.5
9	M12-386012	2.0		1.0	2.0	1.5
10	M13-104065	1.0		1.0	1.0	2.5
11	M13-104080	1.0		1.0	1.7	1.5
12	M13-104106	1.0		1.0	1.0	1.5
13	M13-112029	1.0		1.0	1.0	1.5
14	M13-112034	1.0		1.0	1.0	1.5
15	M13-118036	1.0		1.0	1.0	1.5
16	M13-121040	1.0		1.0	2.0	1.5
17	M13-250056	1.0		1.0	1.0	1.5
18	M13-251003	1.0		1.0	1.7	1.5
19	M13-251018	1.0		1.0	1.3	1.0
20	M13-251024	1.0		1.0	1.3	1.5
21	M13-252039	1.0		2.0	1.7	1.5
22	M13-252044	1.0		2.0	2.0	1.5
23	M13-257029	1.0		1.0	1.0	1.5
24	M13-262005	1.0		1.0	1.3	1.5
25	M13-262037	1.0		1.0	1.7	1.5
26	ND13-4508	1.0		1.0	1.3	1.5
27	ND16-2751	1.0		1.0	1.0	1.5
28	ND16-3035	1.0		1.0	1.3	1.5
29	ND16-5820	1.0		1.0	1.3	1.5
30	ND16-6908	1.0		1.0	1.3	1.5
31	ND16-7704	1.0		1.0	1.7	1.5
32	ND16-7896	1.0		1.0	1.3	1.5
33	ND16-8078	1.0		1.0	1.7	1.5
34	ND16-8305	1.0		1.0	1.0	1.5

2019 SCN UNIFORM TEST 0

Protein (%)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	33.9		33.6	32.1	35.5
2	MN0095	34.3		34.5	33.8	35.7
3	MN0404CN (SCN)	.		33.7	32.9	33.7
4	MN1410	31.8		32.7	33.4	35.5
5	M07-296048HOLL-5	33.8		34.4	34.7	35.3
6	M08-362045L	32.8		33.5	33.8	33.9
7	M12-354012	32.8		32.9	33.0	34.0
8	M12-366065	33.1		32.7	32.5	35.2
9	M12-386012	34.6		35.0	36.9	36.8
10	M13-104065	33.2		33.8	33.8	35.2
11	M13-104080	32.9		33.4	34.8	35.7
12	M13-104106	33.7		33.6	34.3	34.8
13	M13-112029	33.2		34.1	33.0	35.5
14	M13-112034	33.8		33.8	33.5	36.5
15	M13-118036	33.3		33.4	32.2	34.1
16	M13-121040	31.6		32.2	31.3	33.6
17	M13-250056	32.4		32.9	30.9	33.3
18	M13-251003	33.0		32.3	32.3	34.3
19	M13-251018	34.0		32.7	32.5	34.6
20	M13-251024	32.7		32.5	33.5	34.2
21	M13-252039	33.5		32.5	33.0	33.6
22	M13-252044	33.4		32.6	31.3	34.5
23	M13-257029	34.5		35.4	36.3	36.1
24	M13-262005	33.5		32.2	32.4	35.2
25	M13-262037	32.8		33.1	31.5	35.4
26	ND13-4508	33.4		32.8	33.8	35.6
27	ND16-2751	32.5		32.1	32.8	34.0
28	ND16-3035	32.3		32.2	31.1	34.5
29	ND16-5820	33.1		32.8	33.7	34.5
30	ND16-6908	31.7		32.6	31.4	34.3
31	ND16-7704	32.8		33.3	32.0	34.6
32	ND16-7896	34.2		34.1	35.5	34.7
33	ND16-8078	34.2		33.3	31.8	34.8
34	ND16-8305	32.8		32.6	31.1	35.1

2019 SCN UNIFORM TEST 0

Oil (%)

		Gary	Colfax	Thief River Falls	Ottawa	Woodstock
		MN	ND	MN	ON	ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Stutsman	16.3		17.4	18.6	18.1
2	MN0095	18.0		17.2	18.4	18.1
3	MN0404CN (SCN)	.		17.7	18.3	18.4
4	MN1410	18.8		17.5	18.2	17.8
5	M07-296048HOLL-5	16.5		16.0	15.4	17.0
6	M08-362045L	18.5		18.6	17.6	18.3
7	M12-354012	17.8		18.7	18.3	18.2
8	M12-366065	17.7		18.2	18.5	18.0
9	M12-386012	17.5		17.1	17.8	18.1
10	M13-104065	17.5		16.9	17.0	17.4
11	M13-104080	17.8		17.5	16.8	17.3
12	M13-104106	16.9		17.3	16.8	17.7
13	M13-112029	18.1		17.7	19.4	17.8
14	M13-112034	17.9		18.1	19.0	17.8
15	M13-118036	17.7		17.5	17.5	17.5
16	M13-121040	18.9		18.8	18.1	18.0
17	M13-250056	17.1		18.2	18.7	18.6
18	M13-251003	18.2		17.0	17.3	17.7
19	M13-251018	17.8		16.9	17.5	18.2
20	M13-251024	18.0		17.3	16.4	17.3
21	M13-252039	16.7		16.5	16.8	17.7
22	M13-252044	17.4		16.5	17.9	17.8
23	M13-257029	18.0		17.4	17.9	17.9
24	M13-262005	18.5		17.7	18.7	18.4
25	M13-262037	18.0		17.8	18.2	17.9
26	ND13-4508	17.7		17.0	16.9	17.3
27	ND16-2751	17.8		18.5	17.3	18.0
28	ND16-3035	17.8		18.0	18.4	18.3
29	ND16-5820	17.7		18.7	17.5	18.2
30	ND16-6908	18.1		18.4	18.7	17.9
31	ND16-7704	17.6		18.4	18.7	18.0
32	ND16-7896	17.5		17.5	17.4	17.5
33	ND16-8078	17.5		17.8	18.1	17.8
34	ND16-8305	17.6		18.3	18.8	18.3

2019 SCN UNIFORM TEST I

	Strain	Descriptive code	Parentage	Previous testing
1	MN1410	WGbf	Unknown	13
2	ND Stutsman	PGy	Sheyenne x LaMoure	1
3	U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612	4
4	U14-103015	PLtbl	LG07-2249 x LG07-6944	18 UT I
5	AR17-179015	PGbf	AR09-192019 x AR09-291011	1
6	E15338	PGibl	E09088 x E12901	1
7	M12-373033	PGy	AR09-191003 x M06-388016	1
8	M12-386029	PGy	M06-289192 x M06-386029	1
9	MCH13-104087	PGbf	M06-288181 x M06-358188	1
10	MCH13-104091	PGbf	M06-288181 x M06-358188	1

	Strain	Gen comp	SCN res source	Traits
1	MN1410	F5	None	
2	ND Stutsman	F4	None	
3	U11-917032 (SCN)	F6	PI 88788	
4	U14-103015	F5	None	Diversity
5	AR17-179015	F4	PI 507354, Peking,88788	
6	E15338	F5	PI 88788	
7	M12-373033	F5	PI 88788	
8	M12-386029	F5	PI 88788	
9	MCH13-104087	F5	PI 88788	
10	MCH13-104091	F5	PI 88788	

		IL SCN screen				**MN IDC**
		HG Type 0		HG Type 2.5.7		
	Strain	FI	rating	FI	rating	score
1	MN1410	57	LR	94	NR	2.8
2	ND Stutsman	33	MR	92	NR	2.3
3	U11-917032 (SCN)	7	HR	76	NR	3.2
4	U14-103015	45	LR	92	NR	3.5
5	AR17-179015	2	HR	5	HR	1.8
6	E15338	10	R	80	NR	1.8
7	M12-373033	16	R	55	LR	2.3
8	M12-386029	44	LR	78	NR	2.5
9	MCH13-104087	9	HR	51	LR	2.7
10	MCH13-104091	6	HR	56	LR	2.3

2019 SCN UNIFORM TEST I

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**5**		4*		1		6	7	6	6	5	6	6
1	MN1410	**48.2**	**7**	45.4	9	59.0	2	9/22	1.3	31	16.2	1.3	35.5	17.4
2	ND Stutsman	**45.7**	**10**	44.5	10	49.0	7	-2	1.0	28	15.8	1.8	35.0	17.5
3	U11-917032 (SCN)	**54.5**	**1**	54.5	1	53.4	4	6	1.0	29	15.4	1.6	33.5	18.2
4	U14-103015	**49.6**	**5**	47.3	6	57.4	3	6	1.0	30	16.0	1.4	35.4	17.8
5	AR17-179015	**48.6**	**6**	48.5	5	48.7	8	7	1.0	29	16.0	1.6	33.8	17.9
6	E15338	**54.0**	**2**	52.0	3	60.9	1	5	1.1	31	16.1	1.6	33.8	17.2
7	M12-373033	**50.1**	**4**	49.2	4	52.2	6	5	1.4	30	16.5	1.4	32.9	18.4
8	M12-386029	**47.4**	**8**	47.2	7	46.8	9	-4	1.0	30	16.0	1.8	36.5	17.0
9	MCH13-104087	**52.6**	**3**	52.3	2	52.8	5	1	1.1	32	14.5	1.5	34.6	17.5
10	MCH13-104091	**47.1**	**9**	47.2	8	45.6	10	2	1.0	31	17.0	1.8	34.9	18.3
	Mean	**49.8**		48.8		52.6			1.1	30	16.0	1.6	34.6	17.7
	LSD(.05)	**4.6**		4.6		8.7								
	C.V. %	**12.8**		11.5		9.6								
	Replications	**14**		11		3								

*Urbana, IL and Rosemount, MN yield data not included in means

2 Year Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**15**		14		1		14	16	15	15	14	15	15
1	MN1410	**48.7**	7	47.9	7	59.0	2	9/16	1.6	32	16.4	1.3	36.1	17.9
2	ND Stutsman	**42.2**	9	41.6	9	49.0	6	-3	1.4	28	16.2	2.3	35.2	18.5
3	U11-917032 (SCN)	**56.1**	3	56.2	3	53.4	3	7	1.6	30	16.2	1.6	33.6	18.9
5	AR17-179015	**56.9**	2	57.5	2	48.7	7	8	1.4	30	16.8	1.3	34.5	18.1
6	E15338	**58.8**	1	58.6	1	60.9	1	5	1.5	33	16.7	1.4	34.1	17.8
7	M12-373033	**54.8**	4	54.9	4	52.2	5	4	1.6	32	16.9	1.6	33.3	19.3
8	M12-386029	**47.5**	8	47.4	8	46.8	8	-3	1.4	31	17.1	1.9	37.3	17.8
9	MCH13-104087	**54.3**	5	54.3	5	52.8	4	1	1.3	34	15.6	1.6	34.8	18.1
10	MCH13-104091	**52.8**	6	53.2	6	45.6	9	2	1.3	33	17.8	1.8	35.2	18.9

2019 SCN UNIFORM TEST I

Yield (bu/a)

		Urbana	Decatur	Danvers	Fairfax	Rosemount	Ridgetown	St. Pauls
		IL	MI	MN	MN	MN	ON	ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	30.4	35.0	63.6	50.8	14.6	35.2	59.0
2	ND Stutsman	30.7	30.2	61.0	45.7	16.1	43.0	49.0
3	U11-917032 (SCN)	42.6	39.8	63.2	57.5	17.8	59.2	53.4
4	U14-103015	44.6	36.7	58.5	54.2	13.7	41.8	57.4
5	AR17-179015	26.8	38.3	63.3	39.7	23.2	54.1	48.7
6	E15338	48.1	41.5	60.3	53.9	34.7	54.0	60.9
7	M12-373033	34.3	40.1	61.9	49.9	24.2	46.9	52.2
8	M12-386029	21.0	33.4	57.6	51.1	21.5	48.6	46.8
9	MCH13-104087	31.0	38.1	62.2	58.5	23.4	52.3	52.8
10	MCH13-104091	27.7	35.5	56.4	49.0	16.1	49.6	45.6
	Average	33.7	36.9	61.1	53.0	19.6	48.4	52.6
	LSD(.05)	11.7	7.8	8.9	12.0	11.4	8.3	8.7
	C.V. %	15.3	10.1	8.7	13.7	35.1	7.9	9.6
	Replications	2	3	3	3	3	2	3
	Row width (in.)	30	30	30	30	30	17	14.0

Yield (rank)

		Urbana	Decatur	Danvers	Fairfax	Rosemount	Ridgetown	St. Pauls
		IL	MI	MN	MN	MN	ON	ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	7	8	1	6	9	10	2
2	ND Stutsman	6	10	6	9	8	8	7
3	U11-917032 (SCN)	3	3	3	2	6	1	4
4	U14-103015	2	6	8	3	10	9	3
5	AR17-179015	9	4	2	10	4	2	8
6	E15338	1	1	7	4	1	3	1
7	M12-373033	4	2	5	7	2	7	6
8	M12-386029	10	9	9	5	5	6	9
9	MCH13-104087	5	5	4	1	3	4	5
10	MCH13-104091	8	7	10	8	7	5	10

2019 SCN UNIFORM TEST I

Maturity

		Urbana	Decatur	Danvers	Fairfax	Rosemount	Ridgetown	St. Pauls
		IL	MI	MN	MN	MN	ON	ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	9/11		9/26	9/25	9/22	9/19	9/29
2	ND Stutsman	1		-1	-3	-6	0	-5
3	U11-917032 (SCN)	6		2	5	10	4	9
4	U14-103015	7		3	3	10	3	10
5	AR17-179015	7		6	6	11	4	11
6	E15338	7		3	2	9	2	4
7	M12-373033	6		3	2	9	4	9
8	M12-386029	-4		-6	-6	-1	0	-6
9	MCH13-104087	1		0	1	4	1	0
10	MCH13-104091	4		1	1	5	1	1
	Planted	6/5	5/11	5/28	6/3	6/7	6/7	6/9

Lodging (score)

		Urbana	Decatur	Danvers	Fairfax	Rosemount	Ridgetown	St. Pauls
		IL	MI	MN	MN	MN	ON	ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	1.0	1.0	3.0	1.0	1.0	1.0	1.2
2	ND Stutsman	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3	U11-917032 (SCN)	1.0	1.3	1.0	1.0	1.0	1.0	1.0
4	U14-103015	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5	AR17-179015	1.0	1.0	1.0	1.0	1.0	1.0	1.2
6	E15338	1.0	2.0	1.0	1.0	1.0	1.0	1.0
7	M12-373033	1.0	1.3	3.0	1.0	1.0	1.0	1.2
8	M12-386029	1.0	1.3	1.0	1.0	1.0	1.0	1.0
9	MCH13-104087	1.0	1.3	1.0	1.0	1.0	1.0	1.2
10	MCH13-104091	1.0	1.0	1.0	1.0	1.0	1.0	1.0

2019 SCN UNIFORM TEST I

Height (inches)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON	St. Pauls ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	24	30	42	32		26	32
2	ND Stutsman	22	30	38	28		24	29
3	U11-917032 (SCN)	24	28	34	29		30	27
4	U14-103015	24	29	38	31		29	30
5	AR17-179015	19	28	35	28		32	29
6	E15338	23	30	36	32		32	30
7	M12-373033	22	29	40	31		30	31
8	M12-386029	19	27	40	29		31	31
9	MCH13-104087	22	29	43	35		31	31
10	MCH13-104091	21	29	44	31		31	29

Seed Weight (g/100)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON	St. Pauls ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	15.5		16.6	16.6	13.1	15.3	20.3
2	ND Stutsman	16.3		15.8	16.3	12.2	15.7	18.4
3	U11-917032 (SCN)	13.9		16.3	16.4	12.4	15.0	18.7
4	U14-103015	16.2		16.7	16.7	13.0	14.1	19.4
5	AR17-179015	15.1		.	16.1	14.7	13.9	20.4
6	E15338	15.4		16.0	16.3	14.2	15.9	18.8
7	M12-373033	15.9		17.3	17.0	13.1	14.8	21.1
8	M12-386029	13.7		16.8	16.9	14.5	15.8	18.3
9	MCH13-104087	13.6		14.5	15.2	12.1	14.2	17.4
10	MCH13-104091	15.6		17.2	17.4	14.2	16.8	20.6

2019 SCN UNIFORM TEST I

Seed Quality (score)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON	St. Pauls ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	2.0		1.0	1.0	1.0		1.5
2	ND Stutsman	3.0		1.0	1.0	2.0		2.0
3	U11-917032 (SCN)	2.0		1.0	2.0	1.0		2.0
4	U14-103015	2.0		1.0	1.0	1.0		2.0
5	AR17-179015	2.0		.	2.0	1.0		1.5
6	E15338	2.0		1.0	1.0	2.0		2.0
7	M12-373033	2.0		1.0	1.0	1.0		2.0
8	M12-386029	2.0		1.0	3.0	1.0		2.0
9	MCH13-104087	2.0		1.0	2.0	1.0		1.5
10	MCH13-104091	2.0		2.0	2.0	1.0		2.0

2019 SCN UNIFORM TEST I

Protein (%)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON	St. Pauls ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	35.1		34.5	33.8	39.5	34.4	35.6
2	ND Stutsman	35.1		35.0	34.3	37.5	34.1	34.1
3	U11-917032 (SCN)	31.2		35.5	32.6	35.6	32.3	33.5
4	U14-103015	34.0		36.1	34.5	37.4	35.0	35.1
5	AR17-179015	33.2		33.6	33.6	35.6	32.8	34.1
6	E15338	33.0		33.9	33.0	37.0	32.1	34.0
7	M12-373033	33.0		32.3	31.7	36.8	30.2	33.4
8	M12-386029	34.9		35.6	36.4	39.2	36.3	36.5
9	MCH13-104087	33.2		34.4	33.7	38.6	33.1	34.5
10	MCH13-104091	33.0		34.2	33.9	38.5	33.5	36.0

Oil (%)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON	St. Pauls ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7	NI
	Strain							
1	MN1410	17.8		18.3	17.2	15.8	17.6	17.8
2	ND Stutsman	18.3		16.8	17.4	16.8	18.5	17.3
3	U11-917032 (SCN)	19.9		17.0	17.9	17.7	18.3	18.2
4	U14-103015	18.8		18.0	17.5	16.9	17.8	17.8
5	AR17-179015	18.6		19.2	17.0	17.6	17.4	17.9
6	E15338	18.2		17.2	16.3	16.0	18.5	17.0
7	M12-373033	19.9		19.1	18.3	16.1	19.5	17.8
8	M12-386029	18.0		17.8	16.8	15.6	17.6	16.4
9	MCH13-104087	18.1		18.3	17.5	16.0	18.1	17.0
10	MCH13-104091	19.3		18.8	17.9	16.4	19.1	18.0

