2020
NORTHERN REGIONAL SOYBEAN CYST NEMATODE TESTS

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2020 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.

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

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

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

SCN/DISEASE SCREENING

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

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

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

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

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

	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

2020 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
235.T	line from Schillinger Seed Co.
435.TCS	line from Schillinger Seed Co.
5002T	
5601T	
A00-711022	A95-485020 x IA2036
A00-711024	A95-485020 x IA2036
A04-545045	Pioneer 93B86 x A00-711022
A72-507	Amsoy x Wayne
A76-304020	(Beeson x AP68-1016) x (L15 x Calland)
A77-211021	Beeson x A72-507
A81-356022	Century x A76-304020
A86-301024	A81-356022 x Hack
A87-395012	Fayette x Asgrow A3659
A98-781041	Pioneer P9204 x Pioneer P9281
A94-773014	Pioneer P9303 x A87-395012
A95-485020	(Pioneer P7273 x A13) x Jack
A95-581028	Marcus x Pioneer P9273
A96-591033	IA3003 x Pioneer P9273
A97-871009	
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
Agripro 97284-N00-47977	
AP6	Crop Sci. 15:739 1975
AP9	Iron-def. chlor. Resis. (Crop Sci. 20:677, 1980)
AP68-1016	Clark(5) x PI 84.946-2

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
AR02-101001	Pioneer P9233 x A96-591033
AR03-161009	(PI 507354 x Marcus) x IA1008
AR03-161013	(Marcus x PI507354) x IA2036
AR06-365042	Golden Harvest H-2632 x Syngenta S18-N5
AR08-186008	Golden Harvest H-2285 x AR02-101001
AR09-191003	Agripro 97284-N00-47977 x AR02-101001
AR09-191018	Agripro 97284-N00-47977 x AR02-101001
AR09-192019	LD01-7323 x AR02-101001
AR09-291011	AR03-161009 x Agripro 97284-N00-47977
AR09-391017	Syngenta SJ833009 x AR03-161013
AR1	IA2039BC x IA2021
AR8	
AR10-205011	SS02-12014 x AR02-101001
AR10-205011	SS02-12014 x AR02-101001
AR12-127091	AR03-161009 x AR06-365042
AR12-128102	
Asgrow A1564	Hark x C1453
Asgrow A2234	[(Calland X Amsoy) x (Century(3) X Williams 82)]
Asgrow A2943	Asgrow A1564 x Asgrow A3127
Asgrow A3127	Williams x Essex
Asgrow A3427	Asgrow X3836 x Asgrow A3127
Asgrow A3659	Williams x Essex
Asgrow A3733	Elf x Asgrow A3127
Asgrow A3860	Williams x Essex
Asgrow A3935	MO474C x Asgrow A3127
Asgrow A4009	Asgrow A3860 x Fayette
Asgrow A4138	Asgrow A4595 x Asgrow A4009
Asgrow A4595	Douglas x Asgrow A3127
Asgrow A4715	Asgrow A5474 x (Douglas x Asgorw A3127)
Asgrow A5474	(Tracy x D71-6234) x J74-122
Asgrow X3836	Williams x Mack
C1079	Lincoln x Ogden

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
C1253	Blackhawk x Harosoy
C1266R	Harosoy x C1079
C1453	C1266R x C1253
C1842	(Spencer(2) x Pella) x Resnik
CL0J173-6-8	Kottman x Dwight
CM293	
CM304	Unknown
CM4035N	
D49-2491	S100 x CNS = sister line of Lee
D61-2624	D49-2491(4) x PI 174.862 high protein
D61-3505	D49-2491(2) x PI 174.862 high protein
D66-7398	D61-3505 x (PI 96.035 x D61-2624)
D71-6234	D66-7398 x PI 95.560
Dairyland 99540	Stine 2660 x DSR-275
Dairyland 99846-74	
Dairyland DSR 275	
Dairyland DSR 304	Williams x Unknown
E05181-T	Loda x IA2053
E05276-T	
E06167	OAC 98-12 x E99035
E06380	K1459 x LG97-8984
E06936	PI494182 x Skylla
E07051	IA3017 x Loda
E09088	
E09107	Skylla x PI 507471
E99035	
E10174	U01-390489 x LD01-5907
E10928	
E11128T	E05276-T x LD01-7323
E11431	Skylla x PI 567537
E11955	
E12901	

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
E13364	E07051 x E10928
E13367	E07051 x E10928
E13902	E11955 x E07051
Golden Harvest H-2632	
HF03-546	A95-581028 x PI 592926
HM09-W084	Dennison x HF03-546
HM8536	HW79149 x HW79022
HS5-3417	
HW79022	Woodworth x L60-347-1-60-3B
HW79149	[A72-507(6) x A1] x [A72-507(5) x PI 82.263-2]
HS93-4118	IA2007 x Dairyland DSR 304
J74-122	Forrest(3) x PI 88.788
K07-1633	IA3023 x LD00-3309
K10-8556	IA3023 x LD00-3309
K11-2363T	435.TCS x LD05-30578a
K1459	
L15	Wayne(6) x Clark 63
L46-2132	Lincoln(2) x Richland
L57-0034	L46-2132 x Adams
L60-347-1-60-3B	Harosoy x Higan
L65-1274	
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

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
LD01-5907	Ina x IA3010
LD01-7323	LN95-5454 x Dwight
LD02-4485	M90-184111 x IA3010
LD02-5320	IA2052 x Dwight
LD02-9050	LN97-24270 x LS93-0375
LD03-7607	LN95-5817 x IA3010
LD03-7610	LN95-5817 x IA3010
LD03-10504	LN97-26569 x A98-781041
LD04-13265	Syngenta S32-Z3 x U98-205355
LD04-13296	Syngenta S32-Z3 x U98-311442
LD05-16638	Dwight(3) x (Dowling x Loda)
LD05-30578a	LD00-3309(2) x [LD00-4970(2) x (Dowling x Loda)]
LD05-30588a	LD00-3309(2) x (LD00-4970(2) x (Dowling x Loda))
LD05-3171	U97-201128 x Syngenta S42-H1
LD05-3230	Syngenta S25-J5 x LD00-3296
LD05-8517	LD00-2817 x Syngenta S38-T8
LD06-2009	U97-201128 x U98-307162
LD06-7596	IA3023 x LD00-3309
LD06-7620	IA3023 x LD00-3309
LD06-7648	IA3023 x LD00-3309
LD07-3395bf	Syngenta WW115926 x LD00-2817
LD07-3419	Syngenta WW115926 x LD00-2817
LD07-4477	IA3023 x LD00-3309
LD07-5065	Dwight x F1 plant (A81-356022(4) x PI 468916)
LD08-12430a	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)
LD09-10220	CL0J173-6-8 x Dairyland 99846-74
LD09-10911	LD00-2817 x LD02-4485
LD09-30015	LD02-4485(5) x Ripley

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
LD09-30224	LD05-3230 x [LD05-16638 x (Dwight x (Ina x PI 200538))]
LD09-3913	Syngenta 02JR318004 x LD03-7610
LD10-10198	LD05-3230 x LD00-3309
LD10-10219	LD05-3230 x LD00-3309
LD10-10226	LD05-3230 x LD00-3309
LD10-2715	LD03-10504 x LD00-2817P
LD10-5213a	LD02-4485(5) x (Ina x PI 200538)
LD10-5903a	M99-286047 x LD05-16638
LD10-9168	LD06-7648 x LD02-4485
LD11-7311	Syngenta 03JR313108 x LD02-4485
LD12-268	LD06-2009 x LD06-7620
LD12-3903	LD06-7620 x Syngenta 05BR006009
LD12-6623	LD08-12430a x LD05-30588a
LD14-8003	[Titan(5) x E10005] x [Titan(5) x F1 plt (LD08-12446a x LD05-30588a)]
LD12-10534	LG04-6000 x (LD00-3309(5) x LD07-5065)
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)
LDX11-319-7-108	(LD00-3309(5) x IA3023) x (LD00-3309(2) x PI 567516C)
LDX11-319-7-134	(LD00-3309(5) x IA3023) x (LD00-3309(2) x PI 567516C)
L65-1274	Harosoy (6) x T201
LG00-2455	F6 LG95-441-4 x IA2022
LG01-5822	F3 HS93-4118 x LG97-9912
LG01-7728	F4 Williams 82 x (F1 Williams x PI 479767 *G. soja*)
LG03-3020	LG96-1711 x LG92-4208
LG03-3780	F6 LG94-4396 x LG96-3159
LG04-6000	HS93-4118 x LG97-9912
LG07-2249	F4 IA3023 x LG01-7728
LG07-6944	F6 LG98-1454 x LG00-2455
LG11-6208	LG03-3020 x LG03-3780
LG84-1096	F5 PI 297515 x PI 290126B
LG84-1269	F5 PI 227333 x PI 91730-1

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
LG84-1272	F5 PI 227333 x PI 91730-1
LG86-7394	F9 PI 68508 x FC 04007B
LG86-7841	F5 PI 407710 x Century
LG88-2248	F6 PI 438151 x A78-123018
LG88-3146	F6 PI 427099 x PI 445830
LG89-6661	F5 Sherman x LG84-1096
LG90-4181	F6 PI 436682 x Lawrence
LG91-7431	F6 LG84-1272 x Elgin
LG92-4208	F6 LG84-1269 x Chamberlain
LG94-4396	F6 LG86-7394 x S42-30
LG95-441-4	F10 PI 68508 x FC 04007B
LG96-1711	F6 LG88-3146 x LG88-2248
LG96-3159	F6 LG86-7841 x A3935
LG97-8984	F6 LG89-6661 x HS89-3261
LG97-9912	F6 LG90-4181 x A3322
LG98-1454	F6 LG91-7431 x P9273
LN94-14862-97-2	Jack x Hartwig
LN95-5454	Jack x IA3003
LN95-5724	Jack x IA3003
LN95-5817	Jack x C1842
LN97-24270	Jack x Macon
LN97-26569	Yale x Macon
LS02-0425	LN93-11632 x IA1008
LS02-2213	LS93-0375 x SS94-4337
LS05-3229	LS93-0375 x Ina
LS07-3125	SS98-7851 x LD00-3309
LS07-3131	SS98-7851 x LD00-3309
LS09-1803	LD00-1938 x LS02-2213
LS93-0375	Asgrow A3935 x Pioneer P9402
M00-110002	U96-2408 x MN0302
M00-113176	M90-184111 x M94-246028
M00-351195	MN0902CN x M95-123116

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
M00-365137	Jim x LN94-14862-97-2
M00-365181	Jim x LN94-14862-97-2
M01-314114	MN0902CN x M95-123116
M02-328023	MN0304 x A00-712012
M02-333013	M94-162105 x MN0304
M03-172059	IA2052 x MN0304
M05-353086	MN0902CN x M99-286047
M05-363022	IA1008 x MN1011CN
M06-274098	MN0902CN X MN1011CN
M06-278043	MN1701CN x M00-113176
M06-286029	M00-116202 x M00-111194
M06-288155	M00-365137 x M99-286050
M06-288181	M00-365137 x M99-286050
M06-288190	M00-365137 x M99-286050
M06-289264	M00-351195 x M00-365181
M06-289273	M00-351195 x M00-365181
M06-310036	ND01-3901 X MN1005
M06-320039	MN0201 x MN1105SP
M06-338016	ND02-971 x MN0071
M06-358188	PI437161 x M94-275024
M06-380029	Jim x PI548325
M06-388016	M90-184000 x ND02-971
M07-209037	M90-184111 x MN0606CN
M07-211456	M90-184111 x M02-121028
M07-260028	M00-365137 x M99-286050
M07-278126	M00-110002 x Sheyenne
M07-294030	MN1701CN x MN0602
M07-296048	M01-314114 x MN1011CN
M07-297007	MN0902CN x LD02-5320
M08-151086	M00-116161 x M99-286047
M08-365038	M90-184111 x U03-100612
M08-434013	M02-333013 x M02-328023

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
M08-434072	MTC03-111-75 x Hendricks
M60-406	Blackhawk x Harosoy
M68-303	M60-406 x Beeson
M75-89	Corsoy x M68-303
M86-1973	L77-906 X M75-89
M87- 227	A82-161034 X Dawson
M87- 349	
M90-1437	Dawson X HM8536
M90-184111	L85P-558 X M86-1973
M92-1631	Fairbault x Bell
M92-1651	Faribault x PI 437654
M92-1708	Kato x Bell
M92-270029	M87-227 x M87-349
M92-674	Agassiz x Ozzie
M93-313135	Agassiz x M90-1437
M94-246028	Lambert x M92-1651
M94-275024	M89-1006 x Kato
M95-123116	Parker x M92-1631
M96-356062	M92-674 x M92-1708
M97-121138	MN0302 x 9004
M97-136016	M90-162034 x IA2021
M99-286047	IA1008 x Pioneer P9234
M99-286050	IA1008 x Pioneer P9234
MO474C	White flowered off-type in Mitchell
ND01-3901	Pioneer 9071 x A96-492041
ND02-971	
ND02-992	ND92-2381 x ND95-938
ND03-5441	Barnes x MN0602CN
ND03-7566	Barnes x MN0602CN
ND04-11329	
ND05-17649	
ND07-2205	LaMoure x ND01-1690

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
ND07-3761	ProSoy x ND01-2006
ND07-4027	M96-356062 x Ashtabula
ND10-2479	
ND10-2522	ND03-7566 x ND03-5441
ND10-2993	ND04-11329 x ND03-7566
ND10-3048	Sheyenne x [LaMoureBC2(Rag1)]
ND10-3323	Sheyenne x [LaMoureBC2(Rag1)]
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]
ND10-3601	ND03-7566 x [ND03-5441 x LaMoure]
ND10-3610	ND03-7566 x [ND03-5441 x LaMoure]
ND10-4423	ND03-7566 x [ND03-5441 x LaMoure BC2]
ND10-4677	
Northrup King S19-90	Pride B152 x Pella
OAC 05-21	
OAC 98-12	
Pioneer 91M10	
Pioneer 92B12	Pioneer P9221 x (Pioneer P9162 x Pioneer P9234)
Pioneer 93B82	
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 P9162	
Pioneer P9181	Beeson x Williams
Pioneer P9221	
Pioneer P9233	CM293 x ST2250
Pioneer P9234	Pioneer P9221 x Pioneer P9162

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
Pioneer P9273	Pioneer 2981 x Asgrow A3127
Pioneer P9281	Hark x (Corsoy x Calland)
Pioneer P9303	Asgrow A2943 x Asgrow A5474
Pioneer P9341	CM304 x Asgrow A3127
Pioneer P9362	Asgrow A2943 x Asgrow A5474
Pioneer P9381	(Essex x L69-4143) x Sprite
Pioneer P9402	(L77-994 x Asgrow A3127) x L77-994
PR33	rust resistant line form Georgia
Pride B152	Northrup King S1346(6) x Mack
S100	Rouge in Illini
S20	L15 x C1423
SD08CV-2102	M97-136016 x SD96-135-3
SD96-135-3	
SeCan 10-18C	
SS02-12014	Hamilton x PI438489B
SS94-4337	Jack x Pioneer P9341
SS98-7851	Pioneer P9362 x Magellan
ST 2250	
Stine 2660	
Syngenta 02JR318004	S32-Z3 x CM4035N
Syngenta 03JR313108	
Syngenta 05BR006009	SG801122200 x 96601-B99-17498
Syngenta BN09002129	
Syngenta S23-T5	
Syngenta S18-N5	
Syngenta S25-J5	
Syngenta S42-H1	
Syngenta SJ833009	
Syngenta WN0902577	
Syngenta WW115926	
T180	F3 sib of T181
T181	Non-nodulating rjl mutant in Lincoln(2) x Richland

2020 IDENTIFICATION OF PARENT STRAINS

Strain	Parentage
T201	T181 x T180
U01-190311	NE1900 x A97-871009
U01-390489	IA1008 x NE3001
U01-390489	IA1008 x NE3001
U02-242055	NE1900 x Pioneer P93B82
U03-100612	U99-009019 x Pioneer P92B12
U03-200317	U99-009019 x Pioneer P92B12
U03-260216	U99-009010 x UP1Fe(s1)C7-150
U03-300134	NE3202 x Pioneer P92B12
U06-300925	
U06-814223R	na
U09-105007	OAC 05-21 x U03-300134
U09-105007	OAC 05-21 x U03-300134
U09-118017	U01-190311 x U02-242055
U09-133021	U02-242055 X U03-200317
U09-215057	U01-390489 x U03-200317
U11-614093	U02-242055 x LD04-13265
U11-614119	U02-242055 x LD04-13265
U11-616086	U02-242055 x LD02-4485
U11-911079	LD02-4485 x U03-300134
U11-917032	LD02-4485 x U03-100612
U11-920017	HS5-3417 x LD02-4485
U11-932025	U06-300925 x U03-100612
U13-905029	U09-215057 x U03-260216
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
U98-307162	
U99-009019	MSBP6S4 (Intermated population)
U99-009010	
UP1Fe-95-9	
UP1Fe(s1)C7-150	

2020 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				**	**	**	**	**	**
IN	Romney	K Rainey	I					x				x
IN	West Lafayette	G. Cai	NI				x	x				
KS	Manhattan	W. Schapaugh	I					x	x			x
KS	Ottawa	W. Schapaugh	I						x			
KS	Riley	W. Schapaugh	NI						**			
MI	Decatur	D. Wang	I			x	x			x	x	
MN	Crookston	A. Lorenz	I		x							
MN	Glyndon	A. Lorenz	NI		x							
MN	Moorhead	A. Lorenz	I		x							
MN	Roseau	A. Lorenz	NI	x								
MN	Rosemount	A. Lorenz	I			x				x		
MN	Thief River Falls	A. Lorenz	I	**	**							
MN	Waseca	A. Lorenz	I			x				x		
MO	Columbia	A. Scaboo	I					x	**			x
MO	Clarkton	G. Shannon	I						x			
MO	Portageville	G. Shannon	NI						x			
ND	Prosper	C. Miranda	I	**	**							
ND	Wyndmere	C. Miranda	I	x	x							
NE	Holdrege	G. Graef	I					x				x
NE	Lincoln	G. Graef	I				x	x			x	x
NE	Mead	G. Graef	I				x				x	
OH	Hoytville	L. McHale	NI				**	**				
ON	Thameville	M. Eskandari	I			x				x		
ON	Ottawa	E. Cober	NI	**	**							
ON	Elora	I. Rajcan			x							
ON	Woodstock	I. Rajcan	NI			x				x		
TN	Jackson	P. Arelli	I						x			
		Total Tests		2	5	5	5	7	6	5	4	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 for location

2020 Characteristics of *Heterodera glycines* populations

				Female Index (% of Lee 74)							
		Eggs/	HG	HG 1	HG 2	HG 3	HG 4	HG 5	HG 6	HG 7	
	Location	100cc	Type	Peking	88788	90763	437654	209332	89772	Cloud	Pickett
IL	Arthur	640	2.5.7	0	12	0	0	11	0	17	9
IL	Flora	760	2.5.7	5	29	0	0	15	1	41	30
IL	Pontiac	360	2.5.7	0	34	0	0	25	0	60	4
IL	Urbana	80	2.5.7	3	19	1	0	21	2	22	38
IN	Romney	1480	2.5.7	0	23	0	0	26	0	33	9
IN	West Lafayette	NI		no sample submited							
KS	Manhattan	80		no HG typing							
KS	Ottawa	160		no HG typing							
KS	Riley	NI		location not planted							
MI	Decatur	190		egg counts reported by cooperator, no HG typing							
MN	Crookston	Inf		no sample submitted							
MN	Glyndon	NI		no sample submitted							
MN	Moorhead	NI		no sample submitted							
MN	Roseau	NI		no sample submitted							
MN	Rosemount	160	2.5.7	6	30	1	0	15	1	23	11
MN	Thief River Falls	2640	1.2.3.5.6.7	43	45	15	0	46	15	72	95
MN	Waseca	Inf		no sample submitted							
MO	Columbia Bay 2B	5120	1.2.5.7	10	75	0	0	61	0	68	45
MO	BREC C3B	320	2.5.7	0	18	0	0	24	0	26	9
MO	BREC C4A	440	2.5.7	0	13	0	0	13	0	23	4
MO	Clarkton	360	2.5.7	1	25	0	0	23	1	38	51
MO	Portageville	NI									
ND	Prosper	80	2.5.7	3	18	1	0	20	1	31	8
ND	Wyndmere	2160	2.5.7	0	25	0	0	21	0	25	5
NE	Holdrege	Inf		no sample submitted							
NE	Lincoln	440	2.5.7	0	26	0	0	18	0	29	19
NE	Mead	320	2.5.7	0	20	0	0	20	0	28	0
OH	Hoytville	NI									
ON	Thameville	240	2.5.6.7	7	27	8	0	29	26	34	27
ON	Ottawa	NI		location not planted							
ON	Elora	NI		no sample submitted							
ON	Woodstock	NI		no sample submitted							
TN	Jackson	480	1.2.5.7	data reported by cooperator							

Inf=infested, NI = non-infested

2020 NORTHERN REGIONAL SCN TESTS SCN SCREENING

	HG 0	initial		*retest*	
	6 reps	Mean	FI	Mean	FI
	Lee	149		*117*	
	Macon	142		*111*	
HG1	PI548402	0	0	*0*	*0*
HG2	PI88788	4	3	*4*	*3*
HG3	PI90763	0	0	*0*	*0*
HG4	PI437654	0	0	*0*	*0*
HG5	PI209332	6	4	*6*	*5*
HG6	PI89772	0	0	*0*	*0*
HG7	PI548316	9	6	*9*	*7*
	PI438489B				
	Pickett	5	4	*1*	*1*

	HG 2.5.7	initial		*retest*	
	6 reps	Mean	FI	Mean	FI
	Lee	148		*209*	
	Macon	144		*208*	
HG1	PI548402	0	0	*0*	*0*
HG2	PI88788	**51**	**34**	***87***	***41***
HG3	PI90763	0	0	*0*	*0*
HG4	PI437654	0	0	*0*	*0*
HG5	PI209332	**54**	**36**	***79***	***38***
HG6	PI89772	0	0	*0*	*0*
HG7	PI548316	**72**	**48**	***121***	***58***
	PI438489B	6	4		
	Pickett	5	4	***23***	***11***

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

2020			HG Type 0							HG Type 2.5.7					
Test	Ent	Strain	rep1	rep2	rep3	mean	FI	rating		rep1	rep2	rep3	mean	FI	rating
U00	**1**	**MN0083**	117	87	121	108	**73**	**NR**		159	151	127	146	**98**	**NR**
U00,0	**2**	**MN0095**	113	122	109	115	**77**	**NR**		110	99	123	111	**75**	**NR**
U00	**3**	**ND Rolette**	89	2*	1*	89	**60**	**redo**		121	*47	107	114	**77**	**NR**
	3	***ND Rolette***	*60*	*16**	*50*	*55*	***47***	***LR***							
U00	**4**	**MN0208CN (SCN)**	60	60	48	56	**38**	**MR**		92	82	84	86	**58**	**LR**
U00	**5**	**M13-257047**	58	69	46	58	**39**	**MR**		140	129	133	134	**90**	**NR**
U00	**6**	**M14-109088**	33	39	27	33	**22**	**R**		57	74	84	72	**48**	**LR**
U0,I	**1**	**ND Dickey**	227	149	8*	188	**126**	**redo**		116	109	128	118	**79**	**NR**
	1	***ND Dickey***	*83*	*62*	*49*	*65*	***55***	***LR***							
U0	**3**	**MN0404CN (SCN)**	5	13	18	12	**8**	**HR**		76	81	78	78	**53**	**LR**
U0	**5**	**ND16-7896**	32	24	25	27	**18**	**R**		74	68	41	61	**41**	**LR**
U0	**6**	**ND16-8305**	33	36	37	35	**24**	**R**		146	129	127	134	**90**	**NR**
U0	**7**	**OAC 18-60C-SCN**	21	13	17	17	**11**	**R**		110	92	119	107	**72**	**NR**
U0	**8**	**OAC 18-63C-SCN**	52	43	67	54	**36**	**MR**		74	61	85	73	**49**	**LR**
U0	**9**	**M08-362045L**	17	11	23	17	**11**	**R**		141	137	118	132	**89**	**NR**
U0	**10**	**M14-106011**	111	99	98	103	**69**	**NR**		123	101	109	111	**75**	**NR**
U0	**11**	**M14-106044**	53	34	40	42	**28**	**MR**		93	*28	102	98	**66**	**redo**
	11	***M14-106044***								*188*	*195*	*190*	*191*	***91***	***NR***
U0	**12**	**M14-106098**	47	38	41	42	**28**	**MR**		27	33	34	31	**21**	**R**

2020 NORTHERN REGIONAL SCN TESTS SCN SCREENING

2020			HG Type 0							HG Type 2.5.7					
U0	**13**	**M14-130027**	19	25	13	19	**13**	**R**		88	99	92	93	**63**	**NR**
U0	**14**	**M14-224050**	23	16	20	20	**13**	**R**		100	128	126	118	**80**	**NR**
U0	**15**	**M12-354012**	10	7	8	8	**6**	**HR**		102	111	88	100	**68**	**NR**
U0	**16**	**M13-118036**	20	19	25	21	**14**	**R**		73	71	69	71	**48**	**LR**
U0	**17**	**M13-250056**	4	8	2	5	**3**	**HR**		1	4	1	2	**1**	**HR**
U0	**18**	**M13-251003**	21	13	29	21	**14**	**R**		27	40	41	36	**24**	**R**
U0	**19**	**M13-251024**	26	21	20	22	**15**	**R**		82	87	73	81	**54**	**LR**
U0	**20**	**M13-252044**	24	37	18	26	**18**	**R**		88	71	101	87	**58**	**LR**
U I,0	**1**	**MN1410**	37	29	44	37	**25**	**MR**		149	135	122	135	**91**	**NR**
U I,II	**3**	**U11-917032 (SCN)**	.	21	19*	21	**14**	**redo**		101	104	118	108	**73**	**NR**
	3	***U11-917032 (SCN)***	*16*	*12*	*9*	*12*	***11***	***R***							
U I	**4**	**U14-103015**	81	95	106	94	**63**	**NR**		*63	41	105	73	**49**	**redo**
	4	***U14-103015***								*67*	*43*	*72*	*61*	***29***	***MR***
U I	**5**	**E15338**	35	24	49	36	**24**	**R**		54	88	71	71	**48**	**LR**
U I	**6**	**MCH13-104087**	15	21	12	16	**11**	**R**		61	60	67	63	**42**	**LR**
U I	**7**	**M13-266011**	19	31	25	25	**17**	**R**		40	38	47	42	**28**	**MR**
U I	**8**	**M13-266009**	109	84	113	102	**69**	**NR**		72	66	67	68	**46**	**LR**
U I	**9**	**M13-262053**	94	67	74	78	**53**	**LR**		60	79	52	64	**43**	**LR**
U I	**10**	**M13-262029**	58	66	64	63	**42**	**LR**		143	136	121	133	**90**	**NR**
U I	**11**	**M13-262015**	16	29	41	29	**19**	**R**		*26	185	153	169	**114**	**NR**
U I	**12**	**M13-250046**	4	1	2	2	**2**	**HR**		8	5	16	10	**7**	**HR**
U I	**13**	**M13-250030**	10	13	9	11	**7**	**HR**		81	92	68	80	**54**	**LR**
U I	**14**	**M13-250019**	24	28	19	24	**16**	**R**		7	7	3	6	**4**	**HR**
U I	**15**	**M12-373033**	42	37	54	44	**30**	**MR**		102	89	91	94	**63**	**NR**
U I	**16**	**M09-285149**	4	12	19	12	**8**	**HR**		169	109	144	141	**95**	**NR**
P I	**5**	**M14-109088**	75	84	61	73	**49**	**LR**		54	61	59	58	**39**	**MR**
P I	**6**	**M14-116014**	47	53	55	52	**35**	**MR**		108	116	122	115	**78**	**NR**
P I	**7**	**M14-118001**	93	104	106	101	**68**	**NR**		105	119	96	107	**72**	**NR**
P I	**8**	**M14-118010**	74	61	78	71	**48**	**LR**		131	127	125	128	**86**	**NR**
P I	**9**	**M14-122011**	34	2*	0*	34	**23**	**redo**		66	89	87	81	**54**	**LR**
	9	***M14-122011***	*0**	*0**	*0**	.	***.***	******							
P I	**10**	**M14-122031**	16	12	12	13	**9**	**HR**		67	71	71	70	**47**	**LR**
P I	**11**	**M14-122035**	25	29	12	22	**15**	**R**		60	121	105	95	**64**	**NR**
P I	**12**	**M14-122038**	11	8	13	11	**7**	**HR**		66	67	76	70	**47**	**LR**
P I	**13**	**M14-126012**	11	15	9	12	**8**	**HR**		34	53	58	48	**33**	**MR**

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2020			HG Type 0							HG Type 2.5.7					
P I	**14**	**M14-129066**	10	15	24	16	**11**	**R**		177	126*	53*	177	**119**	**redo**
	14	***M14-129066***								*155*	*157*	*168*	*160*	***77***	***NR***
P I	**15**	**M14-129109**	93	83	101	92	**62**	**NR**		128	107	112	116	**78**	**NR**
P I	**16**	**M14-224051**	38	32	31	34	**23**	**R**		52	81	44	59	**40**	**LR**
P I	**17**	**M14-224081**	74	67	63	68	**46**	**LR**		52	59	63	58	**39**	**MR**
P I	**18**	**M14-224084**	55	46	48	50	**33**	**MR**		107	114	120	114	**77**	**NR**
P I	**19**	**OAC 17-84C-SCN**	145	17	21*	81	**54**	**redo**		35	53	47	45	**30**	**MR**
	19	***OAC 17-84C-SCN***	*21*	*28*	*22*	*24*	***20***	***R***							
P I	**20**	**ORC 3819N**	127	116	119	121	**81**	**NR**		102	67	111	93	**63**	**NR**
P I	**21**	**U18-613247**	10	16	19	15	**10**	**R**		118	129	94	114	**77**	**NR**
P I	**22**	**U18-903003**	8	11	7	9	**6**	**HR**		89	81	96	89	**60**	**NR**
P I	**23**	**U18-916036**	26	19	37	27	**18**	**R**		67	79	58	68	**46**	**LR**
P I	**24**	**U18-919004**	72	52	61	62	**41**	**LR**		108	81	113	101	**68**	**NR**
P I	**25**	**U18-923030**	16	11	10	12	**8**	**HR**		81	92	72	82	**55**	**LR**
P I	**26**	**U18-929040**	39	21	15	25	**17**	**R**		105	96	117	106	**72**	**NR**
U, II	**1**	**IA2102**	55	48	42	48	**33**	**MR**		*48	49*	54	54	**36**	**redo**
	1	***IA2102***								*152*	*146*	*159*	*152*	***73***	***NR***
U II	**2**	**LD02-4485 (SCN)**	12	16	12	13	**9**	**HR**		142	97	81	107	**72**	**NR**
U II,III	**4**	**U14-910097 (SCN)**	4	1	4	3	**2**	**HR**		3	6	2	4	**2**	**HR**
U II	**5**	**E15339**	26	18	25	23	**15**	**R**		103	119	117	113	**76**	**NR**
U II	**6**	**E15345**	32	26	25	28	**19**	**R**		103	99	111	104	**70**	**NR**
U II	**7**	**E15351**	50	38	55	48	**32**	**MR**		162	149	154	155	**105**	**NR**
U II	**8**	**E17069**	17	11	12	13	**9**	**HR**		92	107	106	102	**69**	**NR**
U II	**9**	**E17203**	6	16	10	11	**7**	**HR**		62	55	57	58	**39**	**MR**
U II	**10**	**E17269**	59	44	42	48	**33**	**MR**		79	84	62	75	**51**	**LR**
U II	**11**	**E17283**	40	13	17	23	**16**	**R**		171	91	159	140	**95**	**NR**
U II	**12**	**LD15-5170a**	18	*2**	23	21	**14**	**redo**		72	63	66	67	**45**	**LR**
	12	***LD15-5170a***	14	*16*	*13*	*14*	***12***	***R***							
U II	**13**	**LD15-6268**	34	39	25	33	**22**	**R**		176	98	151	142	**96**	**NR**
U II	**14**	**LD15-6280**	24	28	30	27	**18**	**R**		111	96	96	101	**68**	**NR**
U II	**15**	**LD16-4766a**	15	19	8	14	**9**	**HR**		89	78	76	81	**55**	**LR**
U II	**16**	**LD16-4852**	15	10	16	14	**9**	**HR**		91	104	78	91	**61**	**LR**
U II	**17**	**LD16-6557**	28	23	21	24	**16**	**R**		57	71	69	66	**44**	**LR**
U II	**18**	**U14-925152**	6	8	3	6	**4**	**HR**		1	7	1	3	**2**	**HR**