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	Strain	Descriptive code	Parentage
1	MN1410	WGbf	Unknown
2	ND Stutsman	PGy	Sheyenne x LaMoure
3	U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612
4	U14-103015	PLtbl	LG07-2249 x LG07-6944
5	E17137	PGibl	E07051 x E15806
6	E18834	PGibl	E16830-1 x E12076T
7	LD16-560a	WTbl	U11-614119 x LD10-5903a
8	LD17-4930a	PGibl	E11128T x LD14-8030
9	LD17-5215a	PTbl	LD10-10198 x LD14-8035
10	LD17-8147	PLtbl	U11-932025 x AR10-205011
11	M09-285149	PGbf	MN1701CN x E06936
12	M13-104019	WGy	M07-260028 x M05-353086
13	M13-113034	PGy	IA2102 x Sheyenne
14	M13-250019	PGbf	M06-288190 x AR09-191018
15	M13-250030	PGbf	M06-288190 x AR09-191018
16	M13-250046	PGbf	M06-288190 x AR09-191018
17	M13-252012	PGy	M07-294030 x E07051
18	M13-257015	P+WTy/br	M07-209037 x LD08-12441a
19	M13-262015	PGbf	M03-172059 x LD08-12435a
20	M13-262029	WGbf	M03-172059 x LD08-12435a
21	M13-262044	P+WGibl/bf	M03-172059 x LD08-12435a
22	M13-262045	P+WGibl/bf	M03-172059 x LD08-12435a
23	M13-262050	PGibl/bf	M03-172059 x LD08-12435a
24	M13-262053	PGibl/bf	M03-172059 x LD08-12435a
25	M13-262061	P+WGibl/bf	M03-172059 x LD08-12435a
26	M13-266009	P+WGy	MN1505SP X LD10-5903a
27	M13-266011	P+WGy	MN1505SP X LD10-5903a
28	U16-125012	PGbf	U09-105007-174 x AR09-191018

2019 SCN PRELIMINARY TEST I

	Strain	Gen comp	SCN res source	Traits
1	MN1410	F5	None	
2	ND Stutsman	F4	PI 88788	
3	U11-917032 (SCN)	F6	None	
4	U14-103015	F5	PI 88788	Diversity
5	E17137	F5	PI 88788	HOLL
6	E18834	F5	PI 88788	HOLL
7	LD16-560a	F5	PI 88788	Rag 1
8	LD17-4930a	F5	PI 88788	
9	LD17-5215a	F5	PI 88788	Rag 2+3
10	LD17-8147	F5	PI 88788	
11	M09-285149	F5	PI 88788	
12	M13-104019	F5	PI 88788	
13	M13-113034	F5	PI 88788	
14	M13-250019	F5	PI 88788	
15	M13-250030	F5	PI 88788	
16	M13-250046	F5	PI 88788	
17	M13-252012	F5	PI 88788	
18	M13-257015	F5	PI 88788	
19	M13-262015	F5	PI 88788	
20	M13-262029	F5	PI 88788	
21	M13-262044	F5	PI 88788	
22	M13-262045	F5	PI 88788	
23	M13-262050	F5	PI 88788	
24	M13-262053	F5	PI 88788	
25	M13-262061	F5	PI 88788	
26	M13-266009	F5	PI 88788	Rag 1
27	M13-266011	F5	Peking	Rag 1
28	U16-125012	F5	None	Rps

2019 SCN PRELIMINARY TEST I

		IL SCN screen				MN IDC
		HG Type 0		HG Type 2.5.7		
	Strain	FI	rating	FI	rating	score
1	MN1410	57	LR	94	NR	2.7
2	ND Stutsman	33	MR	92	NR	2.8
3	U11-917032 (SCN)	7	HR	76	NR	5.0
4	U14-103015	45	LR	92	NR	4.0
5	E17137	26	MR	96	NR	5.0
6	E18834	27	MR	63	NR	2.5
7	LD16-560a	11	R	68	NR	4.3
8	LD17-4930a	32	MR	88	NR	4.2
9	LD17-5215a	20	R	113	NR	3.5
10	LD17-8147	4	HR	67	NR	4.5
11	M09-285149	4	HR	68	NR	3.2
12	M13-104019	75	NR	72	NR	1.8
13	M13-113034	57	LR	77	NR	3.3
14	M13-250019	1	HR	8	HR	3.8
15	M13-250030	4	HR	98	NR	3.7
16	M13-250046	0	HR	11	R	1.5
17	M13-252012	3	HR	86	NR	3.3
18	M13-257015	24	R	104	NR	2.2
19	M13-262015	13	R	89	NR	3.3
20	M13-262029	25	MR	81	NR	4.0
21	M13-262044	50	LR	112	NR	3.8
22	M13-262045	8	HR	81	NR	3.7
23	M13-262050	35	MR	98	NR	4.2
24	M13-262053	22	R	88	NR	3.0
25	M13-262061	49	LR	73	NR	4.7
26	M13-266009	14	R	76	NR	2.5
27	M13-266011	11	R	82	NR	1.7
28	U16-125012	25	MR	80	NR	4.3

**rep data too variable to rate

Ave. 2.4

LSD 2.2

2019 SCN PRELIMINARY TEST I

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**3**		3*		0		4	5	5	5	4	5	5
1	MN1410	**49.5**	**17**	49.5	17			9/20	1.3	29	15.1	1.3	34.8	17.4
2	ND Stutsman	**47.5**	**23**	47.5	23			-1	1.1	28	14.8	1.8	34.5	17.6
3	U11-917032 (SCN)	**53.2**	**8**	53.2	8			4	1.0	30	15.0	1.8	33.5	18.1
4	U14-103015	**52.3**	**11**	52.3	11			4	1.0	30	15.2	1.3	35.4	17.4
5	E17137	**24.2**	**28**	24.2	28			12	1.0	34	17.2	3.0	34.9	16.5
6	E18834	**41.8**	**27**	41.8	27			4	1.0	27	15.8	1.8	36.4	14.9
7	LD16-560a	**51.8**	**12**	51.8	12			4	1.0	32	17.6	1.5	35.8	16.8
8	LD17-4930a	**47.4**	**24**	47.4	24			4	1.0	27	13.8	1.3	34.3	17.4
9	LD17-5215a	**52.7**	**9**	52.7	9			2	1.0	28	15.2	1.3	34.0	17.6
10	LD17-8147	**45.1**	**26**	45.1	26			3	1.1	28	15.3	1.3	35.1	17.4
11	M09-285149	**53.4**	**7**	53.4	7			3	1.4	31	15.0	2.0	34.5	17.5
12	M13-104019	**46.4**	**25**	46.4	25			0	1.0	28	18.9	1.3	36.6	16.5
13	M13-113034	**50.5**	**14**	50.5	14			0	1.1	26	14.5	1.0	34.4	17.4
14	M13-250019	**53.8**	**5**	53.8	5			0	1.2	33	15.6	1.3	34.1	17.9
15	M13-250030	**56.0**	**1**	56.0	1			6	1.0	35	15.1	1.5	34.8	17.6
16	M13-250046	**54.9**	**2**	54.9	2			3	1.2	31	16.9	1.0	34.6	17.5
17	M13-252012	**52.6**	**10**	52.6	10			1	1.3	31	16.2	1.5	34.7	17.1
18	M13-257015	**49.8**	**16**	49.8	16			0	1.1	31	14.6	1.3	35.6	17.9
19	M13-262015	**54.7**	**3**	54.7	3			5	1.0	30	14.7	2.0	33.6	18.0
20	M13-262029	**53.6**	**6**	53.6	6			5	1.0	29	15.1	2.0	33.4	18.0
21	M13-262044	**51.6**	**13**	51.6	13			2	1.0	28	14.4	1.3	34.4	18.2
22	M13-262045	**48.9**	**20**	48.9	20			0	1.0	25	15.0	1.0	35.1	18.0
23	M13-262050	**48.5**	**21**	48.5	21			4	1.0	30	14.8	2.0	33.5	18.0
24	M13-262053	**54.0**	**4**	54.0	4			4	1.0	31	14.7	2.0	33.2	18.0
25	M13-262061	**48.3**	**22**	48.3	22			0	1.0	26	14.3	1.3	34.9	17.4
26	M13-266009	**49.3**	**18**	49.3	18			1	1.0	30	18.3	1.3	36.9	15.9
27	M13-266011	**49.0**	**19**	49.0	19			1	1.1	27	17.7	1.3	36.6	16.2
28	U16-125012	**50.2**	**15**	50.2	15			5	1.4	31	15.7	1.3	33.6	18.3
	Mean	**49.7**		49.7					1.1	29	15.6	1.5	34.8	17.4
	LSD(.05)	**5.1**		5.1										
	C.V. %	**11.0**		11.0										
	Replications	**9**		9										

*Urbana, IL, Rosemount, MN, and Ridgetown, ON yield data not included in means

2019 SCN PRELIMINARY TEST I

Yield (bu/a)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	30.4	35.5	63.0	56.2	15.6	34.8
2	ND Stutsman	30.7	30.3	56.8	56.2	15.0	30.6
3	U11-917032 (SCN)	42.6	34.1	65.7	59.7	24.1	49.8
4	U14-103015	44.6	31.2	65.3	59.6	23.7	48.4
5	E17137	28.9	37.1	25.2	26.4	.	30.8
6	E18834	36.9	29.0	53.5	46.9	16.5	46.4
7	LD16-560a	34.2	31.6	62.1	64.9	19.3	58.9
8	LD17-4930a	36.1	29.9	58.2	56.9	34.2	24.9
9	LD17-5215a	31.1	27.7	67.7	59.2	13.2	40.8
10	LD17-8147	40.4	29.7	63.7	53.0	15.5	45.0
11	M09-285149	43.1	40.1	57.8	61.3	15.6	61.1
12	M13-104019	32.4	36.4	54.7	51.2	17.0	33.2
13	M13-113034	20.0	41.8	63.6	56.2	20.1	27.4
14	M13-250019	26.3	38.7	60.5	58.4	16.4	63.8
15	M13-250030	34.5	37.0	67.5	62.2	17.0	59.9
16	M13-250046	25.4	36.9	64.6	60.6	14.4	62.9
17	M13-252012	31.2	40.2	60.4	59.2	27.8	55.4
18	M13-257015	22.6	35.1	56.6	56.0	22.9	50.9
19	M13-262015	37.1	36.4	63.6	63.7	18.3	63.8
20	M13-262029	39.0	40.1	59.9	64.6	14.4	39.7
21	M13-262044	30.4	33.7	60.4	58.7	23.2	36.7
22	M13-262045	31.1	34.2	58.1	55.4	22.0	32.5
23	M13-262050	33.7	31.9	62.1	59.8	11.8	45.8
24	M13-262053	42.2	35.5	64.2	64.1	26.9	48.4
25	M13-262061	32.9	37.4	56.9	58.9	25.9	28.7
26	M13-266009	30.9	39.9	59.0	53.9	25.1	31.1
27	M13-266011	44.0	33.3	57.6	56.1	15.1	33.3
28	U16-125012	42.2	29.1	63.1	59.4	28.9	47.5
	Average	34.1	34.8	59.7	57.4	19.5	44.0
	LSD(.05)	14.1	9.5	6.6	6.3	13.4	16.2
	C.V. %	20.2	13.7	6.8	6.7	33.7	17.9
	Replications	2	3	3	3	3	2
	Row width (in.)	30	30	30	30	30	17

2019 SCN PRELIMINARY TEST I

Yield (rank)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	22	13	11	18	20	19
2	ND Stutsman	21	23	24	19	23	25
3	U11-917032 (SCN)	4	17	3	9	7	9
4	U14-103015	1	22	4	10	8	10
5	E17137	24	8	28	28	28	24
6	E18834	10	27	27	27	17	13
7	LD16-560a	13	21	13	1	13	6
8	LD17-4930a	11	24	19	17	1	28
9	LD17-5215a	18	28	1	13	26	16
10	LD17-8147	7	25	7	25	21	15
11	M09-285149	3	4	21	6	19	4
12	M13-104019	16	12	26	26	16	21
13	M13-113034	28	1	9	19	12	27
14	M13-250019	25	6	14	16	18	2
15	M13-250030	12	9	2	5	15	5
16	M13-250046	26	10	5	7	25	3
17	M13-252012	17	2	15	12	3	7
18	M13-257015	27	15	25	22	10	8
19	M13-262015	9	11	8	4	14	1
20	M13-262029	8	3	17	2	24	17
21	M13-262044	22	18	16	15	9	18
22	M13-262045	18	16	20	23	11	22
23	M13-262050	14	20	12	8	27	14
24	M13-262053	5	14	6	3	4	10
25	M13-262061	15	7	23	14	5	26
26	M13-266009	20	5	18	24	6	23
27	M13-266011	2	19	22	21	22	20
28	U16-125012	5	26	10	11	2	12

2019 SCN PRELIMINARY TEST I

Maturity

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	9/11		9/25	9/24		9/20
2	ND Stutsman	1		-3	-2		1
3	U11-917032 (SCN)	6		3	5		3
4	U14-103015	7		3	3		4
5	E17137	14		.	19		4
6	E18834	5		4	6		1
7	LD16-560a	4		3	3		4
8	LD17-4930a	6		5	4		1
9	LD17-5215a	3		1	2		1
10	LD17-8147	5		2	2		3
11	M09-285149	4		2	2		2
12	M13-104019	3		-4	-2		2
13	M13-113034	0		-1	-1		2
14	M13-250019	3		-1	0		0
15	M13-250030	7		7	6		4
16	M13-250046	4		1	2		3
17	M13-252012	4		-1	1		1
18	M13-257015	2		-1	-1		1
19	M13-262015	7		4	4		3
20	M13-262029	7		4	5		3
21	M13-262044	5		-1	0		3
22	M13-262045	3		-3	0		1
23	M13-262050	6		4	4		3
24	M13-262053	6		4	4		4
25	M13-262061	2		-3	0		2
26	M13-266009	4		0	1		1
27	M13-266011	4		-1	1		0
28	U16-125012	8		6	5		1
	Planted	6/5	5/11	5/28	6/3	6/7	6/7

2019 SCN PRELIMINARY TEST III

Lodging (score)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	1.0	1.3	2.0	1.0	1.0	
2	ND Stutsman	1.0	1.3	1.0	1.0	1.0	
3	U11-917032 (SCN)	1.0	1.0	1.0	1.0	1.0	
4	U14-103015	1.0	1.0	1.0	1.0	1.0	
5	E17137	1.0	1.0	1.0	1.0	1.0	
6	E18834	1.0	1.0	1.0	1.0	1.0	
7	LD16-560a	1.0	1.0	1.0	1.0	1.0	
8	LD17-4930a	1.0	1.0	1.0	1.0	1.0	
9	LD17-5215a	1.0	1.0	1.0	1.0	1.0	
10	LD17-8147	1.0	1.3	1.0	1.0	1.0	
11	M09-285149	1.0	1.0	3.0	1.0	1.0	
12	M13-104019	1.0	1.0	1.0	1.0	1.0	
13	M13-113034	1.0	1.3	1.0	1.0	1.0	
14	M13-250019	1.0	2.0	1.0	1.0	1.0	
15	M13-250030	1.0	1.0	1.0	1.0	1.0	
16	M13-250046	1.0	2.0	1.0	1.0	1.0	
17	M13-252012	1.0	2.3	1.0	1.0	1.0	
18	M13-257015	1.0	1.7	1.0	1.0	1.0	
19	M13-262015	1.0	1.0	1.0	1.0	1.0	
20	M13-262029	1.0	1.0	1.0	1.0	1.0	
21	M13-262044	1.0	1.0	1.0	1.0	1.0	
22	M13-262045	1.0	1.0	1.0	1.0	1.0	
23	M13-262050	1.0	1.0	1.0	1.0	1.0	
24	M13-262053	1.0	1.0	1.0	1.0	1.0	
25	M13-262061	1.0	1.0	1.0	1.0	1.0	
26	M13-266009	1.0	1.0	1.0	1.0	1.0	
27	M13-266011	1.0	1.3	1.0	1.0	1.0	
28	U16-125012	1.0	1.0	3.0	1.0	1.0	

2019 SCN PRELIMINARY TEST III

Height (inches)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	24	24	40	35		24
2	ND Stutsman	22	27	38	30		23
3	U11-917032 (SCN)	24	28	36	30		30
4	U14-103015	24	28	38	30		32
5	E17137	25	34	37	40		33
6	E18834	22	18	28	27		38
7	LD16-560a	22	29	39	34		34
8	LD17-4930a	22	25	34	30		24
9	LD17-5215a	21	26	36	29		30
10	LD17-8147	23	25	35	29		30
11	M09-285149	23	28	37	31		37
12	M13-104019	21	26	39	31		22
13	M13-113034	18	24	34	31		23
14	M13-250019	21	32	44	32		36
15	M13-250030	22	33	45	37		38
16	M13-250046	18	33	42	31		33
17	M13-252012	20	32	36	30		35
18	M13-257015	19	30	40	34		32
19	M13-262015	22	27	35	32		32
20	M13-262029	24	26	34	31		31
21	M13-262044	22	26	37	30		26
22	M13-262045	20	22	34	28		23
23	M13-262050	24	28	39	30		29
24	M13-262053	26	29	36	33		30
25	M13-262061	21	23	36	29		20
26	M13-266009	23	29	40	34		24
27	M13-266011	24	27	35	28		23
28	U16-125012	24	29	40	32		29

2019 SCN PRELIMINARY TEST I

Seed Weight (g/100)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	15.5		16.8	16.0	11.5	15.7
2	ND Stutsman	16.3		16.0	15.5	10.6	15.9
3	U11-917032 (SCN)	13.9		17.1	16.2	12.7	15.0
4	U14-103015	16.2		16.8	16.5	12.6	13.9
5	E17137	16.7		.	19.0	.	16.0
6	E18834	15.1		16.5	17.0	13.6	17.1
7	LD16-560a	17.2		18.9	18.3	15.5	18.0
8	LD17-4930a	15.0		15.3	15.1	10.6	13.2
9	LD17-5215a	14.9		17.5	16.5	12.6	14.3
10	LD17-8147	15.3		18.2	.	11.8	16.0
11	M09-285149	14.4		17.0	15.8	13.0	14.9
12	M13-104019	18.9		22.9	20.6	14.4	17.6
13	M13-113034	14.1		16.2	15.9	12.0	14.2
14	M13-250019	14.7		17.7	17.1	12.1	16.3
15	M13-250030	14.5		17.2	16.4	12.5	15.2
16	M13-250046	14.3		19.6	18.5	13.7	18.4
17	M13-252012	15.2		18.2	17.8	13.0	17.0
18	M13-257015	13.8		16.0	14.6	12.4	16.3
19	M13-262015	13.2		16.0	15.9	13.0	15.2
20	M13-262029	14.1		17.1	16.2	14.4	13.8
21	M13-262044	14.3		15.8	15.1	12.2	14.8
22	M13-262045	14.8		17.1	15.8	12.5	14.6
23	M13-262050	14.6		15.8	15.9	13.6	14.1
24	M13-262053	15.2		15.6	15.7	13.4	13.7
25	M13-262061	14.9		15.9	15.3	12.1	13.2
26	M13-266009	19.5		19.1	19.8	14.4	18.6
27	M13-266011	19.0		19.9	19.2	13.9	16.4
28	U16-125012	15.3		17.4	16.8	13.8	15.3