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2020			HG Type 0							HG Type 2.5.7					
P II	**5**	**E16915**	28	74	63	55	**37**	**MR**		69	73	66	69	**47**	**LR**
P II	**6**	**E18012**	129	111	97	112	**76**	**NR**		120	133	137	130	**88**	**NR**
P II	**7**	**E18015**	42	36	33	37	**25**	**MR**		106	125	92	108	**73**	**NR**
P II	**8**	**E18024T**	13	10	5	9	**6**	**HR**		71	87	86	81	**55**	**LR**
P II	**9**	**E18073**	91	77	86	85	**57**	**LR**		134	119	116	123	**83**	**NR**
P II	**10**	**E18433**	45	88	92	75	**50**	**LR**		67	149	73	96	**65**	**NR**
P II	**11**	**E18580**	147	126	126	133	**89**	**NR**		165	131	145	147	**99**	**NR**
P II	**12**	**E18610T**	52	41	60	51	**34**	**MR**		141	86	120	116	**78**	**NR**
P II	**13**	**E18638T**	48	55	43	49	**33**	**MR**		72	81	64	72	**49**	**LR**
P II	**14**	**LD17-2542**	0	9	9	6	**4**	**HR**		56	67	63	62	**42**	**LR**
P II	**15**	**LD17-2558**	6	6	6	6	**4**	**HR**		62	78	74	71	**48**	**LR**
P II	**16**	**LD17-2903**	3	8	6	6	**4**	**HR**		82	75	91	83	**56**	**LR**
P II	**17**	**LD17-2967a**	5	9	8	7	**5**	**HR**		57	73	74	68	**46**	**LR**
P II	**18**	**LD17-3185a**	26	22	19	22	**15**	**R**		142	134	119	132	**89**	**NR**
P II	**19**	**LD17-6035**	31	12	19	21	**14**	**R**		73	87	114	91	**62**	**NR**
P II	**20**	**LD17-6036a**	56	57	62	58	**39**	**MR**		116	96	89	100	**68**	**NR**
P II	**21**	**LD17-6351**	38	27	26	30	**20**	**R**		80	92	83	85	**57**	**LR**
P II	**22**	**LD17-6422a**	16	14	22	17	**12**	**R**		76	64	81	74	**50**	**LR**
P II	**23**	**LD18-235**	73	85	86	81	**55**	**NR**		140	48*	201	171	**115**	**redo**
	23	***LD18-235***								*194*	*123*	*203*	*173*	***83***	***NR***
P II	**24**	**LD18-249**	70	68	78	72	**48**	**LR**		104	86	126	105	**71**	**NR**
P II	**25**	**U18-613249**	20	14	27	20	**14**	**R**		94	73	87	85	**57**	**LR**
P II	**26**	**U18-615261**	25	19	34	26	**17**	**R**		71	78	64	71	**48**	**LR**
P II	**27**	**U18-615268**	18	22	14	18	**12**	**R**		106	97	113	105	**71**	**NR**
P II	**28**	**U18-617265**	6	4	8	6	**4**	**HR**		75	81	63	73	**49**	**LR**
P II	**29**	**U18-913021**	16	13	18	16	**11**	**R**		117	119	99	112	**75**	**NR**
P II	**30**	**U18-915056**	15	10	11	12	**8**	**HR**		64	83	71	73	**49**	**LR**
P II	**31**	**U18-917042**	12	21	26	20	**13**	**R**		81	98	89	89	**60**	**NR**
P II	**32**	**U18-917054**	31	8	27	22	**15**	**R**		109	111	96	105	**71**	**NR**
U III	**1**	**LD11-2170 (SCN)**	40	51	29	40	**27**	**MR**		125	101	129	118	**80**	**NR**
U III	**2**	**U15-606207**	10	6	8	8	**5**	**HR**		2	2	1	2	**1**	**HR**
U III,IV	**3**	**LD07-3395bf (SCN)**	22	17	35	25	**17**	**R**		11	26	16	18	**12**	**R**
U III	**5**	**LD15- 456**	37	31	44	37	**25**	**MR**		95	81	111	96	**65**	**NR**
U III	**6**	**LD15- 467**	10	16	15	14	**9**	**HR**		92	74	79	82	**55**	**LR**

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2020			HG Type 0							HG Type 2.5.7					
U III	**7**	**LD15-1477**	8	5	13	9	**6**	**HR**		13*	88*	75	75	**51**	**redo**
	7	***LD15-1477***								*133*	*127*	*123*	*128*	***61***	***NR***
U III	**8**	**LD15-6762**	46	36	36	39	**26**	**MR**		127	134	138	133	**90**	**NR**
U III	**9**	**LD16-6787**	2	5	9	5	**4**	**HR**		70	69	74	71	**48**	**LR**
U III	**10**	**LD16-6886**	15	18	28	20	**14**	**R**		25	60	29	38	**26**	**redo**
	10	***LD16-6886***								*9*	*28*	*31*	*23*	***11***	***R***
U III	**11**	**LD16-7669**	39	17	26	27	**18**	**R**		22	48	25	32	**21**	**R**
U III	**12**	**SA14-9653**	37	26	45	36	**24**	**R**		132	126	139	132	**89**	**NR**
U III	**13**	**SA16-12491**	68	50	54	57	**39**	**MR**		112	106	87	102	**69**	**NR**
P III	**5**	**CR14-6131**	40	31	31	34	**23**	**R**		*36	146	62	104	**70**	**redo**
	5	***CR14-6131***								*88*	*49*	*102*	*80*	***38***	***LR***
P III	**6**	**CR14-8383**	4	2	10	5	**4**	**HR**		70	64	58	64	**43**	**LR**
P III	**7**	**CR17-1724**	13	9	15	12	**8**	**HR**		108	102	15*	105	**71**	**redo**
	7	***CR17-1724***								*131*	*143*	*136*	*137*	***65***	***NR***
P III	**8**	**CR17-1905**	12	15	14	14	**9**	**HR**		99	112	88	100	**67**	**NR**
P III	**9**	**LD17-2946a**	2	5	2	3	**2**	**HR**		128	82	134	115	**77**	**LR**
P III	**10**	**LD17-4327a**	16	11	25	17	**12**	**R**		80	87	85	84	**57**	**LR**
P III	**11**	**LD17-8668**	64	50	77	64	**43**	**LR**		70	78	76	75	**50**	**LR**
P III	**12**	**LD17-9766**	15	18	7	13	**9**	**HR**		36	42	41	40	**27**	**MR**
P III	**13**	**LD17-9906**	16	11	11	13	**9**	**HR**		90	86	96	91	**61**	**NR**
P III	**14**	**LD17-9973**	4	3	8	5	**3**	**HR**		54	69	48	57	**38**	**MR**
P III	**15**	**LD17-10244**	8	10	11	10	**7**	**HR**		16	23	19	19	**13**	**R**
P III	**16**	**LD17-10579**	92	56	64	71	**48**	**LR**		28	37	34	33	**22**	**R**
P III	**17**	**LD17-10640**	35	31	38	35	**23**	**R**		110	92	93	98	**66**	**LR**
P III	**18**	**LD17-10786**	22	25	14	20	**14**	**R**		45	58	58	54	**36**	**MR**
P III	**19**	**U17-303104**	30	23	24	26	**17**	**R**		168	176	164	169	**114**	**NR**
P III	**20**	**U17-304114**	15	29	37	27	**18**	**R**		139	141	126	135	**91**	**NR**
P III	**21**	**U17-306115**	18	22	13	18	**12**	**R**		138	124	112	125	**84**	**NR**
P III	**22**	**U18-617270**	39	21	13	24	**16**	**R**		39	49	48	45	**31**	**MR**
P III	**23**	**U18-913029**	13	1	10	8	**5**	**HR**		96	62	59	72	**49**	**LR**
P III	**24**	**U18-925025**	7	9	2	6	**4**	**HR**		72	96	66	78	**53**	**LR**
P III	**25**	**U18-932054**	45	51	38	45	**30**	**MR**		109	121	94	108	**73**	**NR**
U IV	**1**	**LD06-7620 SCN)**	23	17	21	20	**14**	**R**		136	122	124	127	**86**	**NR**
U IV	**2**	**LD00-2817P (SCN)**	2	1	1	1	**1**	**HR**		0	3	0	1	**1**	**HR**
U IV	**4**	**LD17-10645**	67	59	42	56	**38**	**MR**		73	67	67	69	**47**	**LR**

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2020			HG Type 0							HG Type 2.5.7					
U IV	**5**	**JTN-4120***	28	41	29	33	**22**	**R**		125	119	108	117	**79**	**NR**
U IV	**6**	**JTN-4218**	2	1	1	1	**1**	**HR**		.	0	4	2	**1**	**HR**
U IV	**7**	**JTN-4220**	15	10	11	12	**8**	**HR**		*59	51*	50*			**redo**
	7	***JTN-4220***								*93*	*101*	*88*	*94*	***45***	***LR***
U IV	**8**	**JTN-4419***	4	2	2	3	**2**	**HR**		5	4	3	4	**3**	**HR**
U IV	**9**	**K16-1208**	66	45	58	56	**38**	**MR**		115	84	95	98	**66**	**NR**
U IV	**10**	**K16-1729**	35	6	8*	21	**14**	**redo**		21	29	16	22	**15**	**R**
U IV	***10***	***K16-1729***	*30*	*27*	*16*	*24*	***21***	***R***							
U IV	**11**	**K17-1515**	13	16	16	15	**10**	**R**		113	102	131	115	**78**	**NR**
U IV	**12**	**K17-1532**	53	45	44	47	**32**	**MR**		82	90	91	88	**59**	**LR**
U IV	**13**	**K17-1720**	20	14	26	20	**13**	**R**		48	56	59	54	**37**	**MR**
U IV	**14**	**K17-6380**	13	24	15	17	**12**	**R**		175	166	171	171	**115**	**NR**
U IV	**15**	**K17-6381**	10	18	12	13	**9**	**HR**		180	166	169	172	**116**	**NR**
U IV	**16**	**K17-6388**	11	19	8	13	**9**	**HR**		141	122	129	131	**88**	**NR**
	17	**K17-6391**	20	14	17	17	**11**	**R**		*52	109	63*	109	**74**	**redo**
U IV	***17***	***K17-6391***								*112*	*119*	*125*	*119*	***57***	***LR***
U IV	**18**	**K17-6484**	33	24	44	34	**23**	**R**		50	71	52	58	**39**	**MR**
U IV	**19**	**LD15-3818**	42	35	38	38	**26**	**MR**		58	71	77	69	**46**	**LR**
U IV	**20**	**LD16-2955**	17	22	10	16	**11**	**R**		150	158	163	157	**106**	**NR**
U IV	**21**	**LD17-9755**	26	20	38	28	**19**	**R**		55	68	61	61	**41**	**LR**
	22	**LD17-9939**	6	9	3	6	**4**	**HR**		25	81	38	48	**32**	**redo**
U IV	***22***	***LD17-9939***								*91*	*89*	*101*	*94*	***45***	***LR***
U IV	**23**	**LD17-10473**	8	7	13	9	**6**	**HR**		4	1	2	2	**2**	**HR**
	24	**S15-10879C**	102	93	87	94	**63**	**NR**		*4	*13	11	11	**7**	**redo**
U IV	***24***	***S15-10879C***								*47*	*42*	*34*	*41*	***20***	***R***
	25	**S13-2743C**	28	21	27	25	**17**	**R**		40	49	68	52	**35**	**MR**
U IV	**26**	**S17-17797C**	116	129	128	124	**84**	**NR**		46	53	42	47	**32**	**MR**
U IV	**27**	**S09-13608C**	150	138	167	152	**102**	**NR**		74	85	73	77	**52**	**LR**
U IV	**28**	**S17-1344C**	42	19	21*	31	**21**	**redo**		50	78	49	59	**40**	**LR**
	28	***S17-1344C***	*58*	*44*	*40*	*47*	***41***	***LR***							

2020 SCN UNIFORM TEST 00

	Strain	Descriptive code	Parentage	Previous testing
1	MN0083	WTy	MN97-121138 x MN0091	2
2	MN0095	PGibl	M92-270029 x M93-313135	5
3	ND Rolette	PGbf	MN0095 x ND05-17649	1
4	MN0208CN (SCN)	WTy	MN0902CN x MN0201	5
5	M13-257047	PGy	M07-209037 x LD08-12441a	19SCN U00
6	M14-109088	PTy	M07-260028 x ND10-4423	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	M13-257047	F5	PI 88788	
6	M14-109088	F5	PI 88788	

		IL SCN screen				**MN IDC**
		HG Type 0		HG Type 2.5.7		
	Strain	FI	rating	FI	rating	score
1	MN0083	73	NR	98	NR	1.8
2	MN0095	77	NR	75	NR	1.3
3	ND Rolette	47	LR	77	NR	1.3
4	MN0208CN (SCN)	38	MR	58	LR	1.8
5	M13-257047	39	MR	90	NR	1.9
6	M14-109088	22	R	48	LR	1.5

2020 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	**2**		1		1		2		1	1	1	2	2
1	MN0083	**35.8**	**6**	33.0	6	38.7	4	9/07	.	27	15.1	1.0	36.0	18.1
2	MN0095	**47.4**	**1**	54.1	1	40.7	3	2	.	25	13.2	1.0	34.6	18.7
3	ND Rolette	**43.6**	**4**	49.6	2	37.6	6	2	.	25	13.2	1.0	34.7	18.6
4	MN0208CN (SCN)	**45.8**	**2**	46.2	4	45.5	1	5	.	30	14.0	1.0	36.0	18.3
5	M13-257047	**44.9**	**3**	52.2	3	37.7	5	8	.	29	16.6	1.0	33.8	19.4
6	M14-109088	**42.8**	**5**	44.4	5	41.2	2	0	.	27	14.3	1.0	35.1	18.9
	Mean	**43.4**		46.6		40.2		3.2	.	27.1	14.4	1.0	35.0	18.7
	LSD(.05)	**7.1**		11.9		5.3								
	C.V. %	**13.7**		14.0		7.8								
	Replications	**6**		3		3								

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	**5**		2		3		6	4	4	4	4	5	5
1	MN0083	**38.1**	**5**	37.4	5	38.6	5	9/13	1.0	29	15.0	1.5	35.2	17.7
2	MN0095	**46.6**	**3**	53.2	3	42.3	1	1	1.0	29	13.1	1.5	34.2	18.2
3	ND Rolette	**48.4**	**1**	55.0	2	44.1	2	-1	1.0	30	12.9	1.3	34.0	18.1
4	MN0208CN (SCN)	**43.8**	**4**	46.9	4	41.8	3	5	1.5	32	14.1	1.3	35.6	17.9
5	M13-257047	**48.0**	**2**	57.2	1	41.8	3	7	1.0	31	18.0	1.5	34.1	18.5
	Mean	**45.0**		49.9		41.7		3.1	1.1	30.3	14.6	1.4	34.6	18.1

2020 SCN UNIFORM TEST 00

Yield (bu/a)

		Wyndmere ND	Roseau MN
	SCN HG Type	2.5.7	NI
	Strain		
1	MN0083	33.0	38.7
2	MN0095	54.1	40.7
3	ND Rolette	49.6	37.6
4	MN0208CN (SCN)	46.2	45.5
5	M13-257047	52.2	37.7
6	M14-109088	44.4	41.2
	Average	46.6	40.2
	LSD(.05)	11.9	5.3
	C.V. %	14.0	7.8
	Replications	3	3
	Row width (in.)	30	30

Yield (rank)

		Wyndmere ND	Roseau MN
	SCN HG Type	2.5.7	NI
	Strain		
1	MN0083	6	4
2	MN0095	1	3
3	ND Rolette	2	6
4	MN0208CN (SCN)	4	1
5	M13-257047	3	5
6	M14-109088	5	2

Maturity

	SCN HG Type	Wyndmere ND 2.5.7	Roseau MN NI
	Strain		
1	MN0083	9/01	9/13
2	MN0095	2	2
3	ND Rolette	2	1
4	MN0208CN (SCN)	5	4
5	M13-257047	11	5
6	M14-109088	-1	0
	Planted	5/11	5/20

Lodging (score)

	SCN HG Type	Wyndmere ND 2.5.7	Roseau MN NI
	Strain		
1	MN0083		
2	MN0095		
3	ND Rolette		
4	MN0208CN (SCN)		
5	M13-257047		
6	M14-109088		

Height (inches)

	SCN HG Type	Wyndmere ND 2.5.7	Roseau MN NI
	Strain		
1	MN0083		27
2	MN0095		25
3	ND Rolette		25
4	MN0208CN (SCN)		30
5	M13-257047		29
6	M14-109088		27

2020 SCN UNIFORM TEST 00

Seed Weight (g/100)

		Wyndmere ND	Roseau MN
	SCN HG Type	2.5.7	NI
	Strain		
1	MN0083		15.1
2	MN0095		13.2
3	ND Rolette		13.2
4	MN0208CN (SCN)		14.0
5	M13-257047		16.6
6	M14-109088		14.3

Seed Quality (score)

		Wyndmere ND	Roseau MN
	SCN HG Type	2.5.7	NI
	Strain		1.0
1	MN0083		1.0
2	MN0095		1.0
3	ND Rolette		1.0
4	MN0208CN (SCN)		1.0
5	M13-257047		1.0
6	M14-109088		1.0

2020 SCN UNIFORM TEST 00

Protein (%)

		Wyndmere ND	Roseau MN
	SCN HG Type	2.5.7	NI
	Strain		
1	MN0083	36.4	35.7
2	MN0095	34.5	34.8
3	ND Rolette	35.7	33.7
4	MN0208CN (SCN)	35.8	36.2
5	M13-257047	34.2	33.4
6	M14-109088	35.6	34.6

Oil (%)

		Wyndmere ND	Roseau MN
	SCN HG Type	2.5.7	NI
	Strain		
1	MN0083	19.1	17.1
2	MN0095	19.6	17.8
3	ND Rolette	19.4	17.8
4	MN0208CN (SCN)	19.4	17.1
5	M13-257047	20.2	18.6
6	M14-109088	19.7	18.1

2020 SCN UNIFORM TEST 0

	Strain	Descriptive code	Parentage	Previous testing
1	ND Dickey	PGy	P.91M10 x Sheyenne	1
2	MN0095	PGibl	M92-270029 x M93-313135	9
3	MN0404CN (SCN)	PTbl	MN0902CN x MN0304	2
4	MN1410	WGbf	Unknown	14
5	ND16-7896	WGbf	ND10-3495 x ND Stutsman	1
6	ND16-8305	WGy	ND10-2479 x ND10-2522	1
7	OAC 18-60C-SCN	PTbr	OAC Nation x M06-278043	New
8	OAC 18-63C-SCN	PGy	S23-T5 x Sheyenne	New
9	M08-362045L	WLtbl	MN0606CN x U03-100612	1
10	M14-106011	WTy	MN0606CN x M06-320039	New
11	M14-106044	PTbr	MN0606CN x M06-320039	New
12	M14-106098	PTy	MN0606CN x M06-320039	New
13	M14-130027	PGy+bf	M08-434013 x M07-296048	New
14	M14-224050	PTbl	MN1410 x PI447003A	New
15	M12-354012	WLty	AR10-205011 x ND07-4027	2
16	M13-118036	P+WG+Ty	M06-288155 x U09-118017	1
17	M13-250056	WGbf	M06-288190 x AR09-191018	1
18	M13-251003	PGy	M06-289273 x AR09-291011	1
19	M13-251024	PGy+bf	M06-289273 x AR09-291011	1
20	M13-252044	PGbf	M07-294030 x E07051	1

2020 SCN UNIFORM TEST 0

	Strain	Gen comp	SCN res source	Traits
1	ND Dickey	F4	none	
2	MN0095	F5	None	Rps1
3	MN0404CN (SCN)	F5	PI 88788	Rps1k
4	MN1410	F5	None	
5	ND16-7896	F4	PI 88788	
6	ND16-8305	F4	PI 88788	
7	OAC 18-60C-SCN	F4	PI88788	SCN
8	OAC 18-63C-SCN	F4	PI88788	SCN
9	M08-362045L	F5	PI 88788	
10	M14-106011	F5	PI 88788	
11	M14-106044	F5	PI 88788	
12	M14-106098	F5	PI 88788	
13	M14-130027	F5	PI 88788	
14	M14-224050	F5	PI 88788	Diversity
15	M12-354012	F5	PI 88788	
16	M13-118036	F5	PI 88788	
17	M13-250056	F5	PI 88788	
18	M13-251003	F5	PI 88788	
19	M13-251024	F5	PI 88788	
20	M13-252044	F5	PI 88788	

2020 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 Dickey	55	LR	79	NR	1.0
2	MN0095	77	NR	75	NR	1.1
3	MN0404CN (SCN)	8	HR	53	LR	2.0
4	MN1410	25	MR	91	NR	2.6
5	ND16-7896	18	R	41	LR	1.3
6	ND16-8305	24	R	90	NR	4.0
7	OAC 18-60C-SCN	11	R	72	NR	3.9
8	OAC 18-63C-SCN	36	MR	49	LR	2.5
9	M08-362045L	11	R	89	NR	1.9
10	M14-106011	69	NR	75	NR	1.4
11	M14-106044	28	MR	91	NR	1.0
12	M14-106098	28	MR	21	R	1.1
13	M14-130027	13	R	63	NR	1.4
14	M14-224050	13	R	80	NR	1.4
15	M12-354012	6	HR	68	NR	1.8
16	M13-118036	14	R	48	LR	1.3
17	M13-250056	3	HR	1	HR	1.6
18	M13-251003	14	R	24	R	1.5
19	M13-251024	15	R	54	LR	1.5
20	M13-252044	18	R	58	LR	4.4

**rep data too variable to rate

2020 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	**5**		2		3		4	3	2	3	3	4	4
1	ND Dickey	**54.5**	**1**	54.8	5	54.3	1	9/23	1.4	29	15.7	1.2	35.3	17.4
2	MN0095	**48.6**	**10**	47.9	12	49.0	5	-6	1.4	24	13.7	1.7	35.2	18.5
3	MN0404CN (SCN)	**41.1**	**17**	40.5	18	41.4	16	-5	1.7	26	13.9	1.3	34.6	18.3
4	MN1410	**46.4**	**14**	46.1	15	46.6	11	3	1.3	32	13.8	1.5	35.3	17.6
5	ND16-7896	**46.6**	**13**	50.7	10	43.9	14	2	1.4	24	13.3	1.2	35.1	17.9
6	ND16-8305	**49.1**	**7**	48.5	11	49.5	3	-2	1.0	21	15.2	1.3	33.4	18.7
7	OAC 18-60C-SCN	**38.0**	**19**	33.8	19	40.8	19	-2	1.7	35	14.5	1.8	35.2	18.1
8	OAC 18-63C-SCN	**37.7**	**20**	32.3	20	41.3	17	7	1.5	36	13.9	1.5	35.4	16.9
9	M08-362045L	**52.3**	**5**	57.4	3	48.8	7	0	1.2	27	13.9	1.5	34.4	18.0
10	M14-106011	**47.5**	**12**	47.4	13	47.5	8	-1	1.2	26	12.7	1.3	36.1	17.3
11	M14-106044	**42.5**	**16**	44.2	17	41.3	17	-6	1.4	28	15.4	1.2	39.8	15.8
12	M14-106098	**48.7**	**9**	52.9	7	46.0	12	-1	1.4	31	15.0	1.2	36.9	17.6
13	M14-130027	**44.4**	**15**	47.0	14	42.7	15	0	1.3	29	14.5	1.2	36.2	17.2
14	M14-224050	**53.3**	**3**	59.3	2	49.2	4	0	1.3	26	14.7	1.5	34.5	18.9
15	M12-354012	**47.8**	**11**	52.8	8	44.5	13	-4	1.6	29	12.8	1.7	34.1	18.4
16	M13-118036	**53.4**	**2**	60.1	1	48.9	6	1	1.3	29	12.9	1.3	34.5	17.5
17	M13-250056	**52.9**	**4**	55.4	4	51.2	2	1	1.6	32	14.6	1.2	33.4	18.2
18	M13-251003	**49.8**	**6**	54.5	6	46.7	10	8	1.3	32	14.4	1.5	34.2	17.4
19	M13-251024	**48.8**	**8**	51.5	9	47.0	9	3	1.6	30	14.0	1.5	33.9	17.4
20	M13-252044	**39.1**	**18**	44.6	16	35.4	20	9	1.5	29	15.2	1.3	34.8	17.5
	Mean	**47.1**		49.1		45.8		0.4	1.4	28.7	14.2	1.4	35.1	17.7
	LSD(.05)	**4.9**		8.8		5.4								
	C.V. %	**14.3**		15.6		12.5								
	Replications	**15**		6		9								

2020 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	**9**		3		6		9	8	6	7	7	8	8
1	ND Dickey	**49.3**	**3**	54.4	6	46.8	2	9/25	1.1	28	16.3	1.2	34.6	17.3
2	MN0095	**45.0**	**10**	49.6	10	42.8	9	-9	1.2	26	12.8	1.5	34.9	18.2
3	MN0404CN (SCN)	**41.4**	**12**	45.5	12	39.4	11	-7	1.6	28	13.9	1.2	34.1	18.2
4	MN1410	**46.8**	**7**	50.0	9	45.3	4	5	1.1	32	15.8	1.3	34.3	17.9
5	ND16-7896	**45.2**	**9**	52.5	8	41.5	10	-1	1.4	27	14.4	1.2	34.9	17.7
6	ND16-8305	**46.5**	**8**	53.6	7	42.9	8	-4	1.0	22	15.4	1.2	33.2	18.5
15	M12-354012	**47.8**	**6**	57.2	3	43.2	7	-2	1.2	30	14.0	1.5	33.7	18.3
16	M13-118036	**51.1**	**1**	60.0	1	46.6	3	0	1.1	29	14.5	1.2	33.9	17.5
17	M13-250056	**50.6**	**2**	57.3	2	47.3	1	2	1.2	32	15.3	1.1	32.9	18.2
18	M13-251003	**48.2**	**4**	56.1	4	44.3	5	2	1.1	32	15.7	1.4	33.6	17.4
19	M13-251024	**47.9**	**5**	55.0	5	44.3	5	1	1.2	31	14.8	1.3	33.6	17.3
20	M13-252044	**42.4**	**11**	49.2	11	39.0	12	8	1.3	28	16.6	1.5	33.9	17.4
	Mean	**46.9**		53.4		43.6		-0.5	1.2	28.8	14.9	1.3	33.9	17.8

2020 SCN UNIFORM TEST 0

Yield (bu/a)

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	45.5	64.1	61.9	51.6	48.5
2	MN0095	36.4	59.4	55.3	54.2	37.5
3	MN0404CN (SCN)	40.4	40.7	41.7	48.5	32.8
4	MN1410	40.0	52.3	50.1	49.8	40.2
5	ND16-7896	41.9	59.5	51.3	47.0	34.3
6	ND16-8305	31.5	65.5	52.0	61.5	33.0
7	OAC 18-60C-SCN	30.8	36.8	33.9	43.7	47.1
8	OAC 18-63C-SCN	29.5	35.2	37.1	46.9	46.6
9	M08-362045L	44.5	70.4	45.8	55.3	43.8
10	M14-106011	41.4	59.1	45.4	56.1	43.3
11	M14-106044	38.3	50.0	40.2	49.2	37.6
12	M14-106098	44.5	61.3	47.8	51.6	41.3
13	M14-130027	40.4	53.7	43.8	45.4	38.3
14	M14-224050	48.3	70.4	47.0	53.4	45.7
15	M12-354012	40.0	65.6	43.5	49.8	38.1
16	M13-118036	47.7	72.6	49.8	54.4	42.3
17	M13-250056	42.6	68.2	51.8	53.6	48.9
18	M13-251003	45.4	63.5	49.0	46.1	44.6
19	M13-251024	43.4	59.5	45.7	49.9	44.8
20	M13-252044	.	65.6	21.6	53.2	42.8
	Average	40.6	58.7	45.7	51.1	41.6
	LSD(2-sided,.05)	8.9	8.8	9.5	6.8	4.0
	C.V. %	13.5	9.0	12.5	8.2	4.8
	Replications	3	3	3	3	3
	Row spacing (in.)	7	30	30	30	13

2020 SCN UNIFORM TEST 0

Yield (rank)

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	3	6	1	10	2
2	MN0095	16	11	2	5	17
3	MN0404CN (SCN)	11	14	16	15	20
4	MN1410	13	12	6	12	13
5	ND16-7896	9	9	5	16	18
6	ND16-8305	17	5	3	1	19
7	OAC 18-60C-SCN	18	15	19	20	3
8	OAC 18-63C-SCN	19	16	18	17	4
9	M08-362045L	5	3	11	3	8
10	M14-106011	10	10	13	2	9
11	M14-106044	15	13	17	14	16
12	M14-106098	5	8	9	9	12
13	M14-130027	11	12	14	19	14
14	M14-224050	1	2	10	7	5
15	M12-354012	13	5	15	12	15
16	M13-118036	2	1	7	4	11
17	M13-250056	8	4	4	6	1
18	M13-251003	4	7	8	18	7
19	M13-251024	7	11	12	11	6
20	M13-252044	.	5	20	8	10

2020 SCN UNIFORM TEST 0

Maturity

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	9/25		9/25	9/20	9/21
2	MN0095	-13		-13	-7	-6
3	MN0404CN (SCN)	-8		-10	-8	-5
4	MN1410	3		4	4	3
5	ND16-7896	-4		-9	-1	2
6	ND16-8305	-5		-6	-3	-2
7	OAC 18-60C-SCN	3		1	-2	-2
8	OAC 18-63C-SCN	6		4	2	7
9	M08-362045L	-2		-1	0	0
10	M14-106011	-5		-8	-5	-1
11	M14-106044	-9		-10	-8	-6
12	M14-106098	-1		-3	-1	-1
13	M14-130027	-2		-2	0	0
14	M14-224050	-4		-3	-4	0
15	M12-354012	-3		-1	0	-4
16	M13-118036	-1		1	0	1
17	M13-250056	0		-1	0	1
18	M13-251003	3		0	2	8
19	M13-251024	-3		-1	-1	3
20	M13-252044	.		7	1	9
	Planted	5/21	5/11	NA	5/23	5/22

2020 SCN UNIFORM TEST 0

Lodging (score)

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	1.0		2.0		1.1
2	MN0095	1.0		2.0		1.2
3	MN0404CN (SCN)	1.0		3.0		1.2
4	MN1410	1.0		2.0		1.0
5	ND16-7896	1.0		2.3		1.0
6	ND16-8305	1.0		1.0		1.0
7	OAC 18-60C-SCN	1.0		3.0		1.0
8	OAC 18-63C-SCN	1.0		2.3		1.1
9	M08-362045L	1.0		1.7		1.0
10	M14-106011	1.0		1.7		1.0
11	M14-106044	1.0		2.0		1.1
12	M14-106098	1.0		2.3		1.0
13	M14-130027	1.0		2.0		1.0
14	M14-224050	1.0		2.0		1.0
15	M12-354012	1.0		2.7		1.0
16	M13-118036	1.0		2.0		1.0
17	M13-250056	1.0		2.7		1.0
18	M13-251003	1.0		2.0		1.0
19	M13-251024	1.0		2.7		1.0
20	M13-252044	.		2.0		1.0

2020 SCN UNIFORM TEST 0

Height (inches)

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	26				32
2	MN0095	19				28
3	MN0404CN (SCN)	23				29
4	MN1410	27				36
5	ND16-7896	21				27
6	ND16-8305	19				23
7	OAC 18-60C-SCN	30				40
8	OAC 18-63C-SCN	30				41
9	M08-362045L	25				29
10	M14-106011	22				31
11	M14-106044	25				31
12	M14-106098	28				33
13	M14-130027	25				32
14	M14-224050	22				31
15	M12-354012	27				32
16	M13-118036	29				30
17	M13-250056	28				35
18	M13-251003	29				35
19	M13-251024	28				33
20	M13-252044	.				29

2020 SCN UNIFORM TEST 0

Seed Weight (g/100)

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	16.1			14.9	16.1
2	MN0095	14.0			14.3	12.8
3	MN0404CN (SCN)	14.4			13.3	13.9
4	MN1410	12.1			14.1	15.1
5	ND16-7896	12.8			13.9	13.1
6	ND16-8305	15.3			14.5	15.8
7	OAC 18-60C-SCN	13.9			13.8	15.7
8	OAC 18-63C-SCN	12.6			13.3	15.9
9	M08-362045L	12.9			14.1	14.8
10	M14-106011	13.0			12.2	12.9
11	M14-106044	16.3			13.9	16.1
12	M14-106098	15.1			15.0	15.0
13	M14-130027	14.3			14.9	14.4
14	M14-224050	15.3			13.9	14.9
15	M12-354012	12.7			13.6	12.1
16	M13-118036	12.4			13.5	12.9
17	M13-250056	15.1			14.8	13.9
18	M13-251003	14.0			14.3	14.9
19	M13-251024	13.2			13.2	15.7
20	M13-252044	.			15.0	15.3

2020 SCN UNIFORM TEST 0

Seed Quality (score)

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	1.0			1.0	1.5
2	MN0095	2.0			1.0	2.0
3	MN0404CN (SCN)	1.0			1.0	2.0
4	MN1410	2.0			1.0	1.5
5	ND16-7896	1.0			1.0	1.5
6	ND16-8305	1.0			1.0	2.0
7	OAC 18-60C-SCN	2.0			1.0	2.5
8	OAC 18-63C-SCN	2.0			1.0	1.5
9	M08-362045L	2.0			1.0	1.5
10	M14-106011	1.0			1.0	2.0
11	M14-106044	1.0			1.0	1.5
12	M14-106098	1.0			1.0	1.5
13	M14-130027	1.0			1.0	1.5
14	M14-224050	2.0			1.0	1.5
15	M12-354012	2.0			1.0	2.0
16	M13-118036	1.0			1.0	2.0
17	M13-250056	1.0			1.0	1.5
18	M13-251003	2.0			1.0	1.5
19	M13-251024	2.0			1.0	1.5
20	M13-252044	.			1.0	1.5