2019 SCN PRELIMINARY TEST I

Seed Quality (score)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	2.0		1.0	1.0	1.0	
2	ND Stutsman	3.0		1.0	1.0	2.0	
3	U11-917032 (SCN)	2.0		1.0	2.0	2.0	
4	U14-103015	2.0		1.0	1.0	1.0	
5	E17137	2.0		.	4.0	.	
6	E18834	2.0		2.0	2.0	1.0	
7	LD16-560a	2.0		1.0	1.0	2.0	
8	LD17-4930a	2.0		1.0	1.0	1.0	
9	LD17-5215a	2.0		1.0	1.0	1.0	
10	LD17-8147	2.0		1.0	.	1.0	
11	M09-285149	2.0		1.0	1.0	4.0	
12	M13-104019	2.0		1.0	1.0	1.0	
13	M13-113034	1.0		1.0	1.0	1.0	
14	M13-250019	2.0		1.0	1.0	1.0	
15	M13-250030	2.0		1.0	2.0	1.0	
16	M13-250046	1.0		1.0	1.0	1.0	
17	M13-252012	2.0		2.0	1.0	1.0	
18	M13-257015	2.0		1.0	1.0	1.0	
19	M13-262015	2.0		1.0	1.0	4.0	
20	M13-262029	2.0		1.0	1.0	4.0	
21	M13-262044	2.0		1.0	1.0	1.0	
22	M13-262045	1.0		1.0	1.0	1.0	
23	M13-262050	2.0		1.0	1.0	4.0	
24	M13-262053	2.0		1.0	1.0	4.0	
25	M13-262061	2.0		1.0	1.0	1.0	
26	M13-266009	2.0		1.0	1.0	1.0	
27	M13-266011	2.0		1.0	1.0	1.0	
28	U16-125012	2.0		1.0	1.0	1.0	

2019 SCN PRELIMINARY TEST I

Protein (%)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	35.1		34.6	33.7	36.8	33.8
2	ND Stutsman	35.1		33.5	33.8	36.9	33.2
3	U11-917032 (SCN)	31.2		34.0	33.1	37.1	32.2
4	U14-103015	34.0		36.1	34.1	37.6	35.0
5	E17137	34.6		36.3	34.8	.	34.1
6	E18834	35.8		36.7	34.7	39.1	35.9
7	LD16-560a	33.5		35.5	34.5	41.1	34.3
8	LD17-4930a	33.6		33.1	33.1	37.8	33.6
9	LD17-5215a	32.3		33.1	33.6	38.1	33.0
10	LD17-8147	34.1		35.6	32.4	39.3	34.2
11	M09-285149	33.3		34.5	34.1	37.0	33.5
12	M13-104019	36.0		34.8	36.5	39.4	36.5
13	M13-113034	33.0		33.8	34.0	37.3	33.9
14	M13-250019	33.0		34.5	35.1	34.1	33.9
15	M13-250030	34.1		34.7	35.0	36.9	33.4
16	M13-250046	32.4		35.2	34.3	36.9	34.5
17	M13-252012	33.3		34.0	33.7	38.3	34.1
18	M13-257015	34.7		35.5	35.3	37.6	34.9
19	M13-262015	32.2		33.5	33.1	37.5	31.7
20	M13-262029	30.5		33.2	32.8	37.7	32.8
21	M13-262044	32.8		34.0	34.0	37.1	34.2
22	M13-262045	33.3		35.2	34.6	36.8	35.4
23	M13-262050	31.9		34.0	33.0	37.1	31.8
24	M13-262053	31.1		33.9	34.0	33.6	33.2
25	M13-262061	34.1		34.9	33.9	37.9	33.5
26	M13-266009	36.4		37.3	36.7	37.9	36.1
27	M13-266011	35.8		36.3	37.2	38.0	35.6
28	U16-125012	33.0		33.3	33.6	35.8	32.5

2019 SCN PRELIMINARY TEST I

Oil (%)

		Urbana IL	Decatur MI	Danvers MN	Fairfax MN	Rosemount MN	Ridgetown ON
	SCN HG Type	2.5.7	Inf	1.2.5.7	2.5.7	2.5.7	2.5.7
	Strain						
1	MN1410	17.8		17.0	17.2	16.9	17.9
2	ND Stutsman	18.3		16.9	17.0	17.2	18.6
3	U11-917032 (SCN)	19.9		17.5	17.5	16.9	18.7
4	U14-103015	18.8		16.5	17.0	16.9	17.7
5	E17137	17.1		14.7	16.9	.	17.5
6	E18834	16.8		13.5	14.7	13.7	15.6
7	LD16-560a	18.6		15.5	16.5	15.7	17.6
8	LD17-4930a	18.3		17.0	17.3	16.1	18.1
9	LD17-5215a	18.6		18.6	17.1	15.9	17.8
10	LD17-8147	18.6		17.9	16.6	16.0	17.8
11	M09-285149	18.4		18.0	17.1	16.6	17.3
12	M13-104019	17.2		17.1	16.2	15.7	16.5
13	M13-113034	17.9		18.2	16.4	16.7	17.9
14	M13-250019	19.3		16.9	16.9	18.4	18.0
15	M13-250030	18.2		17.7	16.7	17.6	17.7
16	M13-250046	19.1		16.6	16.9	16.8	18.3
17	M13-252012	18.3		16.8	17.0	16.2	17.4
18	M13-257015	18.6		17.2	17.5	17.5	18.7
19	M13-262015	19.2		17.7	17.6	17.0	18.4
20	M13-262029	20.0		16.9	18.1	16.5	18.4
21	M13-262044	18.9		18.4	17.8	17.8	18.1
22	M13-262045	18.8		18.0	17.2	17.5	18.3
23	M13-262050	18.8		18.5	17.6	17.0	18.4
24	M13-262053	18.9		18.2	16.9	18.1	18.0
25	M13-262061	18.0		17.1	17.2	16.2	18.6
26	M13-266009	16.5		14.7	15.2	16.0	17.2
27	M13-266011	16.9		15.8	15.7	15.9	16.8
28	U16-125012	19.6		17.6	17.7	17.6	18.9

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2019 SCN UNIFORM TEST II

	Strain	Descriptive code	Parentage	Previous testing
1	IA2102	WGy	A04-545045 x AgriPro 98180-A01-06131	6
2	LD02-4485 (SCN)	PGbf	M90-184111 x IA3010	13
3	U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612	new
4	U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419	1
5	AR17-279009	WGbf	AR09-192019 x AR09-291011	18SCN U I
6	E15339	WGbf	IA2102 x LD02-4485	1
7	E15345	WGy	IA2102 x LD02-4485	1
8	E15346T	P+WGy	IA2102 x E07051	1
9	E15347	WGbf	IA2102 x E07051	1
10	E15349	PGy	IA2102 x E07051	1
11	E15351	WGbf	IA2102 x E07051	1
12	E16265	PGibl	E13902 x E07051	18SCN P IIA
13	E16266	PGibl	E13902 x E07051	18SCN P IIA
14	LD15-1350	WLty+br	WN0902577 x LD08-3994	18SCN P IIA
15	LD15-5170a	PGbf	LD09-10220 x LD12-6623	18SCN P IIB
16	LD15-6268	PLt+GM	AR10-205011 x LD10-10226	18SCN P IIA
17	LD15-6280	PMbf+br	AR10-205011 x LD10-10226	18SCN P IIA
18	U14-925152	PGibl	U11-935093 x LD07-3419	2

	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	AR17-279009	F4	PI 507354, Peking,88788	
6	E15339	F5	PI 88788	
7	E15345	F5	PI 88788	
8	E15346T	F5	PI 88788	Meal?
9	E15347	F5	PI 88788	
10	E15349	F5	PI 88788	
11	E15351	F5	PI 88788	
12	E16265	F5	PI 88788	
13	E16266	F5	PI 88788	
14	LD15-1350	F5	PI 88788	
15	LD15-5170a	F5	PI 88788	Rag 1+2
16	LD15-6268	F5	PI 88788	
17	LD15-6280	F5	PI 88788	
18	U14-925152	F5	PI 88788,437654	IDC

2019 SCN UNIFORM TEST II

		IL SCN screen			
		HG Type 0		HG Type 2.5.7	
	Strain	FI	rating	FI	rating
1	IA2102	11	R	66	NR
2	LD02-4485 (SCN)	12	R	60	NR
3	U11-917032 (SCN)	7	HR	76	NR
4	U14-910097 (SCN)	1	HR	2	HR
5	AR17-279009	6	HR	7	HR
6	E15339	5	HR	74	NR
7	E15345	9	HR	60	NR
8	E15346T	7	HR	54	LR
9	E15347	12	R	67	NR
10	E15349	6	HR	109	NR
11	E15351	6	HR	82	NR
12	E16265	5	HR	105	NR
13	E16266	3	HR	113	NR
14	LD15-1350	11	R	75	NR
15	LD15-5170a	8	HR	73	NR
16	LD15-6268	6	HR	114	NR
17	LD15-6280	10	R	63	NR
18	U14-925152	0	HR	1	HR

2019 SCN UNIFORM TEST II

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**4**		3*		1		4	5	4	4	4	4	4
1	IA2102	**51.4**	**14**	51.0	15	53.3	13	9/23	2.0	31	16.4	1.5	34.1	17.9
2	LD02-4485 (SCN)	**54.0**	**10**	52.0	13	60.4	3	2	1.2	31	15.7	1.8	33.0	18.1
3	U11-917032 (SCN)	**46.4**	**18**	47.4	17	43.9	18	-3	1.1	28	15.4	1.5	32.4	19.5
4	U14-910097 (SCN)	**56.8**	**2**	57.1	1	56.6	7	6	1.2	31	15.1	1.5	33.2	18.8
5	AR17-279009	**47.6**	**17**	47.0	18	49.7	15	-1	1.1	28	16.4	1.5	34.1	17.9
6	E15339	**56.5**	**4**	57.0	2	55.5	10	1	1.9	32	16.1	1.5	33.3	18.6
7	E15345	**55.7**	**6**	55.3	5	57.5	6	4	1.5	32	16.5	1.8	33.1	18.0
8	E15346T	**51.6**	**13**	50.6	16	55.1	11	2	1.2	30	17.6	1.5	34.1	18.3
9	E15347	**52.9**	**11**	52.5	11	54.5	12	1	1.1	30	17.5	1.8	33.4	17.9
10	E15349	**54.2**	**9**	53.7	9	56.0	8	2	1.4	33	16.7	1.5	34.8	17.7
11	E15351	**55.2**	**8**	54.3	7	58.5	5	3	1.2	31	17.2	2.0	33.8	17.8
12	E16265	**52.2**	**12**	53.4	10	49.3	16	4	1.0	32	19.0	1.8	36.3	17.3
13	E16266	**51.3**	**16**	51.4	14	51.7	14	2	1.0	30	19.1	1.5	35.5	17.4
14	LD15-1350	**51.4**	**15**	52.3	12	49.3	16	-1	1.1	30	15.7	1.5	34.1	18.7
15	LD15-5170a	**58.2**	**1**	56.5	4	63.8	1	4	1.3	32	16.7	1.3	35.2	17.4
16	LD15-6268	**55.2**	**7**	54.3	7	58.6	4	3	1.1	32	17.1	1.5	36.1	16.8
17	LD15-6280	**56.6**	**3**	54.9	6	62.1	2	3	1.0	31	16.8	1.5	34.9	18.3
18	U14-925152	**56.5**	**4**	56.8	3	55.9	9	3	1.0	29	15.2	1.5	33.9	19.2
	Mean	**53.5**		53.2		55.1			1.2	31	16.7	1.6	34.2	18.1
	LSD(.05)	**3.2**		3.9		4.3								
	C.V. %	**7.3**		7.8		4.5								
	Replications	**9**		7		2								

*Bellwood, NE yield data not included in means

2019 SCN UNIFORM TEST II

2 Year Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**16**		13		3		14	17	16	15	15	16	16
1	IA2102	**58.3**	**8**	57.8	7	60.4	10	9/21	2.0	34	16.1	1.6	34.3	17.8
2	LD02-4485 (SCN)	**60.5**	**4**	58.6	5	68.6	3	1	1.7	34	14.8	1.7	32.5	18.4
4	U14-910097 (SCN)	**65.9**	**1**	64.8	1	70.8	1	6	1.9	33	15.1	1.3	33.0	19.0
6	E15339	**59.1**	**6**	57.9	6	64.1	8	2	2.1	34	15.7	1.8	33.3	18.8
7	E15345	**60.2**	**5**	59.1	4	64.8	5	4	2.0	35	15.4	1.7	33.2	18.2
8	E15346T	**57.8**	**10**	56.3	10	64.2	7	0	1.6	33	17.3	1.7	34.2	18.5
9	E15347	**58.3**	**9**	57.3	8	62.5	9	1	1.3	33	16.8	1.6	33.8	17.8
10	E15349	**58.7**	**7**	57.3	8	64.7	6	1	1.7	34	16.0	1.4	34.6	17.9
11	E15351	**62.3**	**3**	60.6	3	69.8	2	0	1.5	33	16.8	2.1	34.0	17.8
18	U14-925152	**63.4**	**2**	62.5	2	67.5	4	4	1.4	33.4	5.3	10.9	33.9	18.9

2019 SCN UNIFORM TEST II

Yield (bu/a)

		Pontiac	Urbana	Decatur	Bellwood	West Lafayette
		IL	IL	MI	NE	IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
	Strain					
1	IA2102	63.8	47.6	41.6	44.0	53.3
2	LD02-4485 (SCN)	65.6	50.7	39.9	51.4	60.4
3	U11-917032 (SCN)	61.7	42.9	37.6	35.8	43.9
4	U14-910097 (SCN)	64.5	58.8	48.0	55.2	56.6
5	AR17-279009	62.6	38.5	40.0	45.7	49.7
6	E15339	70.9	51.2	48.9	38.9	55.5
7	E15345	69.8	53.3	42.9	57.8	57.5
8	E15346T	60.8	47.8	43.3	36.8	55.1
9	E15347	61.4	50.4	45.8	56.8	54.5
10	E15349	63.1	51.5	46.5	50.7	56.0
11	E15351	67.8	50.3	44.8	46.4	58.5
12	E16265	67.5	51.5	41.1	47.3	49.3
13	E16266	61.2	52.0	41.0	55.5	51.7
14	LD15-1350	61.7	49.2	45.9	50.2	49.3
15	LD15-5170a	65.7	62.2	41.5	43.3	63.8
16	LD15-6268	62.9	57.0	43.0	66.7	58.6
17	LD15-6280	64.6	56.2	44.1	52.5	62.1
18	U14-925152	69.6	53.4	47.4	45.6	55.9
	Average	64.7	51.4	43.5	48.9	55.1
	LSD(.05)	11.4	7.2	6.9	16.7	4.3
	C.V. %	8.4	6.7	8.0	17.2	4.5
	Replications	2	2	3	2	2
	Row width (in.)	30	30	30	30	30

2019 SCN UNIFORM TEST II

Yield (rank)

		Pontiac	Urbana	Decatur	Bellwood	West Lafayette
		IL	IL	MI	NE	IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
	Strain					
1	IA2102	10	16	12	14	13
2	LD02-4485 (SCN)	7	11	17	7	3
3	U11-917032 (SCN)	14	17	18	18	18
4	U14-910097 (SCN)	9	2	2	5	7
5	AR17-279009	13	18	16	12	15
6	E15339	1	10	1	16	10
7	E15345	2	6	11	2	6
8	E15346T	18	15	9	17	11
9	E15347	16	12	6	3	12
10	E15349	11	8	4	8	8
11	E15351	4	13	7	11	5
12	E16265	5	8	14	10	16
13	E16266	17	7	15	4	14
14	LD15-1350	14	14	5	9	16
15	LD15-5170a	6	1	13	15	1
16	LD15-6268	12	3	10	1	4
17	LD15-6280	8	4	8	6	2
18	U14-925152	3	5	3	13	9

2019 SCN UNIFORM TEST II

Maturity

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
	Strain					
1	IA2102	9/25	9/22		9/17	9/27
2	LD02-4485 (SCN)	2	2		1	3
3	U11-917032 (SCN)	-3	-4		-2	-3
4	U14-910097 (SCN)	7	6		2	8
5	AR17-279009	-2	0		1	-2
6	E15339	2	0		0	0
7	E15345	3	4		1	6
8	E15346T	2	0		-1	5
9	E15347	-1	0		1	3
10	E15349	1	0		1	6
11	E15351	3	2		1	5
12	E16265	4	4		1	7
13	E16266	2	2		-1	5
14	LD15-1350	-1	0		-1	-1
15	LD15-5170a	4	6		1	5
16	LD15-6268	2	4		2	3
17	LD15-6280	4	0		-1	8
18	U14-925152	4	2		1	6
	Planted	6/7	6/5	5/11	5/15	6/5

2019 SCN UNIFORM TEST II

Lodging (score)

	SCN HG Type	Pontiac IL 2.5.7	Urbana IL 2.5.7	Decatur MI Inf	Bellwood NE 2.5.7	West Lafayette IN NI
	Strain					
1	IA2102	3.0	1.5	2.3	2.0	1.0
2	LD02-4485 (SCN)	1.8	1.0	1.3	1.0	1.0
3	U11-917032 (SCN)	1.5	1.0	1.0	1.0	1.0
4	U14-910097 (SCN)	1.8	1.0	1.0	1.0	1.0
5	AR17-279009	1.5	1.0	1.0	1.0	1.0
6	E15339	2.0	2.0	3.0	1.5	1.0
7	E15345	2.0	1.0	1.7	2.0	1.0
8	E15346T	1.8	1.0	1.3	1.0	1.0
9	E15347	1.0	1.0	1.3	1.0	1.0
10	E15349	2.3	1.5	1.3	1.0	1.0
11	E15351	1.8	1.0	1.0	1.0	1.0
12	E16265	1.0	1.0	1.0	1.0	1.0
13	E16266	1.0	1.0	1.0	1.0	1.0
14	LD15-1350	1.0	1.0	1.3	1.0	1.0
15	LD15-5170a	1.3	1.0	1.7	1.5	1.0
16	LD15-6268	1.5	1.0	1.0	1.0	1.0
17	LD15-6280	1.0	1.0	1.0	1.0	1.0
18	U14-925152	1.0	1.0	1.0	1.0	1.0