2020 SCN UNIFORM TEST 0

Protein (%)

		Crookston MN	Wyndmere ND	Glyndon MN	Moorhead MN	Elora ON
	SCN HG Type	Inf	2.5.7	NI	NI	NI
	Strain					
1	ND Dickey	35.7	35.6		34.2	35.7
2	MN0095	36.5	35.3		34.1	34.8
3	MN0404CN (SCN)	36.4	34.8		33.8	33.6
4	MN1410	35.3	35.9		35.1	34.7
5	ND16-7896	35.1	35.6		34.7	35.0
6	ND16-8305	33.7	33.6		.	33.1
7	OAC 18-60C-SCN	35.1	35.3		34.8	35.5
8	OAC 18-63C-SCN	35.2	35.6		35.3	35.6
9	M08-362045L	33.8	34.6		34.5	34.7
10	M14-106011	36.1	36.8		36.1	35.3
11	M14-106044	41.5	40.3		38.6	38.6
12	M14-106098	36.6	37.2		37.0	36.6
13	M14-130027	35.8	36.0		36.3	36.7
14	M14-224050	33.8	34.6		34.2	35.3
15	M12-354012	33.8	34.7		33.3	34.8
16	M13-118036	33.7	34.0		34.3	36.2
17	M13-250056	33.7	33.3		32.5	34.1
18	M13-251003	33.7	34.9		33.5	34.9
19	M13-251024	33.8	34.6		32.2	35.1
20	M13-252044	.	35.0		33.6	35.8

2020 SCN UNIFORM TEST 0

Oil (%)

	SCN HG Type	Crookston MN Inf	Wyndmere ND 2.5.7	Glyndon MN NI	Moorhead MN NI	Elora ON NI
	Strain					
1	ND Dickey	17.0	18.2		17.3	17.1
2	MN0095	18.2	19.4		18.6	17.6
3	MN0404CN (SCN)	17.6	19.4		18.7	17.7
4	MN1410	17.1	18.9		16.7	17.8
5	ND16-7896	18.5	18.7		17.3	17.2
6	ND16-8305	18.3	20.1		.	17.6
7	OAC 18-60C-SCN	17.1	19.6		17.8	17.8
8	OAC 18-63C-SCN	16.4	17.9		16.6	16.8
9	M08-362045L	17.4	19.0		17.7	17.7
10	M14-106011	17.0	17.7		17.1	17.6
11	M14-106044	15.0	16.2		15.7	16.6
12	M14-106098	17.5	18.0		16.6	18.2
13	M14-130027	17.1	18.0		16.6	17.2
14	M14-224050	19.0	19.7		19.0	18.0
15	M12-354012	17.8	19.0		18.8	17.9
16	M13-118036	17.7	18.8		17.0	16.5
17	M13-250056	17.7	19.5		17.7	17.8
18	M13-251003	17.2	18.6		16.7	17.0
19	M13-251024	17.1	18.5		17.3	16.6
20	M13-252044	.	18.2		17.6	16.6

2020 SCN UNIFORM TEST I

	Strain	Descriptive code	Parentage	Previous testing
1	MN1410	WGbf	Unknown	14
2	ND Dickey (0)	PGy	P.91M10 x Sheyenne	New
3	U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612	5
4	U14-103015	PLtbl	LG07-2249 x LG07-6944	1
5	E15338	PGibl	E09088 x E12901	2
6	MCH13-104087	PGbf	M06-288181 x M06-358188	2
7	M13-266011	P+WGy	MN1505SP x LD10-5903a	19SCN P I
8	M13-266009	P+WGy	MN1505SP x LD10-5903a	19SCN P I
9	M13-262053	PGibl/bf	M03-172059 x LD08-12435a	19SCN P I
10	M13-262029	WGbf	M03-172059 x LD08-12435a	19SCN P I
11	M13-262015	PGbf	M03-172059 x LD08-12435a	19SCN P I
12	M13-250046	PGbf	M06-288190 x AR09-191018	19SCN P I
13	M13-250030	PGbf	M06-288190 x AR09-191018	19SCN P I
14	M13-250019	PGbf	M06-288190 x AR09-191018	19SCN P I
15	M12-373033	PGy	AR09-191003 x M06-388016	2
16	M09-285149	PGbf	MN1701CN x E06936	19SCN P I

	Strain	Gen comp	SCN res source	Traits
1	MN1410	F5	None	
2	ND Dickey (0)	F4	None	
3	U11-917032 (SCN)	F6	PI 88788	
4	U14-103015	F5	None	Diversity
5	E15338	F5	PI 88788	
6	MCH13-104087	F5	PI 88788	
7	M13-266011	F5	PI 88788	Rag 1
8	M13-266009	F5	PI 88788	Rag 1
9	M13-262053	F5	PI 88788	
10	M13-262029	F5	PI 88788	
11	M13-262015	F5	PI 88788	
12	M13-250046	F5	PI 88788	
13	M13-250030	F5	PI 88788	
14	M13-250019	F5	PI 88788	
15	M12-373033	F5	PI 88788	
16	M09-285149	F5	PI 88788	

2020 SCN UNIFORM TEST I

		IL SCN screen				MN IDC
		HG Type 0		HG Type 2.5.7		
	Strain	FI	rating	FI	rating	score
1	MN1410	25	MR	91	NR	2.0
2	ND Dickey (0)	55	LR	79	NR	1.0
3	U11-917032 (SCN)	11	R	73	NR	2.8
4	U14-103015	63	NR	29	MR	2.5
5	E15338	24	R	48	LR	1.5
6	MCH13-104087	11	R	42	LR	1.0
7	M13-266011	17	R	28	MR	1.3
8	M13-266009	69	NR	46	LR	1.0
9	M13-262053	53	LR	43	LR	1.8
10	M13-262029	42	LR	90	NR	2.3
11	M13-262015	19	R	114	NR	1.9
12	M13-250046	2	HR	7	HR	1.1
13	M13-250030	7	HR	54	LR	1.0
14	M13-250019	16	R	4	HR	1.0
15	M12-373033	30	MR	63	NR	1.1
16	M09-285149	8	HR	95	NR	1.9

**rep data too variable

2020 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		3	5	5	4	4	4	4
1	MN1410	**39.2**	**14**	38.5	14	40.8	11	9/19	1.5	33	16.7	1.4	34.6	19.0
2	ND Dickey (0)	**35.3**	**16**	35.3	16	32.9	15	-4	1.2	30	16.9	1.4	34.4	19.0
3	U11-917032 (SCN)	**49.8**	**1**	51.1	2	45.3	5	7	1.5	31	16.2	1.1	32.6	19.5
4	U14-103015	**43.8**	**9**	45.9	10	46.6	3	6	1.2	32	16.0	1.2	34.3	19.3
5	E15338	**48.4**	**4**	47.7	6	44.5	6	4	1.5	33	16.1	1.1	33.0	18.4
6	MCH13-104087	**44.6**	**8**	45.5	11	42.7	7	2	1.4	35	15.4	1.1	33.5	19.0
7	M13-266011	**40.6**	**13**	39.7	13	46.7	2	1	1.2	32	18.5	1.1	35.4	18.4
8	M13-266009	**38.9**	**15**	37.1	15	37.8	12	2	1.3	32	18.7	1.1	35.7	18.0
9	M13-262053	**49.1**	**2**	52.4	1	33.3	14	8	1.4	34	14.8	1.1	32.7	19.0
10	M13-262029	**47.9**	**5**	50.4	3	42.4	10	6	1.2	32	15.1	1.1	32.4	19.4
11	M13-262015	**47.2**	**6**	49.7	4	42.5	8	6	1.2	32	14.8	1.1	32.2	19.4
12	M13-250046	**46.7**	**7**	46.3	9	47.5	1	3	1.8	35	17.7	1.1	34.0	18.9
13	M13-250030	**49.0**	**3**	47.5	7	46.0	4	7	1.3	36	15.5	1.1	34.2	18.0
14	M13-250019	**43.8**	**9**	46.5	8	36.9	13	0	1.3	33	17.4	1.1	34.4	19.1
15	M12-373033	**42.8**	**12**	44.6	12	42.5	8	5	1.5	34	16.8	1.1	31.8	20.2
16	M09-285149	**43.2**	**11**	47.7	5	29.5	16	5	1.3	33	15.3	1.1	33.4	18.5
	Mean	**44.4**		45.4		41.1		4.0	1.4	32.9	16.4	1.2	33.7	18.9
	LSD(.05)	**5.5**		5.6		9.7								
	C.V. %	**17.1**		15.3		11.7								
	Replications	**15**		12		3								

2020 SCN UNIFORM TEST I

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	**10**		8		2		9	12	11	10	9	10	10
1	MN1410	**43.7**	**6**	41.9	6	49.9	3	9/21	1.4	32	16.4	1.3	35.1	18.1
3	U11-917032 (SCN)	**52.2**	**1**	52.8	1	49.4	4	6	1.2	30	15.7	1.4	33.1	18.7
4	U14-103015	**46.7**	**4**	46.6	5	52.0	2	6	1.1	31	16.0	1.3	34.9	18.4
5	E15338	**51.2**	**2**	49.8	2	52.7	1	4	1.3	32	16.1	1.4	33.5	17.7
6	MCH13-104087	**48.6**	**3**	48.9	3	47.8	5	2	1.2	33	14.8	1.3	34.2	18.1
15	M12-373033	**46.4**	**5**	46.9	4	47.4	6	5	1.4	32	16.6	1.3	32.5	19.1
	Mean	**48.1**		47.8		49.8		4.7	1.3	31.6	15.9	1.3	33.9	18.4

2020 SCN UNIFORM TEST I

Yield (bu/a)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	18.9	52.7	33.8	48.2	40.8
2	ND Dickey (0)	20.6	49.0	36.8	34.3	32.9
3	U11-917032 (SCN)	32.1	49.3	49.8	72.6	45.3
4	U14-103015	29.3	45.4	43.1	59.5	46.6
5	E15338	31.0	47.4	45.3	66.5	44.5
6	MCH13-104087	27.2	43.7	53.0	57.7	42.7
7	M13-266011	28.0	51.5	44.7	45.7	46.7
8	M13-266009	30.2	48.9	36.4	32.5	37.8
9	M13-262053	39.4	51.1	47.6	68.8	33.3
10	M13-262029	38.2	50.8	52.4	59.5	42.4
11	M13-262015	35.4	47.6	46.3	69.1	42.5
12	M13-250046	35.1	44.8	49.6	57.5	47.5
13	M13-250030	35.1	51.4	49.7	53.3	46.0
14	M13-250019	30.7	44.1	52.7	58.0	36.9
15	M12-373033	23.7	46.0	47.4	60.6	42.5
16	M09-285149	35.8	45.4	46.3	62.8	29.5
	Average	30.7	48.1	45.9	56.6	41.1
	LSD(2-sided,.05)	9.7	6.4	10.2	18.8	9.7
	C.V. %	15.6	7.9	13.3	15.6	11.7
	Replications	3	3	3	3	3
	Row width (in.)	30	30	30	17	13

2020 SCN UNIFORM TEST I

Yield (rank)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	16	1	16	13	11
2	ND Dickey (0)	15	7	14	15	15
3	U11-917032 (SCN)	7	6	4	1	5
4	U14-103015	11	12	13	8	3
5	E15338	8	10	11	4	6
6	MCH13-104087	13	16	1	10	7
7	M13-266011	12	2	12	14	2
8	M13-266009	10	8	15	16	12
9	M13-262053	1	4	7	3	14
10	M13-262029	2	5	3	7	10
11	M13-262015	4	9	10	2	8
12	M13-250046	5	14	6	11	1
13	M13-250030	6	3	5	12	4
14	M13-250019	9	15	2	9	13
15	M12-373033	14	11	8	6	8
16	M09-285149	3	12	9	5	16

2020 SCN UNIFORM TEST I

Maturity

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		9/20	9/16		9/21
2	ND Dickey (0)		-5	-7		0
3	U11-917032 (SCN)		5	8		7
4	U14-103015		3	9		5
5	E15338		4	7		2
6	MCH13-104087		4	3		0
7	M13-266011		2	1		1
8	M13-266009		3	-1		3
9	M13-262053		5	10		8
10	M13-262029		3	9		5
11	M13-262015		5	9		5
12	M13-250046		3	5		2
13	M13-250030		7	9		6
14	M13-250019		3	-2		0
15	M12-373033		4	4		8
16	M09-285149		3	7		6
	Planted	5/03	5/29	5/08	5/23	5/26

2020 SCN UNIFORM TEST I

Lodging (score)

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	1.0	1.7	2.0	1.5	1.1
2	ND Dickey (0)	1.0	1.0	2.0	1.0	1.0
3	U11-917032 (SCN)	1.0	1.3	2.0	1.5	1.5
4	U14-103015	1.0	1.0	2.0	1.0	1.1
5	E15338	1.0	2.3	2.0	1.0	1.1
6	MCH13-104087	1.0	2.0	2.0	1.0	1.1
7	M13-266011	1.0	1.0	2.0	1.0	1.1
8	M13-266009	1.3	1.0	2.0	1.0	1.0
9	M13-262053	1.0	2.0	2.0	1.0	1.0
10	M13-262029	1.0	1.0	2.0	1.0	1.0
11	M13-262015	1.0	1.0	2.0	1.0	1.0
12	M13-250046	1.7	2.0	2.0	2.0	1.2
13	M13-250030	1.0	1.3	2.0	1.0	1.0
14	M13-250019	1.3	1.3	2.0	1.0	1.0
15	M12-373033	1.3	2.0	2.0	1.0	1.0
16	M09-285149	1.0	1.3	2.0	1.0	1.1

2020 SCN UNIFORM TEST I

Height (inches)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	30	40	24	43	29
2	ND Dickey (0)	30	35	24	33	26
3	U11-917032 (SCN)	28	31	27	41	27
4	U14-103015	27	34	27	39	32
5	E15338	28	39	28	39	32
6	MCH13-104087	28	44	27	39	35
7	M13-266011	30	38	26	39	28
8	M13-266009	29	40	25	37	28
9	M13-262053	31	39	28	41	30
10	M13-262029	30	34	29	37	29
11	M13-262015	28	33	26	43	31
12	M13-250046	30	40	26	47	34
13	M13-250030	30	44	28	41	37
14	M13-250019	29	40	27	39	30
15	M12-373033	32	41	26	39	31
16	M09-285149	29	35	29	40	30

2020 SCN UNIFORM TEST I

Seed Weight (g/100)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		15.8	14.8	16.8	19.2
2	ND Dickey (0)		16.4	15.8	17.0	18.4
3	U11-917032 (SCN)		15.1	14.5	17.5	17.7
4	U14-103015		13.7	.	15.8	18.4
5	E15338		15.1	14.5	17.2	17.6
6	MCH13-104087		14.1	14.3	15.9	17.1
7	M13-266011		18.7	17.0	18.9	19.4
8	M13-266009		18.1	16.3	19.2	21.1
9	M13-262053		13.8	14.5	14.9	15.8
10	M13-262029		14.7	13.9	15.4	16.4
11	M13-262015		14.2	13.8	14.9	16.2
12	M13-250046		17.5	15.2	18.1	20.1
13	M13-250030		14.9	14.3	15.1	17.7
14	M13-250019		16.8	14.8	17.9	20.0
15	M12-373033		15.7	15.3	16.8	19.3
16	M09-285149		15.5	13.6	14.5	17.5

2020 SCN UNIFORM TEST I

Seed Quality (score)

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		1.0	2.0	1.0	1.5
2	ND Dickey (0)		1.0	2.0	1.0	1.5
3	U11-917032 (SCN)		1.0	1.0	1.0	1.5
4	U14-103015		1.0	.	1.0	1.5
5	E15338		1.0	1.0	1.0	1.5
6	MCH13-104087		1.0	1.0	1.0	1.5
7	M13-266011		1.0	1.0	1.0	1.5
8	M13-266009		1.0	1.0	1.0	1.5
9	M13-262053		1.0	1.0	1.0	1.5
10	M13-262029		1.0	1.0	1.0	1.5
11	M13-262015		1.0	1.0	1.0	1.5
12	M13-250046		1.0	1.0	1.0	1.5
13	M13-250030		1.0	1.0	1.0	1.5
14	M13-250019		1.0	1.0	1.0	1.5
15	M12-373033		1.0	1.0	1.0	1.5
16	M09-285149		1.0	1.0	1.0	1.5