2019 SCN UNIFORM TEST II

Height (inches)

		Pontiac	Urbana	Decatur	Bellwood	West Lafayette
		IL	IL	MI	NE	IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
	Strain					
1	IA2102	35	32	32		27
2	LD02-4485 (SCN)	34	28	32		29
3	U11-917032 (SCN)	31	26	27		29
4	U14-910097 (SCN)	35	29	31		29
5	AR17-279009	30	28	30		25
6	E15339	34	29	34		30
7	E15345	35	32	32		31
8	E15346T	34	28	32		26
9	E15347	32	30	32		27
10	E15349	36	32	35		29
11	E15351	36	31	30		28
12	E16265	34	30	32		31
13	E16266	33	28	31		29
14	LD15-1350	34	26	32		30
15	LD15-5170a	35	31	33		28
16	LD15-6268	36	30	33		31
17	LD15-6280	34	29	33		29
18	U14-925152	32	28	31		25

2019 SCN UNIFORM TEST II

Seed Weight (g/100)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
	Strain					
1	IA2102	18.1	15.6		13.8	18.0
2	LD02-4485 (SCN)	17.2	16.3		12.4	17.0
3	U11-917032 (SCN)	17.0	14.7		14.4	15.6
4	U14-910097 (SCN)	16.6	15.1		12.2	16.5
5	AR17-279009	17.3	15.8		14.0	18.4
6	E15339	17.7	15.8		13.6	17.2
7	E15345	17.4	16.7		13.9	17.9
8	E15346T	19.1	17.4		14.3	19.6
9	E15347	19.0	16.3		14.9	20.0
10	E15349	17.3	16.3		14.2	19.0
11	E15351	18.1	16.3		14.6	19.9
12	E16265	20.6	18.9		15.3	21.2
13	E16266	20.2	18.8		16.9	20.4
14	LD15-1350	16.0	15.7		13.9	17.2
15	LD15-5170a	16.9	18.6		12.5	19.1
16	LD15-6268	18.1	17.3		14.5	18.7
17	LD15-6280	17.6	16.9		13.7	19.0
18	U14-925152	15.8	15.3		12.5	17.3

2019 SCN UNIFORM TEST II

Seed Quality (score)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
	Strain					
1	IA2102	2.0	2.0		1.0	1.0
2	LD02-4485 (SCN)	2.0	3.0		1.0	1.0
3	U11-917032 (SCN)	2.0	2.0		1.0	1.0
4	U14-910097 (SCN)	2.0	2.0		1.0	1.0
5	AR17-279009	2.0	2.0		1.0	1.0
6	E15339	2.0	2.0		1.0	1.0
7	E15345	3.0	2.0		1.0	1.0
8	E15346T	2.0	2.0		1.0	1.0
9	E15347	2.0	3.0		1.0	1.0
10	E15349	2.0	2.0		1.0	1.0
11	E15351	3.0	3.0		1.0	1.0
12	E16265	2.0	3.0		1.0	1.0
13	E16266	2.0	2.0		1.0	1.0
14	LD15-1350	2.0	2.0		1.0	1.0
15	LD15-5170a	1.0	2.0		1.0	1.0
16	LD15-6268	2.0	2.0		1.0	1.0
17	LD15-6280	2.0	2.0		1.0	1.0
18	U14-925152	2.0	2.0		1.0	1.0

2019 SCN UNIFORM TEST II

Protein (%)

	Strain	Pontiac IL	Urbana IL	Decatur MI	Bellwood NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
1	IA2102	33.6	33.2		35.2	34.4
2	LD02-4485 (SCN)	32.6	33.1		33.0	33.3
3	U11-917032 (SCN)	32.8	32.4		32.3	32.1
4	U14-910097 (SCN)	32.7	33.6		32.7	33.8
5	AR17-279009	33.1	34.3		34.4	34.4
6	E15339	32.7	33.8		34.5	32.1
7	E15345	32.8	32.3		33.4	34.0
8	E15346T	34.4	33.7		33.6	34.8
9	E15347	32.4	33.2		33.9	34.1
10	E15349	34.1	34.5		34.7	35.8
11	E15351	33.7	33.7		33.7	34.1
12	E16265	34.8	36.7		36.3	37.2
13	E16266	35.4	35.2		36.2	35.1
14	LD15-1350	33.3	34.5		33.7	34.8
15	LD15-5170a	34.7	35.7		35.1	35.4
16	LD15-6268	35.5	36.4		35.7	36.8
17	LD15-6280	34.6	35.0		34.8	35.4
18	U14-925152	32.5	34.8		34.6	33.6

2019 SCN UNIFORM TEST II

Oil (%)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	NI
	Strain					
1	IA2102	17.6	18.7		17.5	17.6
2	LD02-4485 (SCN)	18.0	18.4		18.2	17.8
3	U11-917032 (SCN)	18.9	19.6		19.6	19.8
4	U14-910097 (SCN)	19.1	19.2		17.7	19.0
5	AR17-279009	18.0	18.1		17.6	17.7
6	E15339	18.5	18.6		18.3	19.1
7	E15345	17.5	18.7		17.4	18.3
8	E15346T	18.1	18.8		18.1	18.2
9	E15347	17.9	18.4		17.5	17.7
10	E15349	18.1	18.1		17.1	17.5
11	E15351	17.6	18.5		17.6	17.6
12	E16265	17.4	17.3		17.5	17.1
13	E16266	17.2	17.8		16.6	18.1
14	LD15-1350	18.5	18.9		19.0	18.5
15	LD15-5170a	17.3	17.4		17.2	17.9
16	LD15-6268	16.7	17.3		16.1	17.0
17	LD15-6280	18.3	18.5		17.9	18.5
18	U14-925152	19.4	18.8		18.9	19.6

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2019 SCN PRELIMINARY TEST II

	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	E17054	PGy	IA2102 x E07051
6	E17069	WGy	IA2102 x E06240
7	E17143	PTbl	E07051 x (E13906 x E13816)
8	E17167	PGbf	Jilin 20-2 x AR09-191018
9	E17184	PGy	Jilin 20-2 x LD01-7323
10	E17203	PGbf	E11128T x LD02-4485
11	E17227	PGibl	(E07051 x E11101) x (E07051 x E06380)
12	E17269	WGbf	E13367 x AR09-191018
13	E17274	WGy/bf	E13367 x IA2102
14	E17275	WGbf	E13367 x IA2102
15	E17283	P+WGibl/bf	E13367 x E05181-T
16	E17506T	PGy	LD01-7323 x Jilin 20
17	E17508	PGy	LD01-7323 x Jilin 20-2
18	E17801-08	PGibl/bf	E07051 x E13802
19	E17804-01	Pgibl	E07051 x E15805
20	LD16-4302a	WGbf	HM09-W084 x LD09-30224
21	LD16-4766a	PGbf	AR10-205011 x LD09-30224
22	LD16-4852	PGibl	LD09-30015 x LD09-30224
23	LD16-4942a	PGbf	LD10- 5903a x 13PRF4 LDX11050a
24	LD16-6557	P+WGbf	LD07-3419 x AR10-205011
25	LD16-6830	PGibl	LD07-3419 x LD10-10226
26	LD16-6924	P+WGy	LD07-3419 x LD10-10226
27	LD16-7136	PGibl	LD07-3395 x LD10-10198
28	U17-908050	PLt+Gbl/ibl	LD09-30224 x U11-911079

2019 SCN PRELIMINARY 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	E17054	F5	PI 88788	Rps1
6	E17069	F5	PI 88788	
7	E17143	F5	PI 88788	High oleic
8	E17167	F5	Peking	
9	E17184	F5	PI 88788	
10	E17203	F5	PI 88788	
11	E17227	F5	PI 88788	
12	E17269	F5	PI 88788	Aphid, Rps1
13	E17274	F5	PI 88788	Aphid, Rps1
14	E17275	F5	PI 88788	Aphid, Rps1
15	E17283	F5	PI 88788	Aphid, Rps1
16	E17506T	F5	PI 88788	
17	E17508	F5	PI 88788	
18	E17801-08	F7	PI 88788	High oleic
19	E17804-01	F5	PI 88788	High oleic
20	LD16-4302a	F5	PI 88788	Rag 1
21	LD16-4766a	F5	PI 88788	Rag 1
22	LD16-4852	F5	PI 88788	
23	LD16-4942a	F5	PI 88788	Rag 1+2
24	LD16-6557	F5	PI 88788,437654	
25	LD16-6830	F5	PI 88788,437654	
26	LD16-6924	F5	PI 88788,437654	
27	LD16-7136	F5	PI 88788,437654	
28	U17-908050	F5	PI 88788,437654	

2019 SCN PRELIMINARY TEST II

		IL SCN screen			
		HG Type 0		HG Type 2.5.7	
	Strain	FI	rating	FI	rating
1	IA2102	11	R	66	NR
2	LD02-4485 (SCN)	12	R	60	NR
3	U11-917032 (SCN)	7	HR	76	NR
4	U14-910097 (SCN)	1	HR	2	HR
5	E17054	4	HR	78	NR
6	E17069	10	R	81	NR
7	E17143	7	HR	97	NR
8	E17167	1	HR	59	NR
9	E17184	3	HR	51	LR
10	E17203	5	HR	92	NR
11	E17227	10	R	95	NR
12	E17269	16	R	101	NR
13	E17274	9	HR	80	NR
14	E17275	2	HR	77	NR
15	E17283	2	HR	53	LR
16	E17506T	4	HR	63	NR
17	E17508	13	R	74	NR
18	E17801-08	43	LR	83	NR
19	E17804-01	1	HR	56	LR
20	LD16-4302a	2	HR	63	NR
21	LD16-4766a	3	HR	46	LR
22	LD16-4852	4	HR	49	LR
23	LD16-4942a	6	HR	63	NR
24	LD16-6557	7	HR	74	NR
25	LD16-6830	1	HR	81	NR
26	LD16-6924	13	R	62	NR
27	LD16-7136	7	R	52	LR
28	U17-908050	39	MR	48	LR

2019 SCN PRELIMINARY TEST II

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**3**		3*		0		3	4	3	3	3	3	3
1	IA2102	**52.4**	**15**	53.8	15			9/22	2.1	32	15.6	1.3	34.1	17.7
2	LD02-4485 (SCN)	**54.5**	**9**	54.2	9			1	1.4	32	15.4	1.7	32.1	18.5
3	U11-917032 (SCN)	**47.6**	**24**	47.9	24			-4	1.1	29	14.8	1.7	33.0	19.0
4	U14-910097 (SCN)	**59.8**	**1**	59.4	1			3	1.3	31	14.4	1.7	32.6	19.1
5	E17054	**54.0**	**12**	53.8	12			-1	1.1	32	17.3	1.7	34.3	17.4
6	E17069	**57.4**	**3**	57.4	3			4	2.1	38	17.3	1.7	36.3	17.8
7	E17143	**44.4**	**27**	44.2	27			2	1.1	32	15.7	1.3	36.4	16.6
8	E17167	**53.6**	**13**	54.1	13			0	1.6	35	17.4	1.7	34.7	18.7
9	E17184	**51.3**	**17**	51.9	17			-2	1.6	32	16.0	1.3	34.2	19.0
10	E17203	**55.8**	**5**	55.8	5			0	1.1	31	15.8	2.3	34.1	17.7
11	E17227	**52.5**	**14**	52.9	14			3	1.1	31	18.2	1.7	34.3	18.0
12	E17269	**54.7**	**8**	55.1	8			-1	1.2	30	14.5	1.3	33.8	17.9
13	E17274	**48.0**	**23**	48.6	23			-4	2.3	31	13.3	1.3	33.1	17.6
14	E17275	**54.2**	**10**	54.3	10			-1	2.0	31	14.6	1.7	33.8	17.6
15	E17283	**55.3**	**6**	55.3	6			6	1.1	29	19.0	2.3	35.0	17.9
16	E17506T	**50.9**	**20**	50.9	20			-2	1.2	32	21.1	1.3	34.3	18.0
17	E17508	**51.1**	**19**	51.1	19			2	1.0	28	20.2	1.7	35.7	18.0
18	E17801-08	**39.7**	**28**	40.2	28			2	1.6	32	13.5	1.7	34.3	16.8
19	E17804-01	**49.5**	**21**	49.7	21			0	1.0	30	17.7	1.7	35.5	17.0
20	LD16-4302a	**54.9**	**7**	55.7	7			1	1.1	31	15.5	1.7	35.6	16.4
21	LD16-4766a	**56.9**	**4**	57.0	4			1	1.0	31	16.8	1.3	34.9	17.7
22	LD16-4852	**57.7**	**2**	58.3	2			3	1.1	31	14.7	1.7	33.4	18.0
23	LD16-4942a	**45.1**	**26**	45.6	26			-3	1.5	30	15.8	2.0	33.4	19.4
24	LD16-6557	**52.1**	**16**	52.7	16			3	1.1	30	16.6	1.7	34.1	18.6
25	LD16-6830	**48.6**	**22**	49.0	22			1	1.0	27	15.1	1.3	33.3	19.4
26	LD16-6924	**47.6**	**25**	47.5	25			3	1.1	29	15.4	1.7	33.6	17.8
27	LD16-7136	**54.1**	**11**	54.9	11			2	1.0	29	16.3	1.7	33.3	19.2
28	U17-908050	**51.3**	**17**	49.7	17			2	1.1	29	14.1	1.7	33.2	19.6
	Mean	**51.9**		51.9					1.3	31	16.1	1.6	34.1	18.1
	LSD(.05)	**3.0**		3.0										
	C.V. %	**6.3**		6.3										
	Replications	**7**		7										

*Bellwood, NE yield data not included in means

2019 SCN PRELIMINARY TEST II

Yield (bu/a)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	62.4	51.1	48.0	53.6
2	LD02-4485 (SCN)	64.9	58.1	39.6	71.0
3	U11-917032 (SCN)	61.7	44.5	37.4	47.6
4	U14-910097 (SCN)	68.3	61.1	48.9	56.1
5	E17054	63.2	52.9	45.2	64.5
6	E17069	66.5	57.6	48.2	57.9
7	E17143	55.0	51.7	25.8	46.9
8	E17167	62.8	53.5	45.9	51.4
9	E17184	59.8	50.5	45.4	51.8
10	E17203	63.8	59.5	44.0	57.0
11	E17227	59.9	56.4	42.4	58.6
12	E17269	63.5	55.5	46.3	44.7
13	E17274	60.3	48.4	37.0	44.0
14	E17275	61.4	56.3	45.3	45.9
15	E17283	65.1	56.4	44.6	66.1
16	E17506T	60.3	55.4	37.1	37.7
17	E17508	61.5	54.3	37.5	47.9
18	E17801-08	53.1	45.9	21.5	33.8
19	E17804-01	57.3	54.8	37.0	56.1
20	LD16-4302a	60.5	58.7	47.9	58.9
21	LD16-4766a	66.3	61.4	43.2	60.4
22	LD16-4852	67.8	66.2	40.8	56.7
23	LD16-4942a	51.8	49.6	35.5	39.8
24	LD16-6557	65.1	56.2	36.9	60.2
25	LD16-6830	61.6	54.8	30.5	58.1
26	LD16-6924	60.9	54.0	27.6	44.1
27	LD16-7136	64.3	58.4	41.9	52.5
28	U17-908050	64.8	53.3	31.1	45.0
	Average	61.9	54.9	39.7	52.4
	LSD(.05)	5.4	6.3	6.5	15.5
	C.V. %	4.2	5.6	8.4	16.7
	Replications	2	2	3	2
	Row width (in.)	30	30	30	30

2019 SCN PRELIMINARY TEST II

Yield (rank)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	14	23	3	14
2	LD02-4485 (SCN)	7	7	16	1
3	U11-917032 (SCN)	15	28	18	19
4	U14-910097 (SCN)	1	3	1	13
5	E17054	12	21	9	3
6	E17069	3	8	2	9
7	E17143	26	22	27	20
8	E17167	13	19	6	17
9	E17184	24	24	7	16
10	E17203	10	4	11	10
11	E17227	23	9	13	7
12	E17269	11	13	5	23
13	E17274	21	26	21	25
14	E17275	18	11	8	21
15	E17283	5	9	10	2
16	E17506T	21	14	19	27
17	E17508	17	17	17	18
18	E17801-08	27	27	28	28
19	E17804-01	25	15	20	12
20	LD16-4302a	20	5	4	6
21	LD16-4766a	4	2	12	4
22	LD16-4852	2	1	15	11
23	LD16-4942a	28	25	23	26
24	LD16-6557	5	12	22	5
25	LD16-6830	16	15	25	8
26	LD16-6924	19	18	26	24
27	LD16-7136	9	6	14	15
28	U17-908050	8	20	24	22

2019 SCN PRELIMINARY TEST II

Maturity

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	9/26	9/22		9/17
2	LD02-4485 (SCN)	0	2		2
3	U11-917032 (SCN)	-6	-6		-1
4	U14-910097 (SCN)	4	2		2
5	E17054	-1	0		-1
6	E17069	6	4		2
7	E17143	1	4		2
8	E17167	0	0		1
9	E17184	-3	-2		-1
10	E17203	-1	0		1
11	E17227	3	4		1
12	E17269	-3	0		-1
13	E17274	-6	-4		-2
14	E17275	-1	-2		0
15	E17283	5	8		4
16	E17506T	-2	0		-4
17	E17508	2	2		1
18	E17801-08	2	2		2
19	E17804-01	-1	0		1
20	LD16-4302a	2	2		-1
21	LD16-4766a	2	2		0
22	LD16-4852	4	4		1
23	LD16-4942a	-3	-6		0
24	LD16-6557	2	4		2
25	LD16-6830	2	0		1
26	LD16-6924	2	4		2
27	LD16-7136	3	2		1
28	U17-908050	2	2		2
	Planted	6/7	6/5	5/11	5/15

2019 SCN PRELIMINARY TEST II

Lodging (score)