2020 SCN UNIFORM TEST I

Protein (%)

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		34.8	33.4	35.2	34.9
2	ND Dickey (0)		35.2	32.8	35.9	33.8
3	U11-917032 (SCN)		31.8	31.8	32.6	34.0
4	U14-103015		33.2	.	35.3	34.4
5	E15338		33.9	31.9	33.0	33.3
6	MCH13-104087		34.1	32.3	34.1	33.6
7	M13-266011		36.2	33.2	37.2	35.0
8	M13-266009		35.7	34.0	37.4	35.6
9	M13-262053		33.5	31.5	33.4	32.4
10	M13-262029		33.4	30.5	33.2	32.4
11	M13-262015		33.7	31.4	32.5	31.4
12	M13-250046		34.4	33.5	35.0	33.3
13	M13-250030		33.5	33.5	36.1	33.6
14	M13-250019		34.7	33.4	34.9	34.7
15	M12-373033		33.1	30.7	32.0	31.5
16	M09-285149		33.9	32.5	33.5	33.5

2020 SCN UNIFORM TEST I

Oil (%)

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		18.9	19.6	19.6	17.9
2	ND Dickey (0)		18.6	19.9	19.3	18.2
3	U11-917032 (SCN)		19.7	19.7	20.6	17.9
4	U14-103015		19.3	.	19.7	18.9
5	E15338		17.8	18.5	19.7	17.7
6	MCH13-104087		18.0	19.8	20.1	18.0
7	M13-266011		18.0	19.4	18.9	17.3
8	M13-266009		17.5	18.6	18.4	17.5
9	M13-262053		18.6	19.5	20.2	17.5
10	M13-262029		18.9	20.4	20.1	18.2
11	M13-262015		18.8	19.7	20.6	18.6
12	M13-250046		17.8	19.9	19.8	18.0
13	M13-250030		17.7	18.8	18.6	17.0
14	M13-250019		18.3	19.8	20.2	17.9
15	M12-373033		19.0	21.4	21.1	19.2
16	M09-285149		18.1	19.0	19.2	17.8

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2020 SCN PRELIMINARY TEST I

	Strain	Descriptive code	Parentage
1	MN1410	WGbf	Unknown
2	ND Dickey (0)	PGy	P.91M10 x Sheyenne
3	U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612
4	U14-103015	PLtbl	LG07-2249 x LG07-6944
5	M14-109088	PTy	M07-260028 x ND10-4423
6	M14-116014	PTbl	AR12-127091 x U09-105007
7	M14-118001	PGy	MN1701CN x AR12-128102
8	M14-118010	PT+Gy+g	MN1701CN x AR12-128102
9	M14-122011	P+Wbl	M08-365038 x IA1026
10	M14-122031	PTbl	M08-365038 x IA1026
11	M14-122035	PTy	M08-365038 x IA1026
12	M14-122038	WTbr	M08-365038 x IA1026
13	M14-126012	WTy	M07-278126 x M07-297007
14	M14-129066	PGibl	M08-434072 x LD10-2715
15	M14-129109	PGibl	M08-434072 x LD10-2715
16	M14-224051	PTbl	MN1410 x PI447003A
17	M14-224081	PGbf+ibl	MN1410 x PI447003A
18	M14-224084	PT+Ltbr	MN1410 x PI447003A
19	OAC 17-84C-SCN	WGy	SeCan 10-18C x S23-T5
20	ORC 3819N	WTy	RCAT 1003N x RCAT 7612N
21	U18-613247	PLtbl	LD10-10198 x U11-911079
22	U18-903003	PLtbl	LD10-10198 x U11-911079
23	U18-916036	PLtg	LD10-10198 x U11-911079
24	U18-919004	PTbl	LD10-10198 x U11-917032
25	U18-923030	PLtbl	U11-911079 x U11-917032
26	U18-929040	PLtbl	LD12-3903 x U11-911079

2020 SCN PRELIMINARY TEST I

	Strain	Gen comp	SCN res source	Traits
1	MN1410	F5	None	
2	ND Dickey (0)	F4	none	
3	U11-917032 (SCN)	F6	PI 88788	
4	U14-103015	F5	None	Diversity
5	M14-109088	F5	PI 88788	
6	M14-116014	F5	PI 88788	
7	M14-118001	F5	PI 88788	
8	M14-118010	F5	PI 88788	
9	M14-122011	F5	PI 88788	
10	M14-122031	F5	PI 88788	
11	M14-122035	F5	PI 88788	
12	M14-122038	F5	PI 88788	
13	M14-126012	F5	PI 88788	
14	M14-129066	F5	PI 88788	
15	M14-129109	F5	PI 88788	
16	M14-224051	F5	PI 88788	Diversity
17	M14-224081	F5	PI 88788	Diversity
18	M14-224084	F5	PI 88788	Diversity
19	OAC 17-84C-SCN	F4	PI88788	
20	ORC 3819N	F5	PI 88788	Food-grade
21	U18-613247	F5	PI 88788	
22	U18-903003	F5	PI 88788	
23	U18-916036	F5	PI 88788	
24	U18-919004	F5	PI 88788	
25	U18-923030	F5	PI 88788	
26	U18-929040	F5	PI 88788	

2020 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	25	MR	91	NR	1.3
2	ND Dickey (0)	55	LR	79	NR	1.5
3	U11-917032 (SCN)	11	R	73	NR	2.4
4	U14-103015	63	NR	29	MR	4.1
5	M14-109088	49	LR	39	MR	1.4
6	M14-116014	35	MR	78	NR	2.3
7	M14-118001	68	NR	72	NR	3.3
8	M14-118010	48	LR	86	NR	2.6
9	M14-122011	23	**	54	LR	2.0
10	M14-122031	9	HR	47	LR	2.5
11	M14-122035	15	R	64	NR	2.1
12	M14-122038	7	HR	47	LR	1.4
13	M14-126012	8	HR	33	MR	1.3
14	M14-129066	11	R	77	NR	1.5
15	M14-129109	62	NR	78	NR	1.4
16	M14-224051	23	R	40	LR	1.9
17	M14-224081	46	LR	39	MR	1.3
18	M14-224084	33	MR	77	NR	1.3
19	OAC 17-84C-SCN	20	R	30	MR	1.8
20	ORC 3819N	81	NR	63	NR	4.5
21	U18-613247	10	R	77	NR	2.0
22	U18-903003	6	HR	60	NR	2.3
23	U18-916036	18	R	46	LR	2.4
24	U18-919004	41	LR	68	NR	3.9
25	U18-923030	8	HR	55	LR	3.3
26	U18-929040	17	R	72	NR	2.3

**rep data too variable to rate

2020 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	**5**		4		1		3	5	5	4	4	4	4
1	MN1410	**45.0**	**24**	43.9	24	42.0	23	9/19	1.2	35	16.6	1.1	34.2	19.0
2	ND Dickey (0)	**45.3**	**23**	45.0	23	51.7	8	-3	1.4	32	17.5	1.0	34.4	19.0
3	U11-917032 (SCN)	**54.5**	**8**	55.7	6	53.8	6	5	1.5	34	16.2	1.1	32.6	19.6
4	U14-103015	**47.5**	**19**	47.7	22	47.6	18	7	1.3	34	15.6	1.1	33.5	19.5
5	M14-109088	**37.6**	**26**	37.1	26	32.1	25	-18	1.7	30	13.9	1.1	33.7	20.0
6	M14-116014	**49.9**	**14**	49.6	16	50.6	13	3	1.3	36	18.2	1.1	34.0	19.0
7	M14-118001	**49.2**	**17**	49.7	15	49.0	16	6	1.3	35	14.9	1.0	33.8	18.7
8	M14-118010	**42.8**	**25**	41.5	25	40.4	24	2	1.7	37	14.3	1.2	33.1	19.0
9	M14-122011	**51.1**	**12**	50.9	12	50.9	11	4	1.5	35	15.8	1.4	34.2	19.6
10	M14-122031	**54.6**	**7**	53.5	8	60.2	2	5	1.2	34	17.1	1.1	33.2	19.3
11	M14-122035	**57.2**	**2**	57.6	3	53.3	7	7	1.3	36	17.6	1.1	33.7	19.1
12	M14-122038	**47.1**	**21**	47.9	20	46.2	19	4	1.4	32	17.4	1.4	33.6	19.5
13	M14-126012	**52.4**	**10**	51.7	11	50.8	12	5	1.6	37	15.8	1.1	34.8	18.5
14	M14-129066	**51.4**	**11**	52.7	10	51.1	10	8	1.7	35	16.6	1.1	34.8	18.6
15	M14-129109	**47.5**	**19**	47.7	21	44.6	21	8	1.8	36	14.7	1.1	33.5	19.5
16	M14-224051	**49.4**	**16**	48.8	19	57.5	4	1	1.9	35	15.1	1.1	33.9	19.2
17	M14-224081	**48.4**	**18**	49.4	17	43.7	22	0	1.3	36	15.2	1.1	33.3	19.1
18	M14-224084	**49.8**	**15**	49.2	18	57.4	5	3	1.6	39	15.0	1.1	33.3	19.1
19	OAC 17-84C-SCN	**46.8**	**22**	49.8	14	30.7	26	7	1.3	34	15.6	1.1	33.6	18.7
20	ORC 3819N	**52.6**	**9**	52.7	9	62.6	1	5	1.7	38	17.7	1.1	34.2	18.4
21	U18-613247	**56.5**	**4**	57.3	4	50.4	14	12	1.3	42	13.3	1.2	33.0	18.4
22	U18-903003	**55.9**	**5**	54.9	7	59.4	3	8	1.2	38	14.0	1.1	32.9	18.2
23	U18-916036	**56.7**	**3**	57.9	2	51.3	9	9	1.3	38	12.8	1.4	32.7	18.2
24	U18-919004	**54.9**	**6**	56.8	5	45.6	20	8	1.6	35	14.6	1.1	32.8	19.0
25	U18-923030	**50.9**	**13**	50.7	13	48.1	17	7	1.4	35	15.1	1.1	31.8	19.3
26	U18-929040	**59.5**	**1**	60.8	1	49.6	15	11	1.3	37	15.3	1.6	32.2	19.3
	Mean	**50.5**		50.8		49.2		4.5	1.5	35.6	15.6	1.2	33.5	19.0
	LSD(.05)	**4.9**		5.5		9.5								
	C.V. %	**13.4**		13.4		7.7								
	Replications	**15**		12		3								

2020 SCN PRELIMINARY TEST I

Yield (bu/a)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	16.8	44.6	51.1	63.0	42.0
2	ND Dickey (0)	21.1	44.2	52.7	62.0	51.7
3	U11-917032 (SCN)	30.8	49.9	60.8	81.2	53.8
4	U14-103015	21.9	41.0	54.9	72.6	47.6
5	M14-109088	.	49.2	42.9	52.7	32.1
6	M14-116014	30.2	47.3	52.8	67.9	50.6
7	M14-118001	26.2	49.8	57.9	64.8	49.0
8	M14-118010	19.7	49.0	53.2	60.8	40.4
9	M14-122011	30.4	40.3	52.8	80.0	50.9
10	M14-122031	30.5	40.1	63.6	79.6	60.2
11	M14-122035	31.1	45.8	71.4	81.7	53.3
12	M14-122038	27.0	41.9	51.4	71.2	46.2
13	M14-126012	28.5	45.4	55.7	77.1	50.8
14	M14-129066	28.7	44.3	58.8	78.8	51.1
15	M14-129109	24.8	37.4	56.7	71.7	44.6
16	M14-224051	22.3	47.7	52.0	73.0	57.5
17	M14-224081	26.3	43.6	52.9	74.6	43.7
18	M14-224084	29.6	47.2	56.4	63.2	57.4
19	OAC 17-84C-SCN	31.7	47.2	55.5	64.4	30.7
20	ORC 3819N	26.8	43.6	54.3	86.0	62.6
21	U18-613247	37.6	49.7	58.7	83.5	50.4
22	U18-903003	38.3	41.7	65.9	73.4	59.4
23	U18-916036	38.3	43.4	68.6	81.1	51.3
24	U18-919004	36.0	46.5	57.7	86.7	45.6
25	U18-923030	35.3	34.9	54.3	77.9	48.1
26	U18-929040	40.7	42.3	66.4	93.6	49.6
	Average	28.4	44.5	56.9	73.9	49.2
	LSD(.05)	9.4	8.7	7.9	16.2	9.5
	C.V. %	17.0	12.1	8.6	10.6	7.7
	Replications	3	3	3	3	3
	Row width (in.)	30	30	30	17	13

2020 SCN PRELIMINARY TEST I

Yield (rank)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	25	13	25	23	23
2	ND Dickey (0)	23	15	22	24	8
3	U11-917032 (SCN)	9	1	6	6	6
4	U14-103015	22	22	15	16	18
5	M14-109088	26	4	26	26	25
6	M14-116014	12	7	21	19	13
7	M14-118001	19	2	9	20	16
8	M14-118010	24	5	18	25	24
9	M14-122011	11	23	20	8	11
10	M14-122031	10	24	5	9	2
11	M14-122035	8	11	1	5	7
12	M14-122038	16	20	24	18	19
13	M14-126012	15	12	13	12	12
14	M14-129066	14	14	7	10	10
15	M14-129109	20	25	11	17	21
16	M14-224051	21	6	23	15	4
17	M14-224081	18	16	19	13	22
18	M14-224084	13	8	12	22	5
19	OAC 17-84C-SCN	7	8	14	21	26
20	ORC 3819N	17	16	17	3	1
21	U18-613247	4	3	8	4	14
22	U18-903003	2	21	4	14	3
23	U18-916036	3	18	2	7	9
24	U18-919004	5	10	10	2	20
25	U18-923030	6	26	16	11	17
26	U18-929040	1	19	3	1	15

2020 SCN PRELIMINARY TEST I

Maturity

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		9/21	9/17		9/20
2	ND Dickey (0)		-7	-4		2
3	U11-917032 (SCN)		3	6		7
4	U14-103015		4	7		11
5	M14-109088		-19	-22		-13
6	M14-116014		2	2		5
7	M14-118001		4	7		7
8	M14-118010		2	2		3
9	M14-122011		3	5		5
10	M14-122031		4	7		4
11	M14-122035		5	9		6
12	M14-122038		4	3		5
13	M14-126012		2	4		9
14	M14-129066		3	9		11
15	M14-129109		4	9		11
16	M14-224051		-1	-1		4
17	M14-224081		-1	1		0
18	M14-224084		1	2		6
19	OAC 17-84C-SCN		5	7		9
20	ORC 3819N		3	4		7
21	U18-613247		9	12		15
22	U18-903003		7	9		8
23	U18-916036		7	10		9
24	U18-919004		8	8		7
25	U18-923030		5	7		8
26	U18-929040		9	12		13
	Planted	5/03	5/29	5/08	5/23	5/26

2020 SCN PRELIMINARY TEST I

Lodging (score)

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	1.0	1.0	2.0	1.0	1.0
2	ND Dickey (0)	1.0	1.0	2.0	1.0	1.9
3	U11-917032 (SCN)	1.0	1.3	2.0	1.5	1.5
4	U14-103015	1.0	1.0	2.0	1.0	1.5
5	M14-109088	1.0	1.3	2.0	3.0	1.2
6	M14-116014	1.0	1.0	2.0	1.0	1.6
7	M14-118001	1.0	1.0	2.0	1.5	1.0
8	M14-118010	1.3	1.5	2.0	2.0	1.6
9	M14-122011	1.0	1.3	2.0	2.0	1.0
10	M14-122031	1.0	1.0	2.0	1.0	1.0
11	M14-122035	1.0	1.0	2.0	1.5	1.0
12	M14-122038	1.0	1.0	2.0	2.0	1.0
13	M14-126012	1.0	1.7	1.3	1.5	2.3
14	M14-129066	1.0	1.3	2.0	2.5	1.8
15	M14-129109	1.0	2.0	2.3	2.0	1.8
16	M14-224051	1.0	2.7	2.0	2.0	1.8
17	M14-224081	1.0	1.0	2.0	1.5	1.0
18	M14-224084	1.0	1.3	2.0	1.0	2.5
19	OAC 17-84C-SCN	1.0	1.0	2.0	1.5	1.0
20	ORC 3819N	1.0	2.0	2.3	1.0	2.3
21	U18-613247	1.0	1.0	2.0	1.0	1.6
22	U18-903003	1.0	1.0	2.0	1.0	1.0
23	U18-916036	1.0	1.3	2.0	1.0	1.0
24	U18-919004	1.0	2.0	2.0	2.0	1.0
25	U18-923030	1.0	1.3	2.0	1.5	1.3
26	U18-929040	1.0	1.3	2.0	1.0	1.3

2020 SCN PRELIMINARY TEST I

Height (inches)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410	27	38	29	45	34
2	ND Dickey (0)	26	34	27	41	33
3	U11-917032 (SCN)	27	33	29	45	35
4	U14-103015	25	34	29	50	33
5	M14-109088	22	30	25	43	28
6	M14-116014	28	40	32	45	34
7	M14-118001	28	34	29	50	33
8	M14-118010	30	38	34	49	34
9	M14-122011	28	36	29	50	33
10	M14-122031	29	35	29	45	33
11	M14-122035	28	35	32	51	35
12	M14-122038	24	33	25	45	31
13	M14-126012	30	38	30	49	40
14	M14-129066	27	35	34	49	33
15	M14-129109	27	38	33	49	34
16	M14-224051	22	38	30	49	34
17	M14-224081	28	38	32	47	33
18	M14-224084	32	42	33	45	41
19	OAC 17-84C-SCN	27	36	30	47	31
20	ORC 3819N	29	40	36	51	34
21	U18-613247	34	43	40	53	42
22	U18-903003	32	37	35	51	37
23	U18-916036	33	39	34	47	38
24	U18-919004	29	32	32	49	32
25	U18-923030	32	33	30	47	32
26	U18-929040	30	37	32	54	32

2020 SCN PRELIMINARY TEST I

Seed Weight (g/100)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		15.7	14.7	18.3	17.7
2	ND Dickey (0)		16.8	18.1	17.3	17.8
3	U11-917032 (SCN)		15.0	15.4	18.0	16.4
4	U14-103015		14.2	14.7	16.7	16.8
5	M14-109088		13.3	12.7	15.1	14.6
6	M14-116014		15.1	17.6	20.2	19.8
7	M14-118001		14.2	13.9	15.6	15.9
8	M14-118010		.	13.8	14.6	14.6
9	M14-122011		14.1	14.5	17.9	16.7
10	M14-122031		15.1	16.4	18.5	18.2
11	M14-122035		15.4	17.3	19.3	18.5
12	M14-122038		15.1	18.3	17.8	18.3
13	M14-126012		15.0	15.3	17.4	15.4
14	M14-129066		15.6	15.2	18.1	17.3
15	M14-129109		13.9	14.2	16.8	13.7
16	M14-224051		13.6	13.1	17.2	16.3
17	M14-224081		15.0	14.2	16.6	15.1
18	M14-224084		13.3	14.1	16.3	16.4
19	OAC 17-84C-SCN		13.8	15.5	17.0	16.1
20	ORC 3819N		16.9	16.6	17.1	20.3
21	U18-613247		.	11.6	14.9	13.4
22	U18-903003		12.4	13.0	16.6	13.8
23	U18-916036		11.5	12.5	14.2	13.0
24	U18-919004		12.6	13.7	16.6	15.5
25	U18-923030		14.2	13.5	16.3	16.3
26	U18-929040		13.9	15.0	16.3	16.1

2020 SCN PRELIMINARY TEST I

Seed Quality (score)

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		1.0	1.0	1.0	1.5
2	ND Dickey (0)		1.0	1.0	1.0	1.0
3	U11-917032 (SCN)		1.0	1.0	1.0	1.5
4	U14-103015		1.0	1.0	1.0	1.5
5	M14-109088		1.0	1.0	1.0	1.5
6	M14-116014		1.0	1.0	1.0	1.5
7	M14-118001		1.0	1.0	1.0	1.0
8	M14-118010		.	1.0	1.0	1.5
9	M14-122011		1.0	2.0	1.0	1.5
10	M14-122031		1.0	1.0	1.0	1.5
11	M14-122035		1.0	1.0	1.0	1.5
12	M14-122038		1.0	2.0	1.0	1.5
13	M14-126012		1.0	1.0	1.0	1.5
14	M14-129066		1.0	1.0	1.0	1.5
15	M14-129109		1.0	1.0	1.0	1.5
16	M14-224051		1.0	1.0	1.0	1.5
17	M14-224081		1.0	1.0	1.0	1.5
18	M14-224084		1.0	1.0	1.0	1.5
19	OAC 17-84C-SCN		1.0	1.0	1.0	1.5
20	ORC 3819N		1.0	1.0	1.0	1.5
21	U18-613247		.	1.0	1.0	1.5
22	U18-903003		1.0	1.0	1.0	1.5
23	U18-916036		1.0	2.0	1.0	1.5
24	U18-919004		1.0	1.0	1.0	1.5
25	U18-923030		1.0	1.0	1.0	1.5
26	U18-929040		1.0	3.0	1.0	1.5

2020 SCN PRELIMINARY TEST I

Protein (%)

		Decatur	Rosemount	Waseca	Thameville	Woodstock
		MI	MN	MN	ON	ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		34.9	32.9	34.7	34.3
2	ND Dickey (0)		35.5	33.0	34.8	34.3
3	U11-917032 (SCN)		32.8	31.1	33.9	32.7
4	U14-103015		33.7	32.2	34.8	33.3
5	M14-109088		33.7	31.6	36.2	33.3
6	M14-116014		33.8	34.1	35.1	33.1
7	M14-118001		33.5	32.3	35.7	33.7
8	M14-118010		.	32.0	35.0	32.4
9	M14-122011		34.1	32.1	35.9	34.6
10	M14-122031		33.7	31.0	34.4	33.7
11	M14-122035		33.9	32.6	34.7	33.5
12	M14-122038		32.6	33.0	35.0	34.0
13	M14-126012		34.5	33.5	36.4	35.0
14	M14-129066		34.7	33.8	36.3	34.4
15	M14-129109		33.3	32.8	34.4	33.4
16	M14-224051		34.1	31.2	35.7	34.5
17	M14-224081		33.1	31.5	34.5	33.9
18	M14-224084		33.4	32.5	33.8	33.6
19	OAC 17-84C-SCN		33.8	32.6	34.4	33.6
20	ORC 3819N		34.1	33.8	34.8	34.1
21	U18-613247		.	31.9	34.0	33.1
22	U18-903003		31.6	31.7	35.8	32.4
23	U18-916036		32.4	32.8	33.3	32.5
24	U18-919004		32.4	31.1	34.4	33.3
25	U18-923030		32.5	29.8	33.1	32.0
26	U18-929040		31.5	32.2	33.4	31.7

2020 SCN PRELIMINARY TEST I

Oil (%)

		Decatur MI	Rosemount MN	Waseca MN	Thameville ON	Woodstock ON
	SCN HG Type	Inf	2.5.7	Inf	2.5.6.7	NI
	Strain					
1	MN1410		18.6	19.8	19.7	18.0
2	ND Dickey (0)		18.8	19.8	19.4	17.8
3	U11-917032 (SCN)		19.2	21.0	20.1	18.3
4	U14-103015		18.8	20.9	19.7	18.4
5	M14-109088		20.3	21.0	20.2	18.4
6	M14-116014		18.7	19.8	19.7	17.9
7	M14-118001		18.2	19.7	19.1	17.9
8	M14-118010		.	20.2	19.2	17.6
9	M14-122011		18.5	21.1	19.9	18.8
10	M14-122031		18.6	20.3	20.1	18.1
11	M14-122035		17.9	20.0	19.6	18.7
12	M14-122038		19.1	20.3	20.1	18.4
13	M14-126012		18.4	19.5	18.8	17.5
14	M14-129066		18.4	18.8	19.2	18.2
15	M14-129109		19.2	19.8	20.1	18.8
16	M14-224051		19.1	20.7	19.0	18.1
17	M14-224081		18.8	20.3	19.5	17.8
18	M14-224084		18.7	19.8	20.0	17.7
19	OAC 17-84C-SCN		18.2	19.7	18.9	18.1
20	ORC 3819N		18.3	19.1	18.3	17.7
21	U18-613247		.	18.5	18.7	17.9
22	U18-903003		17.7	19.0	18.3	17.8
23	U18-916036		17.6	18.5	19.2	17.6
24	U18-919004		18.9	19.6	19.1	18.6
25	U18-923030		18.6	20.9	19.4	18.5
26	U18-929040		18.7	21.1	18.9	18.3

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2020 SCN UNIFORM TEST II

	Strain	Descriptive code	Parentage	Previous testing
1	IA2102	WGy	A04-545045 x AgriPro 98180-A01-06131	7
2	LD02-4485 (SCN)	PGbf	M90-184111 x IA3010	14
3	U11-917032 (SCN)	PTbl	LD02-4485 x U03-100612	1
4	U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419	2
5	E15339	WGbf	IA2102 x LD02-4485	2
6	E15345	WGy	IA2102 x LD02-4485	2
7	E15351	WGbf	IA2102 x E07051	2
8	E17069	WGy	IA2102 x E06240	19SCN P II
9	E17203	PGbf	E11128T x LD02-4485	19SCN P II
10	E17269	WGbf	E13367 x AR09-191018	19SCN P II
11	E17283	P+WGibl/bf	E13367 x E05181-T	19SCN P II
12	LD15-5170a	PGbf	LD09-10220 x LD12-6623	1
13	LD15-6268	PLt+GM	AR10-205011 x LD10-10226	1
14	LD15-6280	PLt+Gbf+br	AR10-205011 x LD10-10226	1
15	LD16-4766a	PGbf	AR10-205011 x LD09-30224	19SCN P II
16	LD16-4852	PGibl	LD09-30015 x LD09-30224	19SCN P II
17	LD16-6557	P+WGbf	LD07-3419 x AR10-205011	19SCN P II
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	E15339	F5	PI 88788	
6	E15345	F5	PI 88788	
7	E15351	F5	PI 88788	
8	E17069	F5	PI 88788	
9	E17203	F5	PI 88788	
10	E17269	F5	PI 88788	Aphid, Rps1
11	E17283	F5	PI 88788	Aphid, Rps1
12	LD15-5170a	F5	PI 88788	Rag 1+2
13	LD15-6268	F5	PI 88788	
14	LD15-6280	F5	PI 88788	
15	LD16-4766a	F5	PI 88788	Rag 1
16	LD16-4852	F5	PI 88788	
17	LD16-6557	F5	PI 88788,437654	
18	U14-925152	F5	PI 88788,437654	IDC

2020 SCN UNIFORM TEST II

		IL SCN screen				NE
		HG Type 0		HG Type 2.5.7		Gall midge
	Strain	FI	rating	FI	rating	score
1	IA2102	33	MR	73	NR	5.0
2	LD02-4485 (SCN)	9	HR	72	NR	1.5
3	U11-917032 (SCN)	11	R	73	NR	2.0
4	U14-910097 (SCN)	2	HR	2	HR	1.0
5	E15339	15	R	76	NR	4.0
6	E15345	19	R	70	NR	3.0
7	E15351	32	MR	105	NR	2.5
8	E17069	9	HR	69	NR	4.5
9	E17203	7	HR	39	MR	2.5
10	E17269	33	MR	51	LR	2.0
11	E17283	16	R	95	NR	2.0
12	LD15-5170a	12	R	45	LR	1.5
13	LD15-6268	22	R	96	NR	4.0
14	LD15-6280	18	R	68	NR	4.0
15	LD16-4766a	9	HR	55	LR	1.0
16	LD16-4852	9	HR	61	LR	1.0
17	LD16-6557	16	R	44	LR	1.0
18	U14-925152	4	HR	2	HR	0.0

2020 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	**5**		4		1		4	5	4	4	4	3	3
1	IA2102	**48.5**	**17**	47.8	15	58.0		9/18	2.4	37	13.9	1.5	32.4	20.4
2	LD02-4485 (SCN)	**56.8**	**3**	55.4	4	68.6		1	1.6	38	13.4	1.3	31.7	19.6
3	U11-917032 (SCN)	**50.2**	**14**	49.2	12	60.8		-5	1.4	32	13.9	1.4	32.5	21.4
4	U14-910097 (SCN)	**60.0**	**2**	58.8	2	71.1		9	2.0	34	13.1	1.3	31.2	20.9
5	E15339	**51.4**	**12**	48.8	13	68.2		2	2.1	37	14.1	1.5	32.1	20.3
6	E15345	**49.1**	**16**	48.3	14	59.1		6	1.7	36	13.9	1.5	31.9	20.3
7	E15351	**52.6**	**9**	51.6	9	63.3		1	1.2	36	14.4	1.3	31.8	20.5
8	E17069	**49.9**	**15**	47.4	16	66.4		8	2.2	41	16.3	1.3	34.0	20.1
9	E17203	**56.0**	**4**	54.2	7	69.7		3	1.2	35	14.2	1.5	32.7	20.3
10	E17269	**54.5**	**8**	55.3	5	57.6		2	1.2	34	13.4	1.3	31.9	19.9
11	E17283	**50.5**	**13**	47.2	17	70.2		8	1.1	33	16.9	1.5	33.6	19.5
12	LD15-5170a	**54.6**	**7**	52.5	8	69.4		7	1.7	37	14.5	1.3	32.4	19.8
13	LD15-6268	**46.7**	**18**	44.8	18	60.5		2	1.1	35	15.1	1.3	34.7	19.1
14	LD15-6280	**51.8**	**10**	50.9	10	61.8		4	1.1	34	14.9	1.3	33.9	20.3
15	LD16-4766a	**55.8**	**5**	55.8	3	61.9		4	1.3	33	15.5	1.4	33.0	20.0
16	LD16-4852	**55.2**	**6**	54.4	6	64.8		6	1.2	36	13.5	1.4	31.1	20.5
17	LD16-6557	**51.6**	**11**	50.8	11	61.2		8	1.1	32	15.2	1.4	32.6	20.2
18	U14-925152	**61.0**	**1**	60.0	1	71.3		7	1.4	35	13.6	1.3	32.4	20.7
	Mean	**53.1**		51.8		64.7		4.2	1.5	35.2	14.4	1.3	32.6	20.2
	LSD(.05)	**4.1**		4.4		11.7								
	C.V. %	**10.6**		10.6		10.4								
	Replications	**11**		9		2								

2020 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	9		7		2		8	10	8	8	8	7	7
1	IA2102	**49.8**	**10**	49.1	9	55.6	10	9/20	2.2	34	15.1	1.5	33.4	18.9
2	LD02-4485 (SCN)	**55.5**	**4**	54.0	4	64.5	2	2	1.4	34	14.5	1.5	32.4	18.8
3	U11-917032 (SCN)	**48.5**	**11**	48.4	11	52.3	11	-4	1.2	30	14.6	1.4	32.4	20.3
4	U14-910097 (SCN)	**58.6**	**2**	58.0	2	63.8	3	7	1.6	32	14.1	1.4	32.3	19.7
5	E15339	**53.7**	**7**	52.3	7	61.9	6	1	2.0	34	15.1	1.5	32.8	19.3
6	E15345	**52.1**	**8**	51.3	8	58.3	9	5	1.6	34	15.2	1.6	32.6	19.0
7	E15351	**53.8**	**6**	52.7	5	60.9	7	2	1.2	33	15.8	1.6	33.0	19.0
12	LD15-5170a	**56.2**	**3**	54.2	3	66.6	1	5	1.5	34	15.6	1.3	34.0	18.4
13	LD15-6268	**50.5**	**9**	48.9	10	59.6	8	2	1.1	34	16.1	1.4	35.5	17.7
14	LD15-6280	**53.9**	**5**	52.6	6	62.0	5	3	1.1	33	15.8	1.4	34.5	19.2
18	U14-925152	**59.0**	**1**	58.6	1	63.6	4	5	1.2	32	14.4	1.4	33.3	19.8
	Mean	**53.8**		52.7		60.8		2.9	1.4	33.2	15.1	1.4	33.3	19.1

2020 SCN UNIFORM TEST II

Yield (bu/a)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	52.0	32.5	40.5	66.0	58.0
2	LD02-4485 (SCN)	56.8	38.2	58.9	67.7	68.6
3	U11-917032 (SCN)	47.4	28.5	52.6	68.3	60.8
4	U14-910097 (SCN)	60.8	38.3	68.8	67.3	71.1
5	E15339	53.6	33.0	41.9	67.0	68.2
6	E15345	55.8	26.9	41.3	69.0	59.1
7	E15351	52.0	35.9	51.6	66.8	63.3
8	E17069	56.6	35.2	38.2	59.5	66.4
9	E17203	53.7	33.6	61.8	67.7	69.7
10	E17269	54.4	34.8	63.9	68.1	57.6
11	E17283	45.8	32.3	49.8	60.8	70.2
12	LD15-5170a	52.9	34.6	60.2	62.4	69.4
13	LD15-6268	53.8	35.6	30.6	59.4	60.5
14	LD15-6280	56.6	37.3	41.7	67.9	61.8
15	LD16-4766a	54.6	42.7	64.0	62.1	61.9
16	LD16-4852	55.0	40.9	56.7	64.9	64.8
17	LD16-6557	54.2	30.3	55.7	62.9	61.2
18	U14-925152	63.2	43.0	66.3	67.4	71.3
	Average	54.4	35.2	52.5	65.3	64.7
	LSD(2-sided,.05)	8.9	8.0	11.0	10.6	11.7
	C.V. %	7.8	11.4	8.5	6.6	10.4
	Replications	2	3	2	2	2
	Row spacing (in.)	30	30	30	30	30