	SCN HG Type	Pontiac IL 2.5.7	Urbana IL 2.5.7	Decatur MI Inf	Bellwood NE 2.5.7
	Strain				
1	IA2102	2.3	2.5	1.7	2.0
2	LD02-4485 (SCN)	1.5	1.0	1.0	2.0
3	U11-917032 (SCN)	1.5	1.0	1.0	1.0
4	U14-910097 (SCN)	1.5	1.0	1.3	1.5
5	E17054	1.3	1.0	1.3	1.0
6	E17069	2.3	2.0	2.3	2.0
7	E17143	1.0	1.0	1.3	1.0
8	E17167	2.0	1.5	1.3	1.5
9	E17184	2.0	1.0	1.7	1.5
10	E17203	1.0	1.0	1.0	1.5
11	E17227	1.5	1.0	1.0	1.0
12	E17269	1.5	1.0	1.3	1.0
13	E17274	2.0	2.0	2.7	2.5
14	E17275	1.8	2.0	2.3	2.0
15	E17283	1.5	1.0	1.0	1.0
16	E17506T	1.8	1.0	1.0	1.0
17	E17508	1.0	1.0	1.0	1.0
18	E17801-08	1.8	1.5	1.0	2.0
19	E17804-01	1.0	1.0	1.0	1.0
20	LD16-4302a	1.0	1.0	1.3	1.0
21	LD16-4766a	1.0	1.0	1.0	1.0
22	LD16-4852	1.0	1.0	1.0	1.5
23	LD16-4942a	1.5	1.0	1.3	2.0
24	LD16-6557	1.3	1.0	1.0	1.0
25	LD16-6830	1.0	1.0	1.0	1.0
26	LD16-6924	1.0	1.0	1.0	1.5
27	LD16-7136	1.0	1.0	1.0	1.0
28	U17-908050	1.3	1.0	1.0	1.0

2019 SCN PRELIMINARY TEST II

Height (inches)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	34	33	30	
2	LD02-4485 (SCN)	33	33	31	
3	U11-917032 (SCN)	31	28	28	
4	U14-910097 (SCN)	33	30	30	
5	E17054	33	29	34	
6	E17069	41	36	38	
7	E17143	32	34	31	
8	E17167	41	30	35	
9	E17184	35	30	32	
10	E17203	32	31	31	
11	E17227	31	32	30	
12	E17269	32	30	29	
13	E17274	35	29	28	
14	E17275	32	32	29	
15	E17283	32	27	28	
16	E17506T	38	31	28	
17	E17508	28	29	28	
18	E17801-08	35	33	27	
19	E17804-01	31	29	29	
20	LD16-4302a	31	29	32	
21	LD16-4766a	32	28	32	
22	LD16-4852	35	31	28	
23	LD16-4942a	33	30	26	
24	LD16-6557	33	29	28	
25	LD16-6830	29	27	25	
26	LD16-6924	30	30	26	
27	LD16-7136	31	29	28	
28	U17-908050	33	29	24	

2019 SCN PRELIMINARY TEST II

Seed Weight (g/100)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	16.9	16.6		13.3
2	LD02-4485 (SCN)	16.4	16.5		13.5
3	U11-917032 (SCN)	16.7	14.2		13.5
4	U14-910097 (SCN)	16.3	15.2		11.8
5	E17054	18.7	18.9		14.5
6	E17069	19.5	17.9		14.4
7	E17143	17.3	17.2		12.7
8	E17167	18.8	18.1		15.3
9	E17184	17.4	16.0		14.7
10	E17203	17.0	16.7		13.6
11	E17227	20.8	19.4		14.3
12	E17269	15.5	15.1		13.0
13	E17274	14.6	13.5		11.8
14	E17275	16.4	15.4		12.2
15	E17283	21.6	20.1		15.2
16	E17506T	22.4	22.5		18.5
17	E17508	22.1	20.7		17.7
18	E17801-08	14.8	13.8		11.9
19	E17804-01	18.9	19.0		15.3
20	LD16-4302a	16.3	16.9		13.2
21	LD16-4766a	18.2	17.5		14.6
22	LD16-4852	16.2	16.2		11.9
23	LD16-4942a	16.6	16.5		14.2
24	LD16-6557	18.2	17.6		14.0
25	LD16-6830	16.9	15.4		12.9
26	LD16-6924	17.0	16.5		12.6
27	LD16-7136	17.9	17.9		13.2
28	U17-908050	15.8	14.3		12.3

2019 SCN PRELIMINARY TEST II

Seed Quality (score)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	1.0	2.0		1.0
2	LD02-4485 (SCN)	2.0	2.0		1.0
3	U11-917032 (SCN)	2.0	2.0		1.0
4	U14-910097 (SCN)	2.0	2.0		1.0
5	E17054	2.0	2.0		1.0
6	E17069	2.0	2.0		1.0
7	E17143	1.0	2.0		1.0
8	E17167	2.0	2.0		1.0
9	E17184	1.0	2.0		1.0
10	E17203	3.0	3.0		1.0
11	E17227	2.0	2.0		1.0
12	E17269	1.0	2.0		1.0
13	E17274	1.0	2.0		1.0
14	E17275	2.0	2.0		1.0
15	E17283	3.0	3.0		1.0
16	E17506T	1.0	2.0		1.0
17	E17508	2.0	2.0		1.0
18	E17801-08	2.0	2.0		1.0
19	E17804-01	2.0	2.0		1.0
20	LD16-4302a	2.0	2.0		1.0
21	LD16-4766a	1.0	2.0		1.0
22	LD16-4852	2.0	2.0		1.0
23	LD16-4942a	2.0	3.0		1.0
24	LD16-6557	2.0	2.0		1.0
25	LD16-6830	1.0	2.0		1.0
26	LD16-6924	2.0	2.0		1.0
27	LD16-7136	2.0	2.0		1.0
28	U17-908050	2.0	2.0		1.0

2019 SCN PRELIMINARY TEST II

Protein (%)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	33.0	34.6		34.7
2	LD02-4485 (SCN)	31.8	32.6		31.9
3	U11-917032 (SCN)	31.4	33.7		34.0
4	U14-910097 (SCN)	31.9	33.1		32.6
5	E17054	33.2	35.0		34.6
6	E17069	35.4	36.1		37.2
7	E17143	35.6	35.9		37.8
8	E17167	34.1	34.7		35.3
9	E17184	33.3	35.0		34.3
10	E17203	33.8	34.1		34.5
11	E17227	33.6	34.7		34.7
12	E17269	33.0	33.9		34.7
13	E17274	32.2	32.9		34.2
14	E17275	33.0	33.6		34.7
15	E17283	35.3	35.6		34.2
16	E17506T	34.2	34.2		34.4
17	E17508	35.9	35.5		35.7
18	E17801-08	34.0	33.8		35.1
19	E17804-01	34.9	36.2		35.4
20	LD16-4302a	34.7	36.2		35.8
21	LD16-4766a	34.5	34.1		36.0
22	LD16-4852	32.1	33.9		34.2
23	LD16-4942a	33.3	33.5		33.3
24	LD16-6557	33.7	34.0		34.6
25	LD16-6830	32.6	33.5		33.6
26	LD16-6924	31.7	34.7		34.3
27	LD16-7136	32.1	34.2		33.5
28	U17-908050	32.5	34.0		33.2

2019 SCN PRELIMINARY TEST II

Oil (%)

		Pontiac IL	Urbana IL	Decatur MI	Bellwood NE
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7
	Strain				
1	IA2102	18.1	18.1		16.9
2	LD02-4485 (SCN)	18.5	18.5		18.5
3	U11-917032 (SCN)	19.6	18.8		18.6
4	U14-910097 (SCN)	19.2	19.9		18.3
5	E17054	18.0	17.4		16.8
6	E17069	17.8	18.0		17.5
7	E17143	16.9	17.1		15.7
8	E17167	18.7	19.1		18.3
9	E17184	19.2	19.1		18.7
10	E17203	17.6	18.1		17.6
11	E17227	18.4	17.9		17.8
12	E17269	17.7	18.3		17.8
13	E17274	17.6	17.9		17.1
14	E17275	17.4	18.3		17.1
15	E17283	17.9	17.7		18.0
16	E17506T	17.4	18.3		18.2
17	E17508	18.0	18.2		17.8
18	E17801-08	16.5	16.6		17.2
19	E17804-01	16.9	17.3		16.8
20	LD16-4302a	16.1	16.7		16.3
21	LD16-4766a	17.8	18.4		17.0
22	LD16-4852	18.4	17.7		17.7
23	LD16-4942a	19.2	19.6		19.3
24	LD16-6557	18.8	18.8		18.2
25	LD16-6830	19.8	19.8		18.7
26	LD16-6924	18.9	17.8		16.7
27	LD16-7136	20.0	19.0		18.7
28	U17-908050	20.1	19.7		19.1

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2019 SCN UNIFORM TEST III

	Strain	Descriptive code	Parentage	Previous testing
1	LD11-2170 (SCN)	PLtbr	Syngenta 03JR313108 x LD05-3171	3
2	IA3048 (SCN)	WGy	Dairyland 99540 x IA2068	8
3	LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817	3
4	U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419	18SCN U II
5	E16184	PGy	S20-20 x E07051	18SCN P IIA
6	E16380	WGbf	E07051 x E10174	18SCN P IIA
7	LD15- 456	WLtbl	HM09-W084 x LD10-10226	18SCN P IIB
8	LD15- 467	WLtbl	HM09-W084 x LD10-10226	18SCN P IIB
9	LD15-1477	WLtbr	WN0902577 x LD07-4477	18SCN P III
10	LD15-6762	PGbf	WN0902577 x SD08CV-2102	18SCN P III
11	LD15-5776793	PLtbl	LD06-7620 x Syngenta 05BR006009	18PT IIIA
12	LD15-5782791	PTbl	LD06-7620 x Syngenta 05BR006009	18PT IIIA
13	LD15-5789800	PLtbl	LD06-7620 x Syngenta 05BR006009	18PT IIIA
14	SA13-1385	WLtbl	K07-1633 x LD04-13265	1
15	SA14-9653	PTbl	LD07-4477 x LD02-9050	1
16	U14-211226	PGibl	U09-407147 x LD02-4485	1
17	U15-606207	PGbf	LD07-3419 x U09-105007	1

	Strain	Gen comp	SCN res source	Traits
1	LD11-2170 (SCN)	F5	PI 88788	
2	IA3048 (SCN)	F4	PI 88788	
3	LD07-3395bf (SCN)	F5	PI 88788,437654	
4	U14-910097 (SCN)	F5	PI 88788,437654	
5	E16184	F5	PI 88788	
6	E16380	F5	PI 88788	
7	LD15- 456	F5	PI 88788	
8	LD15- 467	F5	PI 88788	
9	LD15-1477	F5	PI 88788	
10	LD15-6762	F5	PI 88788	
11	LD15-5776793	F5	PI 88788	
12	LD15-5782791	F5	PI 88788	
13	LD15-5789800	F5	PI 88788	
14	SA13-1385	F4	PI 88788	
15	SA14-9653	F4	PI 88788	
16	U14-211226	F5	PI 88788	Rps1k, Rps
17	U15-606207	F5	PI 88788,437654	Rps

2019 SCN UNIFORM TEST III

		IL SCN screen			
		HG Type 0		HG Type 2.5.7	
	Strain	FI	rating	FI	rating
1	LD11-2170 (SCN)	9	HR	83	NR
2	IA3048 (SCN)	2	HR	74	NR
3	LD07-3395bf (SCN)	3	HR	4	HR
4	U14-910097 (SCN)	1	HR	2	HR
5	E16184	3	HR	117	NR
6	E16380	3	HR	91	NR
7	LD15- 456	3	HR	64	NR
8	LD15- 467	7	HR	78	NR
9	LD15-1477	9	HR	62	NR
10	LD15-6762	11	R	75	NR
11	LD15-5776793	15	R	80	NR
12	LD15-5782791	10	R	66	NR
13	LD15-5789800	1	HR	61	NR
14	SA13-1385	7	HR	76	NR
15	SA14-9653	5	HR	90	NR
16	U14-211226	15	R	55	LR
17	U15-606207	0	HR	2	HR

2019 SCN UNIFORM TEST III

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**6**		4		2		6	6	5	6	6	5*	5*
1	LD11-2170 (SCN)	**61.0**	**6**	67.5	7	47.6	11	9/29	1.3	28	15.3	1.8	34.6	18.5
2	IA3048 (SCN)	**57.6**	**15**	64.7	13	42.9	16	1	1.6	32	15.2	1.7	34.8	17.5
3	LD07-3395bf (SCN)	**60.2**	**11**	65.7	11	48.7	6	5	1.2	29	16.5	1.9	32.8	18.7
4	U14-910097 (SCN)	**62.8**	**4**	69.3	3	49.3	4	-1	1.8	27	15.2	1.6	33.4	18.8
5	E16184	**58.1**	**14**	64.2	15	45.4	13	0	1.7	31	17.7	2.0	35.1	16.9
6	E16380	**55.9**	**17**	62.5	17	42.2	17	-1	1.2	29	19.7	2.2	33.6	17.9
7	LD15- 456	**60.6**	**10**	66.4	10	48.6	7	0	1.3	29	16.8	1.9	34.7	18.4
8	LD15- 467	**60.9**	**8**	67.2	9	47.9	10	-1	1.4	29	17.4	1.9	34.9	18.3
9	LD15-1477	**61.0**	**6**	69.1	4	44.2	15	1	1.3	31	15.5	1.6	34.9	17.9
10	LD15-6762	**62.8**	**4**	68.7	5	50.6	2	1	1.5	32	16.0	1.8	35.2	18.0
11	LD15-5776793	**60.9**	**8**	67.8	6	46.6	12	4	1.1	28	15.9	1.4	33.6	18.0
12	LD15-5782791	**57.5**	**16**	63.5	16	45.2	14	3	1.2	28	17.0	1.8	33.6	18.4
13	LD15-5789800	**59.5**	**13**	64.6	14	48.8	5	4	1.2	28	16.1	1.5	34.2	17.8
14	SA13-1385	**59.9**	**12**	65.5	12	48.2	9	5	1.3	31	14.6	1.7	33.3	17.5
15	SA14-9653	**63.8**	**2**	67.5	7	56.0	1	4	1.8	34	16.7	1.7	35.5	17.1
16	U14-211226	**63.6**	**3**	70.9	2	48.6	7	3	1.6	34	17.3	1.9	33.0	18.2
17	U15-606207	**64.8**	**1**	71.7	1	50.4	3	3	1.3	31	16.1	2.0	33.2	18.1
	Mean	**60.6**		66.9		47.7			1.4	30	16.4	1.8	34.1	18.0
	LSD(.05)	**3.0**		4.2		3.5								
	C.V. %	**7.4**		7.8		6.2								
	Replications	**14**		9		5								

*Manhattan, KS P & O data not included in means

2019 SCN UNIFORM TEST III

2 Year Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**15**		11		4		14	16	15	14	14	13	13
1	LD11-2170 (SCN)	**67.0**	**3**	70.0	3	58.8	4	9/22	1.6	32	14.7	1.9	34.5	18.7
2	IA3048 (SCN)	**61.4**	**7**	63.9	7	54.4	7	1	1.9	35	14.3	1.6	34.6	17.7
3	LD07-3395bf (SCN)	**64.1**	**6**	67.0	5	56.1	6	6	1.6	32	15.1	2.0	32.6	18.6
14	SA13-1385	**64.8**	**4**	67.1	4	58.4	5	7	1.5	36	13.7	1.6	32.9	17.6
15	SA14-9653	**64.4**	**5**	65.5	6	61.5	1	6	2.1	37	15.9	1.5	35.6	17.1
16	U14-211226	**67.6**	**2**	70.4	2	59.7	3	3	1.8	38	15.7	2.0	33.1	18.1
17	U15-606207	**69.9**	**1**	73.1	1	61.1	2	3	1.5	33	15.3	1.9	32.9	18.2

2019 SCN UNIFORM TEST III

Yield (bu/a)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	72.6	55.3	83.8	62.3	56.3	39.1
2	IA3048 (SCN)	75.3	56.5	71.7	59.4	56.4	29.7
3	LD07-3395bf (SCN)	75.6	53.4	81.9	55.8	54.9	42.9
4	U14-910097 (SCN)	71.3	54.7	85.2	70.0	59.2	39.6
5	E16184	79.9	47.9	64.8	68.3	56.5	34.7
6	E16380	72.0	48.3	79.3	54.4	50.6	34.2
7	LD15- 456	72.0	49.6	80.0	67.9	59.1	38.3
8	LD15- 467	75.7	53.4	81.7	61.9	57.1	39.0
9	LD15-1477	69.7	55.8	81.9	73.1	54.3	34.5
10	LD15-6762	72.9	59.1	80.4	66.0	62.3	39.3
11	LD15-5776793	79.4	51.9	86.8	57.0	51.4	42.1
12	LD15-5782791	73.7	47.4	83.5	53.2	53.6	37.0
13	LD15-5789800	77.3	50.9	81.7	52.5	57.0	40.9
14	SA13-1385	68.5	54.0	81.8	61.7	54.5	42.1
15	SA14-9653	72.9	57.8	83.2	59.9	70.5	41.8
16	U14-211226	81.6	56.5	83.2	66.1	58.8	38.6
17	U15-606207	75.2	63.7	89.8	62.1	61.6	39.5
	Average	74.4	53.9	81.2	61.8	57.3	37.4
	LSD(.05)	9.5	9.3	6.4	9.8	4.3	7.2
	C.V. %	6.0	8.2	4.8	12.9	4.3	11.5
	Replications	2	2	3	2	2	3
	Row width (in.)	30	30	30	30	30	30

2019 SCN UNIFORM TEST III

Yield (rank)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	12	7	4	7	11	9
2	IA3048 (SCN)	7	4	16	12	10	17
3	LD07-3395bf (SCN)	6	10	8	14	12	1
4	U14-910097 (SCN)	15	8	3	2	4	6
5	E16184	2	16	17	3	9	14
6	E16380	13	15	15	15	17	16
7	LD15- 456	13	14	14	4	5	12
8	LD15- 467	5	10	11	9	7	10
9	LD15-1477	16	6	8	1	14	15
10	LD15-6762	10	2	13	6	2	8
11	LD15-5776793	3	12	2	13	16	2
12	LD15-5782791	9	17	5	16	15	13
13	LD15-5789800	4	13	11	17	8	5
14	SA13-1385	17	9	10	10	13	2
15	SA14-9653	10	3	6	11	1	4
16	U14-211226	1	4	6	5	6	11
17	U15-606207	8	1	1	8	3	7

2019 SCN UNIFORM TEST III

Maturity

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	10/02	9/28	10/03	9/19	10/04	10/02
2	IA3048 (SCN)	1	2	1	0	2	-2
3	LD07-3395bf (SCN)	3	6	10	2	8	3
4	U14-910097 (SCN)	0	-2	2	-1	0	-3
5	E16184	0	0	5	1	-1	-6
6	E16380	-2	-2	4	-1	-2	-1
7	LD15- 456	0	-2	2	1	1	-5
8	LD15- 467	0	-2	2	0	2	-6
9	LD15-1477	-1	2	1	1	3	-2
10	LD15-6762	0	4	0	0	4	-1
11	LD15-5776793	1	4	9	4	4	2
12	LD15-5782791	2	2	9	1	7	0
13	LD15-5789800	5	4	9	4	2	1
14	SA13-1385	2	6	9	4	6	4
15	SA14-9653	2	8	7	4	1	1
16	U14-211226	1	4	7	2	4	0
17	U15-606207	2	2	9	1	3	0
	Planted	6/4	6/5	6/7	5/15	6/5	6/5

2019 SCN UNIFORM TEST III

Lodging (score)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	1.3	1.0	2.0	1.0	1.0	1.7
2	IA3048 (SCN)	2.3	1.0	2.3	1.0	1.0	2.3
3	LD07-3395bf (SCN)	1.0	1.0	2.0	1.0	1.0	1.0
4	U14-910097 (SCN)	1.8	1.0	3.2	1.5	1.0	2.3
5	E16184	2.5	1.0	2.3	1.5	1.0	2.0
6	E16380	1.0	1.0	1.7	1.0	1.0	1.3
7	LD15- 456	1.0	1.0	2.0	1.0	1.0	1.7
8	LD15- 467	1.3	1.0	2.2	1.0	1.0	1.7
9	LD15-1477	1.3	1.0	2.2	1.0	1.0	1.5
10	LD15-6762	1.5	1.0	2.2	1.0	1.0	2.0
11	LD15-5776793	1.0	1.0	1.5	1.0	1.0	1.3
12	LD15-5782791	1.0	1.0	1.7	1.0	1.0	1.3
13	LD15-5789800	1.0	1.0	2.0	1.0	1.0	1.3
14	SA13-1385	1.0	1.0	1.8	1.5	1.0	1.7
15	SA14-9653	2.5	1.0	2.8	1.5	1.0	2.0
16	U14-211226	2.0	1.0	2.3	1.5	1.0	2.0
17	U15-606207	1.0	1.0	2.2	1.0	1.0	1.3

2019 SCN UNIFORM TEST III

Height (inches)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	29	26	32		26	30
2	IA3048 (SCN)	31	30	34		32	32
3	LD07-3395bf (SCN)	30	26	30		30	28
4	U14-910097 (SCN)	27	25	33		25	27
5	E16184	32	29	35		29	31
6	E16380	28	27	33		27	31
7	LD15- 456	31	25	34		27	30
8	LD15- 467	30	25	35		29	27
9	LD15-1477	31	31	35		28	34
10	LD15-6762	31	33	35		31	32
11	LD15-5776793	28	27	32		25	28
12	LD15-5782791	29	25	32		26	31
13	LD15-5789800	28	27	30		28	29
14	SA13-1385	30	30	36		27	32
15	SA14-9653	33	31	38		34	32
16	U14-211226	34	32	37		32	36
17	U15-606207	29	30	34		31	30

2019 SCN UNIFORM TEST III

Seed Weight (g/100)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	17.6	16.0	17.3	12.3	17.1	11.7
2	IA3048 (SCN)	18.1	15.8	16.9	12.9	16.2	11.2
3	LD07-3395bf (SCN)	18.2	16.8	18.4	12.3	17.0	16.1
4	U14-910097 (SCN)	17.7	15.5	17.0	12.5	17.1	11.5
5	E16184	20.5	17.7	19.7	14.8	20.6	12.9
6	E16380	22.4	19.6	21.3	15.5	21.1	18.6
7	LD15- 456	19.4	17.2	17.6	14.5	19.7	12.4
8	LD15- 467	20.2	17.3	17.7	14.5	19.6	15.3
9	LD15-1477	16.8	15.5	16.1	13.6	15.7	15.4
10	LD15-6762	17.2	17.0	17.9	13.2	18.6	12.3
11	LD15-5776793	18.2	17.4	17.1	11.6	19.1	11.9
12	LD15-5782791	18.7	17.8	17.5	12.7	19.6	15.5
13	LD15-5789800	18.9	17.1	18.4	12.1	19.2	10.9
14	SA13-1385	16.2	16.0	16.7	10.9	16.2	11.8
15	SA14-9653	19.1	17.5	19.4	13.3	18.4	12.5
16	U14-211226	19.1	17.5	19.5	13.8	18.4	15.3
17	U15-606207	17.3	17.1	18.7	12.6	17.4	13.3

2019 SCN UNIFORM TEST III

Seed Quality (score)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	1.0	2.0	1.7	1.0	1.0	4.0
2	IA3048 (SCN)	2.0	1.0	1.3	1.0	1.0	4.0
3	LD07-3395bf (SCN)	2.0	2.0	1.7	1.0	1.0	4.0
4	U14-910097 (SCN)	2.0	1.0	1.7	1.0	1.0	3.0
5	E16184	2.0	2.0	3.0	1.0	1.0	3.0
6	E16380	3.0	3.0	2.0	1.0	1.0	3.0
7	LD15- 456	2.0	2.0	1.7	1.0	1.0	4.0
8	LD15- 467	3.0	1.0	2.3	1.0	1.0	3.0
9	LD15-1477	1.0	2.0	1.7	1.0	1.0	3.0
10	LD15-6762	2.0	2.0	2.0	1.0	1.0	3.0
11	LD15-5776793	1.0	1.0	1.7	1.0	1.0	3.0
12	LD15-5782791	2.0	2.0	1.8	1.0	1.0	3.0
13	LD15-5789800	1.0	2.0	1.0	1.0	1.0	3.0
14	SA13-1385	1.0	2.0	1.3	1.0	1.0	4.0
15	SA14-9653	2.0	2.0	1.0	1.0	1.0	3.0
16	U14-211226	2.0	1.0	2.7	1.0	1.0	4.0
17	U15-606207	2.0	2.0	2.0	1.0	1.0	4.0

2019 SCN UNIFORM TEST III

Protein (%)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	34.6	34.6	34.2	35.1	34.7	26.8
2	IA3048 (SCN)	34.2	35.0	35.0	34.7	35.0	29.0
3	LD07-3395bf (SCN)	32.9	32.8	32.6	33.2	32.5	34.4
4	U14-910097 (SCN)	32.9	33.5	33.9	32.9	33.8	26.2
5	E16184	34.5	34.3	36.3	34.4	35.9	30.5
6	E16380	33.4	32.5	34.5	33.1	34.4	34.5
7	LD15- 456	34.6	33.9	34.5	34.6	36.1	29.3
8	LD15- 467	35.0	34.6	34.6	35.0	35.5	33.2
9	LD15-1477	35.0	35.6	36.2	33.6	34.2	39.1
10	LD15-6762	34.3	34.3	34.9	36.0	36.4	29.4
11	LD15-5776793	33.0	33.2	33.3	34.4	34.3	29.1
12	LD15-5782791	33.2	32.5	33.5	34.0	34.8	34.8
13	LD15-5789800	34.1	33.7	33.6	35.1	34.5	26.3
14	SA13-1385	32.6	33.1	33.6	33.5	33.8	31.3
15	SA14-9653	35.4	35.4	35.8	35.3	35.5	29.5
16	U14-211226	33.0	32.1	34.2	32.5	33.5	34.7
17	U15-606207	32.0	33.4	33.6	33.3	33.8	33.6

2019 SCN UNIFORM TEST III

Oil (%)

		Arthur IL	Urbana IL	Albany MO	Bellwood NE	West Lafayette IN	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	NI	NI
	Strain						
1	LD11-2170 (SCN)	18.9	19.0	18.4	17.5	18.7	21.8
2	IA3048 (SCN)	18.2	17.6	16.7	17.1	18.1	20.4
3	LD07-3395bf (SCN)	18.8	19.5	18.3	17.9	18.9	18.9
4	U14-910097 (SCN)	19.4	19.6	17.8	18.2	19.1	22.0
5	E16184	17.1	17.7	15.7	17.4	16.8	18.9
6	E16380	18.4	18.7	16.7	17.6	18.2	17.5
7	LD15- 456	18.6	19.2	17.9	17.7	18.4	20.9
8	LD15- 467	18.2	19.2	17.8	17.9	18.7	19.2
9	LD15-1477	18.0	17.9	16.8	18.3	18.5	17.0
10	LD15-6762	18.7	18.6	17.2	17.5	18.0	20.7
11	LD15-5776793	18.6	18.6	17.5	17.0	18.5	18.9
12	LD15-5782791	18.5	19.7	17.5	18.0	18.3	18.1
13	LD15-5789800	17.8	18.5	17.3	17.2	18.1	20.6
14	SA13-1385	18.2	17.8	16.5	17.4	17.6	18.9
15	SA14-9653	17.5	17.3	16.2	17.1	17.6	19.1
16	U14-211226	18.5	19.3	17.1	18.3	18.2	18.0
17	U15-606207	18.9	18.0	17.3	17.8	18.6	18.4

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2019 SCN PRELIMINARY TEST III

	Strain	Descriptive code	Parentage
1	LD11-2170 (SCN)	PLtbr	Syngenta 03JR313108 x LD05-3171
2	IA3048 (SCN)	WGy	Dairyland 99540 x IA2068
3	LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817
4	U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419
5	LD16-3374	WGy/bf	LD07-3419 x LD10-9110
6	LD16-4047	WGy	S10-11200 x LD10-9823
7	LD16-6787	WGy	LD07-3419 x LD10-10226
8	LD16-6886	PGy/ibl	LD07-3419 x LD10-10226
9	LD16-6888	WGy	LD07-3419 x LD10-10226
10	LD16-6893	PGgr	LD07-3419 x LD10-10226
11	LD16-7126	WGy	LD07-3395 x LD10-10198
12	LD16-7622	PGibl/bf	LD07-3395 x U09-133021
13	LD16-7637	PGibl	LD07-3395 x U09-133021
14	LD16-7669	PLt+Gbl/ibl	LD07-3395 x U09-133021
15	SA16-1961	WTy/br	LG11-6208 x A12-961054
16	SA16-2194	WTy/br	U11-616086 x A12-961044
17	SA16-10349	PGibl	Ellis x LD11-10927
18	SA16-12014	WGy	SA12-1530 x LD10-2477
19	SA16-12491	PGibl	LS09-1803 x LD09-10911
20	SA16-12880	PGibl	U11-616086 x LS09-2659

2019 SCN PRELIMINARY TEST III

	Strain	Gen comp	SCN res source	Traits
1	LD11-2170 (SCN)	F5	PI 88788	
2	IA3048 (SCN)	F4	PI 88788	
3	LD07-3395bf (SCN)	F5	PI 88788,437654	
4	U14-910097 (SCN)	F5	PI 88788,437654	
5	LD16-3374	F5	PI 88788,437654	
6	LD16-4047	F5	PI 88788,437654	
7	LD16-6787	F5	PI 88788,437654	
8	LD16-6886	F5	PI 88788,437654	
9	LD16-6888	F5	PI 88788,437654	
10	LD16-6893	F5	PI 88788,437654	
11	LD16-7126	F5	PI 88788,437654	
12	LD16-7622	F5	PI 88788,437654	
13	LD16-7637	F5	PI 88788,437654	
14	LD16-7669	F5	PI 88788,437654	
15	SA16-1961	F5	PI 88788	
16	SA16-2194	F5	PI 88788	
17	SA16-10349	F5	PI 88788	
18	SA16-12014	F5	PI 88788	
19	SA16-12491	F5	PI 88788	
20	SA16-12880	F5	PI 88788	

2019 SCN PRELIMINARY TEST III

		IL SCN screen			
		HG Type 0		HG Type 2.5.7	
	Strain	FI	rating	FI	rating
1	LD11-2170 (SCN)	9	HR	83	NR
2	IA3048 (SCN)	2	HR	74	NR
3	LD07-3395bf (SCN)	3	HR	4	HR
4	U14-910097 (SCN)	1	HR	2	HR
5	LD16-3374	7	HR	61	NR
6	LD16-4047	22	R	48	LR
7	LD16-6787	6	HR	61	NR
8	LD16-6886	44	LR	60	NR
9	LD16-6888	22	R	49	LR
10	LD16-6893	11	R	66	NR
11	LD16-7126	8	HR	50	LR
12	LD16-7622	1	HR	1	HR
13	LD16-7637	5	HR	2	HR
14	LD16-7669	2	HR	56	LR
15	SA16-1961	9	HR	60	NR
16	SA16-2194	9	HR	61	NR
17	SA16-10349	36	MR	74	NR
18	SA16-12014	19	R	84	NR
19	SA16-12491	5	HR	51	LR
20	SA16-12880	3	HR	61	NR

2019 SCN PRELIMINARY TEST III

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**4**		3		1		4	4	3	4	4	3	3
1	LD11-2170 (SCN)	**57.9**	**1**	68.2	1	27.1	2	9/28	1.3	28	15.3	2.0	34.8	18.4
2	IA3048 (SCN)	**49.6**	**9**	61.1	4	15.2	18	0	1.9	29	14.7	2.0	34.2	18.2
3	LD07-3395bf (SCN)	**51.2**	**5**	60.5	6	23.4	4	3	1.1	27	15.4	2.0	32.2	19.2
4	U14-910097 (SCN)	**51.4**	**4**	60.4	7	24.3	3	-1	1.6	27	14.5	2.0	33.6	19.1
5	LD16-3374	**43.8**	**17**	53.5	17	14.8	19	1	1.3	26	14.4	1.8	31.7	18.6
6	LD16-4047	**42.1**	**19**	49.5	19	20.2	11	3	1.0	28	12.3	2.0	34.3	17.6
7	LD16-6787	**52.0**	**3**	62.1	3	21.7	7	4	1.1	29	14.4	2.0	35.0	17.1
8	LD16-6886	**52.6**	**2**	62.6	2	22.5	5	1	1.3	28	16.9	2.1	32.6	18.9
9	LD16-6888	**48.3**	**13**	57.7	11	20.2	12	-1	1.3	26	15.2	2.1	32.7	18.6
10	LD16-6893	**49.8**	**7**	59.2	9	21.5	8	-1	1.1	26	16.1	2.1	32.5	18.8
11	LD16-7126	**50.6**	**6**	61.0	5	19.3	13	2	1.1	27	16.2	2.0	32.4	18.8
12	LD16-7622	**46.3**	**14**	56.4	14	15.8	17	0	1.4	28	12.6	2.1	32.6	18.3
13	LD16-7637	**48.6**	**11**	57.8	10	21.0	9	1	1.3	30	13.4	2.9	33.9	18.3
14	LD16-7669	**48.6**	**11**	57.3	12	22.4	6	2	1.3	29	12.2	2.0	33.8	18.0
15	SA16-1961	**41.2**	**20**	49.3	20	17.1	15	5	1.3	27	13.0	2.1	35.5	17.3
16	SA16-2194	**43.1**	**18**	50.6	18	20.7	10	5	1.3	28	14.0	2.0	32.7	17.2
17	SA16-10349	**45.3**	**15**	54.6	16	17.6	14	3	1.4	29	14.4	2.0	37.0	17.2
18	SA16-12014	**48.7**	**10**	59.4	8	16.7	16	1	2.1	31	13.7	2.0	35.0	17.1
19	SA16-12491	**49.8**	**7**	57.0	13	28.4	1	6	1.3	30	12.8	2.0	33.7	17.4
20	SA16-12880	**44.7**	**16**	55.7	15	11.6	20	4	2.0	30	15.5	2.1	34.4	17.6
	Mean	**48.3**		57.7		20.0			1.4	28	14.4	2.1	33.7	18.1
	LSD(.05)	**3.2**		4.0		4.7								
	C.V. %	**6.6**		6.0		11.1								
	Replications	**8**		6		2								

2019 SCN PRELIMINARY TEST III

Yield (bu/a)

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	80.2	54.9	69.6	27.1
2	IA3048 (SCN)	74.4	42.7	66.4	15.2
3	LD07-3395bf (SCN)	79.9	39.4	62.3	23.4
4	U14-910097 (SCN)	79.3	42.3	59.7	24.3
5	LD16-3374	71.0	33.4	56.2	14.8
6	LD16-4047	76.2	31.1	41.2	20.2
7	LD16-6787	82.0	43.5	60.9	21.7
8	LD16-6886	80.5	43.2	64.3	22.5
9	LD16-6888	79.6	36.3	57.1	20.2
10	LD16-6893	77.7	39.0	61.0	21.5
11	LD16-7126	79.2	41.4	62.5	19.3
12	LD16-7622	77.5	38.8	53.1	15.8
13	LD16-7637	78.9	39.7	54.9	21.0
14	LD16-7669	76.2	30.3	65.4	22.4
15	SA16-1961	61.2	39.2	47.6	17.1
16	SA16-2194	71.7	31.7	48.6	20.7
17	SA16-10349	70.1	39.4	54.3	17.6
18	SA16-12014	81.5	41.1	55.8	16.7
19	SA16-12491	78.7	44.3	47.9	28.4
20	SA16-12880	70.7	40.1	56.4	11.6
	Average	76.3	39.6	57.3	20.0
	LSD(.05)	8.1	6.0	6.3	4.7
	C.V. %	5.1	7.3	7.5	11.1
	Replications	2	2	2	2
	Row width (in.)	30	30	30	30

2019 SCN PRELIMINARY TEST III

Yield (rank)

	SCN HG Type	Arthur IL 2.5.7	Urbana IL 2.5.7	Bellwood NE 2.5.7	Manhattan KS NI
	Strain				
1	LD11-2170 (SCN)	4	1	1	2
2	IA3048 (SCN)	15	5	2	18
3	LD07-3395bf (SCN)	5	11	6	4
4	U14-910097 (SCN)	7	6	9	3
5	LD16-3374	17	17	12	19
6	LD16-4047	13	19	20	11
7	LD16-6787	1	3	8	7
8	LD16-6886	3	4	4	5
9	LD16-6888	6	16	10	12
10	LD16-6893	11	14	7	8
11	LD16-7126	8	7	5	13
12	LD16-7622	12	15	16	17
13	LD16-7637	9	10	14	9
14	LD16-7669	13	20	3	6
15	SA16-1961	20	13	19	15
16	SA16-2194	16	18	17	10
17	SA16-10349	19	11	15	14
18	SA16-12014	2	8	13	16
19	SA16-12491	10	2	18	1
20	SA16-12880	18	9	11	20

2019 SCN PRELIMINARY TEST III

Maturity

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	10/02	9/30	9/20	9/28
2	IA3048 (SCN)	0	0	0	1
3	LD07-3395bf (SCN)	1	4	2	5
4	U14-910097 (SCN)	0	-2	-2	-1
5	LD16-3374	1	2	-2	2
6	LD16-4047	0	6	2	5
7	LD16-6787	4	4	3	4
8	LD16-6886	1	0	1	0
9	LD16-6888	1	-2	0	-2
10	LD16-6893	1	-2	1	-2
11	LD16-7126	2	2	3	3
12	LD16-7622	0	0	-1	-1
13	LD16-7637	1	2	-1	0
14	LD16-7669	2	2	3	1
15	SA16-1961	0	4	2	13
16	SA16-2194	4	4	3	11
17	SA16-10349	0	4	3	6
18	SA16-12014	0	4	0	1
19	SA16-12491	4	6	4	9
20	SA16-12880	3	6	3	4
	Planted	6/4	6/5	5/15	6/5

Lodging (score)

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	1.0	1.0	1.0	2.0
2	IA3048 (SCN)	2.0	1.0	1.5	3.0
3	LD07-3395bf (SCN)	1.0	1.0	1.0	1.5
4	U14-910097 (SCN)	1.8	1.0	1.5	2.0
5	LD16-3374	1.0	1.0	1.0	2.0
6	LD16-4047	1.0	1.0	1.0	1.0
7	LD16-6787	1.0	1.0	1.0	1.5
8	LD16-6886	1.3	1.0	1.0	2.0
9	LD16-6888	1.0	1.0	1.0	2.0
10	LD16-6893	1.0	1.0	1.0	1.5
11	LD16-7126	1.0	1.0	1.0	1.5
12	LD16-7622	1.3	1.0	1.0	2.5
13	LD16-7637	1.3	1.0	1.0	2.0
14	LD16-7669	1.5	1.0	1.0	1.5
15	SA16-1961	1.3	1.0	1.5	1.5
16	SA16-2194	1.3	1.0	1.0	2.0
17	SA16-10349	1.0	1.0	1.0	2.5
18	SA16-12014	2.8	1.0	2.0	2.5
19	SA16-12491	1.5	1.0	1.5	1.0
20	SA16-12880	2.0	1.0	2.0	3.0

2019 SCN PRELIMINARY TEST III

Height (inches)

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	30	26		28
2	IA3048 (SCN)	30	26		32
3	LD07-3395bf (SCN)	30	23		28
4	U14-910097 (SCN)	29	24		30
5	LD16-3374	28	24		27
6	LD16-4047	32	24		28
7	LD16-6787	32	26		29
8	LD16-6886	31	24		29
9	LD16-6888	29	21		29
10	LD16-6893	28	22		28
11	LD16-7126	28	25		28
12	LD16-7622	31	23		29
13	LD16-7637	33	24		32
14	LD16-7669	33	24		31
15	SA16-1961	29	24		29
16	SA16-2194	30	24		32
17	SA16-10349	31	25		31
18	SA16-12014	35	28		31
19	SA16-12491	32	27		30
20	SA16-12880	35	30		25

2019 SCN PRELIMINARY TEST III

Seed Weight (g/100)

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	18.5	15.6	13.2	14.0
2	IA3048 (SCN)	18.6	15.0	13.2	12.2
3	LD07-3395bf (SCN)	18.2	16.1	12.5	14.9
4	U14-910097 (SCN)	18.5	15.2	11.9	12.5
5	LD16-3374	17.5	14.6	12.1	13.5
6	LD16-4047	14.6	13.3	10.0	11.2
7	LD16-6787	18.3	15.9	11.9	11.7
8	LD16-6886	20.7	17.4	14.5	14.9
9	LD16-6888	18.5	15.7	13.7	13.1
10	LD16-6893	19.6	16.0	14.6	14.3
11	LD16-7126	19.1	16.4	14.7	14.7
12	LD16-7622	15.5	13.2	10.1	11.6
13	LD16-7637	17.1	14.7	10.4	11.4
14	LD16-7669	14.7	13.7	10.4	10.2
15	SA16-1961	14.9	14.0	10.4	12.7
16	SA16-2194	16.6	14.5	11.7	13.1
17	SA16-10349	16.6	15.3	12.1	13.7
18	SA16-12014	16.8	15.4	11.6	11.1
19	SA16-12491	14.8	13.7	10.5	12.2
20	SA16-12880	17.5	16.5	12.3	15.7

2019 SCN PRELIMINARY TEST III

Seed Quality (score)

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	2.0	2.0	1.0	3.0
2	IA3048 (SCN)	2.0	2.0	1.0	3.0
3	LD07-3395bf (SCN)	2.0	2.0	1.0	3.0
4	U14-910097 (SCN)	2.0	2.0	1.0	3.0
5	LD16-3374	1.0	2.0	1.0	3.0
6	LD16-4047	2.0	2.0	1.0	3.0
7	LD16-6787	1.0	2.0	1.0	4.0
8	LD16-6886	2.0	2.0	1.5	3.0
9	LD16-6888	2.0	1.0	1.5	4.0
10	LD16-6893	2.0	2.0	1.5	3.0
11	LD16-7126	2.0	1.0	2.0	3.0
12	LD16-7622	2.0	1.0	1.5	4.0
13	LD16-7637	2.0	3.0	1.5	5.0
14	LD16-7669	2.0	2.0	1.0	3.0
15	SA16-1961	2.0	2.0	1.5	3.0
16	SA16-2194	2.0	2.0	1.0	3.0
17	SA16-10349	2.0	2.0	1.0	3.0
18	SA16-12014	2.0	2.0	1.0	3.0
19	SA16-12491	2.0	2.0	1.0	3.0
20	SA16-12880	2.0	2.0	1.5	3.0

2019 SCN PRELIMINARY TEST III

Protein (%)

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	34.7	34.7	35.1	
2	IA3048 (SCN)	34.1	34.0	34.4	
3	LD07-3395bf (SCN)	31.5	32.3	32.9	
4	U14-910097 (SCN)	33.2	33.1	34.5	
5	LD16-3374	31.1	31.1	32.8	
6	LD16-4047	33.1	33.8	35.8	
7	LD16-6787	35.2	34.6	35.2	
8	LD16-6886	33.0	31.9	32.8	
9	LD16-6888	32.9	32.2	33.0	
10	LD16-6893	32.2	32.0	33.3	
11	LD16-7126	33.7	31.5	31.9	
12	LD16-7622	32.3	31.8	33.8	
13	LD16-7637	34.0	32.8	35.0	
14	LD16-7669	33.1	34.0	34.4	
15	SA16-1961	34.6	35.6	36.2	
16	SA16-2194	32.7	31.6	34.0	
17	SA16-10349	36.2	36.5	38.2	
18	SA16-12014	35.7	33.8	35.5	
19	SA16-12491	33.2	33.2	34.7	
20	SA16-12880	33.3	35.0	35.0	

2019 SCN PRELIMINARY TEST III

Oil (%)

		Arthur IL	Urbana IL	Bellwood NE	Manhattan KS
	SCN HG Type	2.5.7	2.5.7	2.5.7	NI
	Strain				
1	LD11-2170 (SCN)	18.3	18.9	17.9	18.3
2	IA3048 (SCN)	18.3	18.5	17.8	18.3
3	LD07-3395bf (SCN)	19.3	19.3	19.1	19.3
4	U14-910097 (SCN)	19.3	20.0	18.0	19.3
5	LD16-3374	19.1	19.2	17.5	19.1
6	LD16-4047	18.4	17.8	16.5	18.4
7	LD16-6787	16.9	17.8	16.7	16.9
8	LD16-6886	19.0	19.6	18.1	19.0
9	LD16-6888	18.3	19.2	18.3	18.3
10	LD16-6893	18.3	19.5	18.6	18.3
11	LD16-7126	17.7	19.3	19.3	17.7
12	LD16-7622	18.8	19.3	16.9	18.8
13	LD16-7637	18.2	19.5	17.1	18.2
14	LD16-7669	18.5	18.3	17.3	18.5
15	SA16-1961	17.5	17.6	16.8	17.5
16	SA16-2194	17.2	17.9	16.5	17.2
17	SA16-10349	17.0	17.5	16.9	17.0
18	SA16-12014	16.9	17.8	16.5	16.9
19	SA16-12491	17.6	17.8	16.6	17.6
20	SA16-12880	17.9	18.1	16.9	17.9

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2019 SCN UNIFORM TEST IV

	Strain	Descriptive code	Parentage	Previous testing
1	LD06-7620 SCN)	PLtbl	IA3023 x LD00-3309	7
2	LD00-2817P (SCN)	PGibl	Ina x Dwight	10
3	LD07-3395bf SCN)	WGbf	Syngenta WW115926 x LD00-2817	5
4	JTN-4218	WTy	5002T x PI 494182	18SCN P IV
5	JTN-4319	PGibl	5601T x PI 437655	New
6	JTN-4419	PGibl	5601T x PI 437655	New
7	JTN-4519	WTbl	5002T x PI 494182	New
8	K16-1114	PT+Ltbl	LS07-3131 x 435.TCS	New
9	K16-1200	P+WLtbl	LS07-3125 x K10-8556	New
10	K16-1208	WLtbl	LS07-3125 x K10-8556	New
11	K16-1231	PLtbl	LS07-3125 x K10-8556	New
12	K16-1540	WGbf	S08-17361 x LS07-3125	New
13	K16-1687	PLtbl	K10-8556 x 435.TCS	New
14	K16-1729	PLtbl	K10-8556 x 435.TCS	New
15	LD15-3818	PLtbl	LD09-3913 x Syngenta BN09002129	18SCN P IV
16	LD15-8589	PGibl	LS07-3131 x LD09-30454	18SCN P IV
17	LD16-2955	PLtbl	LD07-3395 x LD10-10219	18SCN P IV
18	LD17-9900	WT+Gbr/bf	LD11-7311 x LDX11-319-7-134	New
19	LD17-9904	WTbr	LD11-7311 x LDX11-319-7-134	New
20	LD17-9937	PT+Ltbr	LD11-7311 x LDX11-319-7-134	New
21	S15-10879C	WGbf	S09-13635 x S11-17025	18 PT IV S-E
22	SA16-11227	WLtbl	SA12-1532 x LD10-9409	New
23	SA16-12348	WTy	SA12-1541 x LD08-1592	New

2019 SCN UNIFORM TEST IV

	Strain	Gen comp	SCN res source	Traits
1	LD06-7620 SCN)	F5	PI 88788	
2	LD00-2817P (SCN)	F5	PI 88788, 437654	
3	LD07-3395bf SCN)	F5	PI 88788, 437654	
4	JTN-4218	F9	PI 494182	new res source
5	JTN-4319	F9	PI 437655	new res source
6	JTN-4419	F9	PI 437655	new res source
7	JTN-4519	F10	PI 494182	new res source
8	K16-1114	F4	PI 88788	
9	K16-1200	F4	PI 88788	
10	K16-1208	F4	PI 88788	
11	K16-1231	F4	PI 88788	
12	K16-1540	F4	PI 88788	
13	K16-1687	F4	PI 88788	
14	K16-1729	F4	PI 88788	
15	LD15-3818	F5	PI 88788	
16	LD15-8589	F5	PI 88788, 468916	2 G. soja QTL
17	LD16-2955	F5	PI 88788, 437654	
18	LD17-9900	F5	PI 88788,567516C	
19	LD17-9904	F5	PI 88788,567516C	
20	LD17-9937	F5	PI 88788,567516C	
21	S15-10879C			High Oil, Stem Canker
22	SA16-11227	F5	PI 88788	
23	SA16-12348	F5	PI 88788	

2019 SCN UNIFORM TEST IV

		IL SCN screen			
		HG Type 0		HG Type 2.5.7	
	Strain	FI	rating	FI	rating
1	LD06-7620 SCN)	15	R	72	NR
2	LD00-2817P (SCN)	2	HR	2	HR
3	LD07-3395bf SCN)	3	HR	4	HR
4	JTN-4218	0	HR	28	MR
5	JTN-4319	2	HR	6	HR
6	JTN-4419	0	HR	4	HR
7	JTN-4519	13	R	52	LR
8	K16-1114	7	HR	51	LR
9	K16-1200	7	HR	64	NR
10	K16-1208	11	HR	57	LR
11	K16-1231	1	HR	56	LR
12	K16-1540	4	HR	58	LR
13	K16-1687	10	R	68	NR
14	K16-1729	4	HR	46	LR
15	LD15-3818	6	HR	61	NR
16	LD15-8589	8	HR	55	LR
17	LD16-2955	2	HR	80	NR
18	LD17-9900	5	HR	50	LR
19	LD17-9904	0	HR	46	LR
20	LD17-9937	2	HR	49	LR
21	S15-10879C	17	R	50	LR
22	SA16-11227	4	HR	66	NR
23	SA16-12348	5	HR	75	NR

2019 SCN UNIFORM TEST IV

Summary

		Yield									Seed			
		All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil
	Strain	bu/a	rank	bu/a	rank	bu/a	rank	date	score	inches	g/100	score	@13%	@13%
	Locations	**7**		4*		3*		9	9	9	8	8	6	6
1	LD06-7620 SCN)	**52.3**	**17**	53.1	19	50.0	14	10/01	1.2	27	14.0	2.5	34.1	18.0
2	LD00-2817P (SCN)	**53.7**	**14**	55.6	13	50.0	14	-1	1.6	32	13.5	2.6	33.5	18.5
3	LD07-3395bf SCN)	**58.4**	**5**	61.1	4	53.6	8	-3	1.2	25	15.8	2.7	33.1	19.2
4	JTN-4218	**39.0**	**22**	41.3	22	35.0	22	4	2.3	30	12.1	2.7	35.9	17.8
5	JTN-4319	**50.5**	**20**	53.2	18	45.8	21	1	1.7	31	12.5	2.4	32.7	18.8
6	JTN-4419	**51.8**	**18**	54.5	15	47.0	20	1	1.8	31	12.2	2.3	33.0	18.9
7	JTN-4519	**32.8**	**23**	36.4	23	26.8	23	-2	1.7	26	12.6	2.3	36.6	17.8
8	K16-1114	**54.1**	**13**	55.8	11	50.5	13	-1	1.4	32	17.0	2.5	35.3	18.1
9	K16-1200	**56.6**	**7**	58.8	7	52.4	9	-4	1.2	28	14.9	2.2	33.6	18.1
10	K16-1208	**60.1**	**2**	62.8	2	55.5	3	1	1.4	31	14.2	2.3	33.9	18.1
11	K16-1231	**53.4**	**15**	54.4	16	51.0	11	-4	1.2	31	13.6	2.2	34.0	17.9
12	K16-1540	**56.9**	**6**	57.4	9	55.0	4	4	1.4	33	14.9	1.9	34.9	18.2
13	K16-1687	**54.4**	**12**	57.0	10	49.8	16	-3	1.2	29	16.3	2.3	35.2	18.0
14	K16-1729	**59.2**	**4**	60.8	6	55.9	2	-2	1.2	28	15.3	1.9	34.3	17.7
15	LD15-3818	**59.8**	**3**	62.7	3	54.8	5	-1	1.1	29	14.9	2.2	34.6	18.8
16	LD15-8589	**55.2**	**11**	54.7	14	54.6	6	1	1.1	28	15.6	2.3	34.1	18.6
17	LD16-2955	**61.5**	**1**	63.2	1	58.0	1	1	1.1	26	16.9	2.5	34.3	18.8
18	LD17-9900	**53.3**	**16**	54.2	17	51.0	11	-5	1.1	28	13.7	2.4	35.2	17.0
19	LD17-9904	**50.1**	**21**	51.2	21	47.6	19	-2	1.5	31	14.5	2.6	33.8	18.3
20	LD17-9937	**51.7**	**19**	52.5	20	49.5	17	-5	1.2	29	13.3	2.2	34.8	17.5
21	S15-10879C	**55.6**	**9**	58.1	8	51.3	10	-1	1.3	31	14.3	2.2	35.9	16.6
22	SA16-11227	**55.9**	**8**	61.0	5	48.0	18	0	1.9	32	13.4	2.2	34.9	17.6
23	SA16-12348	**55.4**	**10**	55.8	12	53.7	7	-1	2.0	32	14.6	2.1	35.3	17.4
	Mean	**53.4**		55.5		49.9			1.4	29.6	14.4	2.3	34.5	18.1
	LSD(.05)	**3.4**		5.5		2.8								
	C.V. %	**10.5**		12.4		6.0								
	Replications	**19**		10		9								

*Clarkton & Portageville, MO yield data not included in means

2019 SCN UNIFORM TEST IV

Yield (bu/a)

		Flora IL	Urbana IL	Albany MO	Clarkton MO	Jackson TN	Man-hattan KS	Ottawa KS	Riley KS	Portage-ville MO
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	Inf	NI	NI	NI	NI
	Strain									
1	LD06-7620 SCN)	28.1	53.0	82.1	26.9	55.7	39.6	56.2	53.9	30.3
2	LD00-2817P (SCN)	34.6	52.0	82.5	39.9	59.6	39.5	56.5	51.1	29.4
3	LD07-3395bf SCN)	41.7	61.9	85.9	33.5	61.3	46.6	56.5	56.7	27.9
4	JTN-4218	27.4	39.5	54.3	30.9	50.1	27.3	38.0	37.1	25.1
5	JTN-4319	29.3	52.6	72.6	42.5	64.4	36.2	50.6	48.8	26.0
6	JTN-4419	30.2	55.1	78.4	35.8	60.7	33.3	52.8	53.2	29.0
7	JTN-4519	25.2	31.8	49.6	22.2	45.4	28.3	18.8	33.2	15.4
8	K16-1114	41.3	55.4	73.7	30.2	59.3	42.4	55.7	51.4	33.1
9	K16-1200	38.9	60.5	79.3	37.3	62.9	47.3	57.4	51.2	32.8
10	K16-1208	43.8	60.2	80.2	42.1	73.4	43.8	64.1	56.5	32.2
11	K16-1231	44.2	55.5	66.0	42.0	58.3	40.2	56.0	52.7	28.5
12	K16-1540	39.7	60.5	73.7	48.0	61.9	48.3	54.8	60.1	40.2
13	K16-1687	38.9	55.5	74.6	41.5	65.1	41.3	57.9	47.8	33.6
14	K16-1729	46.1	60.3	77.2	42.8	66.1	49.6	59.9	56.5	40.3
15	LD15-3818	50.4	63.2	80.7	29.4	62.7	50.1	58.4	54.7	32.3
16	LD15-8589	36.6	52.0	79.1	48.8	57.4	46.2	58.7	57.3	35.6
17	LD16-2955	44.0	59.9	87.4	33.7	67.9	44.0	62.8	57.6	30.5
18	LD17-9900	36.2	53.2	73.8	35.2	60.0	36.4	56.5	58.8	33.2
19	LD17-9904	30.4	58.2	71.1	27.6	51.5	31.2	54.3	54.9	29.9
20	LD17-9937	28.2	51.5	74.1	30.0	62.4	32.1	59.8	55.2	31.0
21	S15-10879C	44.1	52.1	79.3	21.9	63.1	44.4	53.9	54.3	.
22	SA16-11227	41.6	60.1	85.6	33.1	62.9	36.2	55.6	49.5	30.8
23	SA16-12348	41.2	57.2	76.1	28.6	55.0	43.2	61.6	53.6	33.5
	Average	37.5	54.8	75.5	34.9	60.3	40.4	55.2	53.1	30.0
	LSD(.05)	9.6	6.9	7.8	14.1	10.1	2.8	5.8	4.2	7.6
	C.V. %	12.4	6.0	6.3	20.5	10.2	5.1	6.3	5.7	12.8
	Replications	2	2	3	3	3	3	3	3	3
	Row width (in.)	30	30	30	30	30	30	30	30	30

2019 SCN UNIFORM TEST IV

Yield (rank)

		Flora IL	Urbana IL	Albany MO	Clarkton MO	Jackson TN	Man-hattan KS	Ottawa KS	Riley KS	Portage-ville MO
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	Inf	NI	NI	NI	NI
	Strain									
1	LD06-7620 SCN)	21	16	5	21	19	14	13	12	14
2	LD00-2817P (SCN)	16	19	4	8	15	15	10	18	16
3	LD07-3395bf SCN)	7	2	2	13	12	5	10	5	19
4	JTN-4218	22	22	22	15	22	23	22	22	21
5	JTN-4319	19	17	19	4	5	17	21	20	20
6	JTN-4419	18	14	11	10	13	19	20	14	17
7	JTN-4519	23	23	23	22	23	22	23	23	22
8	K16-1114	9	13	17	16	16	11	15	16	7
9	K16-1200	12	3	8	9	7	4	9	17	8
10	K16-1208	6	6	7	5	1	9	1	6	10
11	K16-1231	3	11	21	6	17	13	14	15	18
12	K16-1540	11	3	17	2	11	3	17	1	2
13	K16-1687	13	11	14	7	4	12	8	21	4
14	K16-1729	2	5	12	3	3	2	4	6	1
15	LD15-3818	1	1	6	18	9	1	7	10	9
16	LD15-8589	14	19	10	1	18	6	6	4	3
17	LD16-2955	5	8	1	12	2	8	2	3	13
18	LD17-9900	15	15	16	11	14	16	10	2	6
19	LD17-9904	17	9	20	20	21	21	18	9	15
20	LD17-9937	20	21	15	17	10	20	5	8	11
21	S15-10879C	4	18	8	23	6	7	19	11	23
22	SA16-11227	8	7	3	14	7	17	16	19	12
23	SA16-12348	10	10	13	19	20	10	3	13	5

2019 SCN UNIFORM TEST IV

Maturity

	SCN HG Type	Flora IL 2.5.7	Urbana IL 2.5.7	Albany MO 2.5.7	Clarkton MO 2.5.7	Jackson TN Inf	Man-hattan KS NI	Ottawa KS NI	Riley KS NI	Portage-ville MO NI
	Strain									
1	LD06-7620 SCN)	9/28	10/08	10/13	9/20	9/12	10/14	10/03	10/13	9/21
2	LD00-2817P (SCN)	2	-2	1	3	3	-1	-3	-7	-1
3	LD07-3395bf SCN)	0	-4	-1	-3	1	-2	-2	-10	-3
4	JTN-4218	4	6	2	7	6	1	4	-1	7
5	JTN-4319	5	-2	2	3	3	0	-1	0	4
6	JTN-4419	4	-2	3	3	4	-1	-1	-1	4
7	JTN-4519	3	-4	1	-3	0	-1	-2	-15	1
8	K16-1114	1	0	-1	2	1	-1	-2	-7	1
9	K16-1200	-1	-4	-1	-1	-1	-10	-3	-15	-4
10	K16-1208	2	2	0	3	3	-1	0	1	-1
11	K16-1231	0	-4	-1	1	1	-13	-3	-13	-4
12	K16-1540	2	4	3	7	5	2	4	4	8
13	K16-1687	0	-4	-1	0	1	-5	-3	-13	-2
14	K16-1729	0	-2	1	2	1	-1	-3	-13	0
15	LD15-3818	1	-4	0	1	1	-1	-3	-6	1
16	LD15-8589	-1	2	2	5	0	1	-2	-2	4
17	LD16-2955	0	0	1	6	4	0	-3	-4	6
18	LD17-9900	0	-2	-3	-3	-2	-16	-3	-14	-5
19	LD17-9904	-1	0	0	-2	-1	-13	-3	0	-2
20	LD17-9937	1	-2	0	-5	-2	-14	-3	-11	-7
21	S15-10879C	1	-4	0	-2	1	0	0	-2	1
22	SA16-11227	4	-2	2	1	1	0	-1	-3	-3
23	SA16-12348	0	2	-1	-2	-1	-1	-2	-4	-3
	Planted	6/10	6/5	6/7	5/7	5/21	6/5	6/3	6/4	5/16

2019 SCN UNIFORM TEST IV

Lodging (score)

		Flora IL	Urbana IL	Albany MO	Clarkton MO	Jackson TN	Man-hattan KS	Ottawa KS	Riley KS	Portage-ville MO
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	Inf	NI	NI	NI	NI
	Strain									
1	LD06-7620 SCN)	1.0	1.0	2.3	1.0	1.0	1.7	1.0	1.0	1.0
2	LD00-2817P (SCN)	1.0	1.0	3.7	1.0	1.7	2.7	1.0	1.0	1.0
3	LD07-3395bf SCN)	1.3	1.0	1.8	1.0	1.0	1.3	1.0	1.0	1.0
4	JTN-4218	2.0	2.3	4.5	1.0	1.7	3.3	3.3	2.0	1.0
5	JTN-4319	1.0	1.0	3.7	1.3	1.7	3.0	2.0	1.0	1.0
6	JTN-4419	1.0	1.0	4.2	1.0	2.0	2.7	1.7	1.3	1.0
7	JTN-4519	1.0	1.0	4.3	1.0	1.7	2.3	1.7	1.0	1.0
8	K16-1114	1.0	1.0	2.3	1.0	1.3	2.7	1.0	1.0	1.0
9	K16-1200	1.0	1.0	1.7	1.0	1.0	1.7	1.0	1.0	1.0
10	K16-1208	1.0	1.0	2.8	1.0	2.0	2.0	1.0	1.0	1.0
11	K16-1231	1.0	1.0	1.8	1.0	1.0	2.0	1.0	1.0	1.0
12	K16-1540	1.0	1.0	2.7	1.0	1.7	2.0	1.0	1.0	1.0
13	K16-1687	1.0	1.0	2.2	1.0	1.0	2.0	1.0	1.0	1.0
14	K16-1729	1.0	1.0	2.0	1.0	1.7	1.3	1.0	1.0	1.0
15	LD15-3818	1.0	1.0	2.0	1.0	1.0	1.3	1.0	1.0	1.0
16	LD15-8589	1.0	1.0	1.5	1.0	1.0	1.3	1.0	1.0	1.0
17	LD16-2955	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
18	LD17-9900	1.0	1.0	1.5	1.0	1.0	1.7	1.0	1.0	1.0
19	LD17-9904	1.5	1.0	2.8	1.0	1.3	3.0	1.0	1.0	1.0
20	LD17-9937	1.0	1.0	1.5	1.0	1.0	2.3	1.0	1.0	1.0
21	S15-10879C	1.0	1.0	2.3	1.0	1.0	1.7	1.0	1.0	1.3
22	SA16-11227	1.3	1.0	3.8	1.0	1.7	3.0	2.0	2.3	1.0
23	SA16-12348	1.8	2.0	4.2	1.3	3.0	2.0	1.0	1.0	2.0

2019 SCN UNIFORM TEST IV

Height (inches)

	SCN HG Type	Flora IL 2.5.7	Urbana IL 2.5.7	Albany MO 2.5.7	Clarkton MO 2.5.7	Jackson TN Inf	Man-hattan KS NI	Ottawa KS NI	Riley KS NI	Portage-ville MO NI
	Strain									
1	LD06-7620 SCN)	23	29	35	18	29	33	29	27	20
2	LD00-2817P (SCN)	28	36	41	23	32	36	37	30	22
3	LD07-3395bf SCN)	23	28	31	19	25	28	29	28	16
4	JTN-4218	34	35	43	19	30	29	38	30	16
5	JTN-4319	27	32	37	23	35	34	39	31	19
6	JTN-4419	26	33	38	21	33	36	37	32	20
7	JTN-4519	27	27	35	17	22	27	39	25	15
8	K16-1114	31	36	39	22	38	35	36	31	23
9	K16-1200	25	28	35	20	32	33	32	28	20
10	K16-1208	28	31	37	24	35	34	35	29	22
11	K16-1231	29	33	38	22	34	36	36	29	22
12	K16-1540	28	37	41	24	36	36	38	31	24
13	K16-1687	25	31	34	22	33	32	33	31	22
14	K16-1729	25	32	34	22	32	31	32	28	21
15	LD15-3818	29	31	36	19	33	34	32	29	19
16	LD15-8589	24	29	35	21	29	32	34	28	20
17	LD16-2955	23	27	32	17	28	31	28	27	19
18	LD17-9900	25	29	37	20	29	29	34	32	21
19	LD17-9904	28	35	37	19	34	33	39	34	22
20	LD17-9937	26	29	37	21	32	34	37	29	21
21	S15-10879C	29	34	41	21	36	35	35	31	20
22	SA16-11227	28	29	36	22	33	40	42	34	21
23	SA16-12348	31	35	44	23	41	32	32	27	25

2019 SCN UNIFORM TEST IV

Seed Weight (g/100)

	SCN HG Type	Flora IL 2.5.7	Urbana IL 2.5.7	Albany MO 2.5.7	Clarkton MO 2.5.7	Jackson TN Inf	Man-hattan KS NI	Ottawa KS NI	Riley KS NI	Portage-ville MO NI
	Strain									
1	LD06-7620 SCN)	12.3	14.8	14.4	14.0	14.1	15.4	14.7		12.6
2	LD00-2817P (SCN)	11.3	14.4	16.2	14.5	12.0	14.8	13.6		11.2
3	LD07-3395bf SCN)	13.7	17.0	17.5	15.1	14.9	18.1	17.1		13.2
4	JTN-4218	10.5	12.9	14.4	12.1	10.8	12.5	12.8		11.1
5	JTN-4319	10.7	13.4	15.3	12.3	10.5	14.8	12.6		10.1
6	JTN-4419	10.6	14.0	15.8	12.0	10.4	11.6	12.7		10.5
7	JTN-4519	11.5	12.5	16.9	12.4	11.5	13.5	12.0		10.4
8	K16-1114	14.9	18.8	18.2	17.0	14.7	18.2	19.3		14.8
9	K16-1200	13.5	16.3	16.8	14.0	14.1	15.2	15.7		13.3
10	K16-1208	12.6	15.1	15.3	12.9	13.4	15.7	16.4		12.6
11	K16-1231	12.6	15.2	15.1	12.9	12.6	13.4	15.7		11.4
12	K16-1540	12.4	15.6	16.6	14.6	12.8	17.4	16.8		13.0
13	K16-1687	14.5	18.7	18.7	13.7	15.2	17.7	18.5		13.2
14	K16-1729	14.2	16.4	17.1	15.5	13.0	16.4	16.1		13.7
15	LD15-3818	14.2	16.2	15.3	13.7	13.9	16.7	15.9		13.6
16	LD15-8589	13.7	16.7	16.9	15.2	13.7	17.5	16.1		14.7
17	LD16-2955	14.5	18.7	19.1	17.0	15.8	18.3	17.0		14.8
18	LD17-9900	12.5	15.0	14.8	13.9	12.0	15.0	14.9		11.5
19	LD17-9904	12.9	16.0	16.6	13.2	13.5	15.7	15.9		12.5
20	LD17-9937	12.3	14.4	14.2	12.9	12.5	13.8	14.4		11.6
21	S15-10879C	12.1	14.1	16.9	14.1	13.2	15.7	15.9		12.4
22	SA16-11227	11.3	13.7	15.4	12.7	11.9	15.5	16.1		10.9
23	SA16-12348	13.1	16.5	17.6	14.8	13.3	14.4	13.7		13.4

2019 SCN UNIFORM TEST I

Seed Quality (score)

	SCN HG Type	Flora IL 2.5.7	Urbana IL 2.5.7	Albany MO 2.5.7	Clarkton MO 2.5.7	Jackson TN Inf	Man-hattan KS NI	Ottawa KS NI	Riley KS NI	Portage-ville MO NI
	Strain									
1	LD06-7620 SCN)	2.0	2.0	1.7	2.9	2.0	3.0	3.0		3.3
2	LD00-2817P (SCN)	2.0	3.0	1.8	3.0	2.3	4.0	2.0		3.0
3	LD07-3395bf SCN)	2.0	2.0	1.5	2.7	3.0	4.0	3.0		3.3
4	JTN-4218	2.0	3.0	2.2	2.0	2.3	4.0	3.0		3.0
5	JTN-4319	2.0	2.0	1.5	2.3	2.3	3.0	3.0		3.0
6	JTN-4419	2.0	2.0	2.0	2.0	2.0	3.0	3.0		2.0
7	JTN-4519	3.0	3.0	1.7	1.3	2.7	2.0	3.0		2.0
8	K16-1114	2.0	2.0	2.0	3.0	2.0	3.0	3.0		3.0
9	K16-1200	1.0	2.0	2.2	2.3	2.0	2.0	3.0		3.0
10	K16-1208	2.0	2.0	1.8	2.7	2.0	3.0	3.0		2.0
11	K16-1231	1.0	2.0	1.5	2.0	2.0	3.0	3.0		3.0
12	K16-1540	1.0	2.0	1.5	2.0	2.0	2.0	3.0		2.0
13	K16-1687	1.0	2.0	2.7	2.7	2.0	3.0	3.0		2.0
14	K16-1729	1.0	2.0	1.8	2.3	1.7	2.0	2.0		2.0
15	LD15-3818	2.0	2.0	1.3	2.7	2.3	3.0	2.0		2.0
16	LD15-8589	2.0	2.0	1.8	2.7	2.0	3.0	3.0		2.0
17	LD16-2955	2.0	2.0	2.0	3.0	2.0	3.0	3.0		2.7
18	LD17-9900	2.0	2.0	1.7	2.3	2.3	3.0	3.0		2.7
19	LD17-9904	2.0	2.0	1.8	3.0	3.0	3.0	3.0		3.0
20	LD17-9937	1.0	2.0	1.7	2.3	2.0	3.0	3.0		3.0
21	S15-10879C	2.0	2.0	1.2	1.7	2.0	3.0	3.0		3.0
22	SA16-11227	1.0	2.0	1.7	1.7	2.0	3.0	3.0		3.0
23	SA16-12348	1.0	2.0	2.0	1.7	2.0	3.0	2.0		3.0

2019 SCN UNIFORM TEST IV

Protein (%)

		Flora IL	Urbana IL	Albany MO	Clarkton MO	Jackson TN	Man-hattan KS	Ottawa KS	Riley KS	Portage-ville MO
	SCN HG Type	2.5.7	2.5.7	2.5.7	2.5.7	Inf	NI	NI	NI	NI
	Strain									
1	LD06-7620 SCN)	34.3	33.9	34.4		33.4	34.5			34.3
2	LD00-2817P (SCN)	33.4	33.7	34.6		32.3	34.1			32.9
3	LD07-3395bf SCN)	32.7	32.1	32.2		33.8	33.9			34.0
4	JTN-4218	36.6	38.2	35.4		34.9	36.5			33.7
5	JTN-4319	32.7	32.6	33.8		30.6	35.1			31.3
6	JTN-4419	33.5	32.8	33.6		33.0	33.0			32.2
7	JTN-4519	36.6	37.7	37.1		35.9	37.5			34.9
8	K16-1114	35.4	35.0	35.5		33.8	37.8			34.5
9	K16-1200	34.0	33.3	34.2		33.4	33.6			33.2
10	K16-1208	33.7	35.0	33.8		33.0	35.7			32.5
11	K16-1231	34.6	34.3	34.2		33.8	34.7			32.6
12	K16-1540	36.4	34.7	34.8		33.9	37.1			32.8
13	K16-1687	35.3	35.9	35.8		33.7	37.9			32.9
14	K16-1729	35.1	34.6	33.9		32.8	36.4			33.1
15	LD15-3818	35.1	34.4	35.0		34.1	35.8			33.1
16	LD15-8589	34.5	33.8	34.3		33.4	34.8			33.7
17	LD16-2955	35.1	34.5	34.3		33.7	34.4			33.9
18	LD17-9900	36.2	36.1	35.0		33.9	36.3			33.9
19	LD17-9904	34.5	32.8	33.7		33.8	34.3			33.5
20	LD17-9937	35.5	35.3	34.7		34.0	34.9			34.2
21	S15-10879C	36.1	36.2	35.7		35.6	38.4			33.5
22	SA16-11227	35.6	34.9	35.9		34.2	34.8			33.9
23	SA16-12348	36.3	36.1	35.3		33.4	36.5			34.0

2019 SCN UNIFORM TEST IV

Oil (%)

	SCN HG Type	Flora IL 2.5.7	Urbana IL 2.5.7	Albany MO 2.5.7	Clarkton MO 2.5.7	Jackson TN Inf	Man-hattan KS NI	Ottawa KS NI	Riley KS NI	Portage-ville MO NI
	Strain									
1	LD06-7620 SCN)	18.3	18.0	16.4		18.9	18.9			17.5
2	LD00-2817P (SCN)	18.9	18.2	17.1		19.9	19.2			17.9
3	LD07-3395bf SCN)	20.1	19.0	17.9		20.4	19.9			18.0
4	JTN-4218	17.8	16.2	16.9		19.0	18.0			18.7
5	JTN-4319	19.6	18.8	17.6		20.0	18.9			18.2
6	JTN-4419	19.5	19.0	17.6		19.7	19.5			18.3
7	JTN-4519	18.0	16.5	16.1		19.2	18.2			18.8
8	K16-1114	18.5	17.5	16.6		19.2	18.1			18.6
9	K16-1200	18.7	17.9	17.0		19.1	17.9			18.1
10	K16-1208	18.6	17.5	17.3		19.7	17.4			18.2
11	K16-1231	18.5	17.3	16.7		18.9	18.0			18.3
12	K16-1540	17.8	17.7	16.7		20.1	17.9			18.9
13	K16-1687	19.3	16.9	16.4		19.5	17.5			18.6
14	K16-1729	18.2	17.3	16.6		18.9	17.4			18.0
15	LD15-3818	19.1	18.3	16.9		20.3	18.7			19.5
16	LD15-8589	19.2	18.3	17.4		19.5	18.8			18.4
17	LD16-2955	19.3	18.5	17.6		19.8	19.0			18.8
18	LD17-9900	17.0	15.9	15.7		18.4	17.6			17.3
19	LD17-9904	18.2	17.9	16.8		19.6	18.6			18.8
20	LD17-9937	18.2	16.6	15.7		18.7	17.6			18.4
21	S15-10879C	17.5	16.0	15.2		17.6	15.9			17.6
22	SA16-11227	17.9	16.9	15.9		18.7	18.0			18.1
23	SA16-12348	17.4	16.3	16.4		19.1	17.2			18.2