2020 SCN UNIFORM TEST II

Yield (rank)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	15	14	16	11	17
2	LD02-4485 (SCN)	3	5	7	6	6
3	U11-917032 (SCN)	17	17	10	2	14
4	U14-910097 (SCN)	2	4	1	8	2
5	E15339	13	13	13	9	7
6	E15345	6	18	15	1	16
7	E15351	15	7	11	10	10
8	E17069	4	9	17	17	8
9	E17203	12	12	5	5	4
10	E17269	9	10	4	3	18
11	E17283	18	15	12	16	3
12	LD15-5170a	14	11	6	14	5
13	LD15-6268	11	8	18	18	15
14	LD15-6280	4	6	14	4	12
15	LD16-4766a	8	2	3	15	11
16	LD16-4852	7	3	8	12	9
17	LD16-6557	10	16	9	13	13
18	U14-925152	1	1	2	7	1

2020 SCN UNIFORM TEST II

Maturity

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	9/19		9/25	9/07	9/19
2	LD02-4485 (SCN)	1		4	0	1
3	U11-917032 (SCN)	-8		-5	-2	-4
4	U14-910097 (SCN)	11		9	5	10
5	E15339	2		1	3	2
6	E15345	5		8	7	5
7	E15351	-2		1	3	0
8	E17069	10		6	8	9
9	E17203	2		5	3	1
10	E17269	-2		4	2	2
11	E17283	4		8	10	9
12	LD15-5170a	9		4	6	8
13	LD15-6268	0		1	3	5
14	LD15-6280	4		2	5	5
15	LD16-4766a	2		5	5	6
16	LD16-4852	5		5	6	8
17	LD16-6557	6		9	6	9
18	U14-925152	10		6	7	7
	Planted	6/03	5/03	6/09	5/20	6/02

2020 SCN UNIFORM TEST II

Lodging (score)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	3.0	1.0	3.5	2.5	2.0
2	LD02-4485 (SCN)	2.0	1.0	1.5	2.0	1.5
3	U11-917032 (SCN)	2.3	1.0	1.0	1.0	1.5
4	U14-910097 (SCN)	3.5	1.0	2.0	1.5	2.0
5	E15339	2.8	1.3	2.5	2.5	1.5
6	E15345	3.0	1.0	2.0	1.3	1.0
7	E15351	1.3	1.0	1.5	1.0	1.0
8	E17069	3.5	1.7	3.0	1.0	2.0
9	E17203	1.8	1.0	1.0	1.0	1.0
10	E17269	1.5	1.0	1.0	1.0	1.5
11	E17283	1.0	1.0	1.0	1.0	1.5
12	LD15-5170a	2.8	1.0	1.5	1.0	2.0
13	LD15-6268	1.5	1.0	1.0	1.0	1.0
14	LD15-6280	1.5	1.0	1.0	1.0	1.0
15	LD16-4766a	1.8	1.0	1.5	1.0	1.0
16	LD16-4852	1.5	1.0	1.5	1.0	1.0
17	LD16-6557	1.3	1.0	1.0	1.0	1.0
18	U14-925152	1.8	1.0	1.5	1.0	1.5

2020 SCN UNIFORM TEST II

Height (inches)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	39		34	39	36
2	LD02-4485 (SCN)	37		34	42	38
3	U11-917032 (SCN)	32		30	37	31
4	U14-910097 (SCN)	35		31	37	35
5	E15339	37		34	41	37
6	E15345	37		34	38	35
7	E15351	38		32	38	37
8	E17069	45		34	46	41
9	E17203	35		33	37	36
10	E17269	38		28	37	34
11	E17283	34		27	37	34
12	LD15-5170a	40		31	40	37
13	LD15-6268	37		31	40	32
14	LD15-6280	35		32	38	33
15	LD16-4766a	35		28	36	33
16	LD16-4852	37		33	39	34
17	LD16-6557	33		29	36	31
18	U14-925152	36		33	38	35

2020 SCN UNIFORM TEST II

Seed Weight (g/100)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	13.2		15.5	12.9	14.1
2	LD02-4485 (SCN)	13.2		14.1	12.1	14.1
3	U11-917032 (SCN)	12.6		15.3	13.2	14.4
4	U14-910097 (SCN)	13.3		13.7	11.2	14.4
5	E15339	14.2		14.1	12.4	15.9
6	E15345	13.5		14.4	12.4	15.5
7	E15351	13.1		15.3	13.4	16.0
8	E17069	16.5		17.6	14.0	17.0
9	E17203	13.6		15.7	12.9	14.8
10	E17269	12.5		14.9	12.3	13.9
11	E17283	15.8		18.9	14.5	18.4
12	LD15-5170a	14.5		15.2	12.3	15.9
13	LD15-6268	15.2		16.1	12.6	16.5
14	LD15-6280	14.7		15.9	13.3	15.5
15	LD16-4766a	14.9		16.5	14.0	16.8
16	LD16-4852	12.8		13.9	12.1	15.1
17	LD16-6557	14.6		16.7	13.4	16.1
18	U14-925152	13.5		14.8	11.8	14.5

2020 SCN UNIFORM TEST II

Seed Quality (score)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	3.0		1.0	1.0	1.0
2	LD02-4485 (SCN)	2.0		1.0	1.0	1.0
3	U11-917032 (SCN)	2.0		1.0	1.0	1.5
4	U14-910097 (SCN)	2.0		1.0	1.0	1.0
5	E15339	3.0		1.0	1.0	1.0
6	E15345	3.0		1.0	1.0	1.0
7	E15351	2.0		1.0	1.0	1.0
8	E17069	2.0		1.0	1.0	1.0
9	E17203	3.0		1.0	1.0	1.0
10	E17269	2.0		1.0	1.0	1.0
11	E17283	3.0		1.0	1.0	1.0
12	LD15-5170a	2.0		1.0	1.0	1.0
13	LD15-6268	2.0		1.0	1.0	1.0
14	LD15-6280	2.0		1.0	1.0	1.0
15	LD16-4766a	2.0		1.0	1.0	1.5
16	LD16-4852	2.0		1.0	1.0	1.5
17	LD16-6557	2.0		1.0	1.0	1.5
18	U14-925152	2.0		1.0	1.0	1.0

2020 SCN UNIFORM TEST II

Protein (%)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	33.1		32.7		31.3
2	LD02-4485 (SCN)	31.6		30.9		32.7
3	U11-917032 (SCN)	34.0		30.2		33.2
4	U14-910097 (SCN)	30.0		32.1		31.4
5	E15339	30.6		32.2		33.4
6	E15345	32.2		31.3		32.2
7	E15351	32.0		31.6		31.9
8	E17069	33.7		35.1		33.0
9	E17203	32.8		32.4		32.9
10	E17269	31.1		32.5		31.9
11	E17283	32.5		34.2		34.2
12	LD15-5170a	31.4		32.9		32.8
13	LD15-6268	34.2		35.0		35.0
14	LD15-6280	33.2		35.0		33.6
15	LD16-4766a	32.6		33.1		33.3
16	LD16-4852	30.0		30.9		32.5
17	LD16-6557	31.4		32.9		33.6
18	U14-925152	32.0		32.7		32.6

2020 SCN UNIFORM TEST II

Oil (%)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE	West Lafayette IN
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7	NI
	Strain					
1	IA2102	19.9		20.0		21.2
2	LD02-4485 (SCN)	20.1		19.5		19.4
3	U11-917032 (SCN)	20.8		22.1		21.2
4	U14-910097 (SCN)	21.2		20.8		20.7
5	E15339	21.0		19.8		19.9
6	E15345	20.8		19.9		20.3
7	E15351	20.3		20.8		20.3
8	E17069	19.8		20.3		20.3
9	E17203	20.4		20.2		20.3
10	E17269	20.6		18.8		20.3
11	E17283	20.2		18.7		19.7
12	LD15-5170a	20.1		19.5		19.7
13	LD15-6268	19.8		18.5		18.9
14	LD15-6280	21.2		19.0		20.7
15	LD16-4766a	20.4		19.3		20.4
16	LD16-4852	20.7		20.7		20.2
17	LD16-6557	20.6		20.2		19.7
18	U14-925152	20.6		20.3		21.2

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2020 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	E16915	PGibl	E13902 x E13367
6	E18012	PGibl	E07051 x E13364
7	E18015	P+Wy	IA2102 x E11128T
8	E18024T	PGy	LD01-7323 x E11128T
9	E18073	PGibl	E06167 x E07051 x E07051 x E06380
10	E18433	PGibl	E13364 x U06-814223R
11	E18580	PGibl	E07051 x E13364
12	E18610T	WGy	IA2102 x E11128T
13	E18638T	P+Wy	E11128T x IA2102
14	LD17-2542	WGbf	U11-614119 x LD09-30224
15	LD17-2558	PGibl	U11-614119 x LD09-30224
16	LD17-2903	P+WLtbl	U11-614119 x LD09-30224
17	LD17-2967a	PLtbl	U11-614119 x LD09-30224
18	LD17-3185a	PLtbl/br	LD10-5213a x LD10-10219
19	LD17-6035	WT+Ltbl	U11-614119 x LD14-8003
20	LD17-6036a	WGbf	U11-614119 x LD14-8003
21	LD17-6351	WT+Gbl/bf	U11-932025 x LD10-5213a
22	LD17-6422a	PGibl	U11-932025 x LD10-5213a
23	LD18-235	PGibl/g	LD10-10198 x U11-917032
24	LD18-249	PLtbl	LD10-10198 x U11-917032
25	U18-613249	PGy	LD10-10198 x U11-911079
26	U18-615261	PLtbl	LD12-3903 x U11-911079
27	U18-615268	PLtbl	LD12-3903 x U11-911079
28	U18-617265	PLtbl	LD12-3903 x U11-917032
29	U18-913021	PGibl	LD10-10198 x U11-911079
30	U18-915056	PLtbl	LD10-10198 x U11-911079
31	U18-917042	PGibl	LD10-10198 x U11-911079
32	U18-917054	PLtbl	LD10-10198 x U11-911079

2020 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	E16915	F5	PI 88788	Rps1
6	E18012	F5	PI 88788	Rps1
7	E18015	F5	PI 88788	Rps1
8	E18024T	F5	PI 88788	Rps1
9	E18073	F5	PI 88788	Rps1
10	E18433	F5	PI 88788	Rps1
11	E18580	F5	PI 88788	Rps1
12	E18610T	F5	PI 88788	Rps1, protein
13	E18638T	F5	PI 88788	Rps1
14	LD17-2542	F5	PI 88788	
15	LD17-2558	F5	PI 88788	
16	LD17-2903	F5	PI 88788	
17	LD17-2967a	F5	PI 88788	Rag 1
18	LD17-3185a	F5	PI 88788	Rag 2
19	LD17-6035	F5	PI 88788	
20	LD17-6036a	F5	PI 88788	Rag 1+2
21	LD17-6351	F5	PI 88788	
22	LD17-6422a	F5	PI 88788	
23	LD18-235	F5	PI 88788	
24	LD18-249	F5	PI 88788	
25	U18-613249	F5	PI 88788	
26	U18-615261	F5	PI 88788	
27	U18-615268	F5	PI 88788	
28	U18-617265	F5	PI 88788	
29	U18-913021	F5	PI 88788	
30	U18-915056	F5	PI 88788	
31	U18-917042	F5	PI 88788	
32	U18-917054	F5	PI 88788	

2020 SCN PRELIMINARY TEST II

		IL SCN screen				NE
		HG Type 0		HG Type 2.5.7		Gall midge
	Strain	FI	rating	FI	rating	score
1	IA2102	33	MR	73	NR	3.0
2	LD02-4485 (SCN)	9	HR	72	NR	2.0
3	U11-917032 (SCN)	11	R	73	NR	2.0
4	U14-910097 (SCN)	2	HR	2	HR	2.0
5	E16915	37	MR	47	LR	1.5
6	E18012	76	NR	88	NR	1.5
7	E18015	25	MR	73	NR	3.0
8	E18024T	6	HR	55	LR	2.0
9	E18073	57	LR	83	NR	2.0
10	E18433	50	LR	65	NR	5.5
11	E18580	89	NR	99	NR	2.5
12	E18610T	34	MR	78	NR	6.0
13	E18638T	33	MR	49	LR	3.5
14	LD17-2542	4	HR	42	LR	2.5
15	LD17-2558	4	HR	48	LR	1.0
16	LD17-2903	4	HR	56	LR	1.0
17	LD17-2967a	5	HR	46	LR	1.0
18	LD17-3185a	15	R	89	NR	1.0
19	LD17-6035	14	R	62	NR	1.0
20	LD17-6036a	39	MR	68	NR	1.0
21	LD17-6351	20	R	57	LR	2.0
22	LD17-6422a	12	R	50	LR	2.5
23	LD18-235	55	NR	83	NR	0.0
24	LD18-249	48	LR	71	NR	1.0
25	U18-613249	14	R	57	LR	3.0
26	U18-615261	17	R	48	LR	2.0
27	U18-615268	12	R	71	NR	2.5
28	U18-617265	4	HR	49	LR	0.0
29	U18-913021	11	R	75	NR	1.5
30	U18-915056	8	HR	49	LR	1.0
31	U18-917042	13	R	60	NR	0.0
32	U18-917054	15	R	71	NR	1.0

2020 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	**4**		4		0		3	4	4	3	3	2	2
1	IA2102	**48.4**	**25**	48.4	25			9/16	2.6	37	13.9	1.3	33.3	19.8
2	LD02-4485 (SCN)	**53.7**	**8**	53.7	8			1	2.1	37	13.2	1.7	31.7	19.7
3	U11-917032 (SCN)	**51.0**	**17**	51.0	17			-4	1.9	32	13.5	1.7	31.9	21.7
4	U14-910097 (SCN)	**58.8**	**1**	58.8	1			7	2.2	34	12.7	1.3	31.5	20.8
5	E16915	**47.0**	**27**	47.0	27			3	1.3	35	15.0	1.3	32.4	19.7
6	E18012	**43.7**	**31**	43.7	31			2	1.1	33	13.8	1.3	32.1	20.1
7	E18015	**48.9**	**23**	48.9	23			3	1.8	33	16.7	1.3	32.6	19.4
8	E18024T	**49.0**	**22**	49.0	22			3	1.8	35	15.7	1.7	33.8	19.1
9	E18073	**43.9**	**30**	43.9	30			4	1.4	36	15.1	1.3	33.1	21.1
10	E18433	**47.0**	**26**	47.0	26			3	2.4	35	14.3	1.7	32.7	20.6
11	E18580	**44.8**	**28**	44.8	28			1	1.3	34	14.2	1.3	32.9	20.3
12	E18610T	**43.9**	**29**	43.9	29			0	2.7	34	16.3	1.3	34.6	19.3
13	E18638T	**43.3**	**32**	43.3	32			-2	1.6	33	15.2	1.3	33.3	20.1
14	LD17-2542	**55.1**	**5**	55.1	5			6	1.7	36	14.3	1.3	31.4	20.2
15	LD17-2558	**52.2**	**15**	52.2	15			6	1.8	37	14.6	1.3	31.3	20.0
16	LD17-2903	**54.1**	**6**	54.1	6			-2	1.8	34	14.3	1.3	31.6	21.1
17	LD17-2967a	**57.1**	**3**	57.1	3			4	1.5	36	13.6	1.3	31.7	20.0
18	LD17-3185a	**52.6**	**12**	52.6	12			5	1.5	35	14.0	1.3	32.4	19.3
19	LD17-6035	**53.8**	**7**	53.8	7			1	1.2	36	12.9	1.3	29.9	21.5
20	LD17-6036a	**55.3**	**4**	55.3	4			3	1.6	36	14.2	1.3	31.3	20.2
21	LD17-6351	**50.1**	**20**	50.1	20			-3	1.0	32	14.5	1.3	33.8	21.2
22	LD17-6422a	**49.9**	**21**	49.9	21			-3	1.4	29	15.3	1.3	32.4	21.2
23	LD18-235	**53.7**	**8**	53.7	8			2	1.3	36	11.2	1.0	32.3	19.1
24	LD18-249	**50.3**	**19**	50.3	19			0	1.6	36	13.8	1.3	32.7	20.0
25	U18-613249	**51.6**	**16**	51.6	16			8	1.4	40	12.0	1.7	32.0	19.4
26	U18-615261	**52.4**	**13**	52.4	13			7	1.1	35	12.1	1.3	31.2	20.0
27	U18-615268	**48.6**	**24**	48.6	24			4	1.3	35	13.1	1.3	33.4	19.5
28	U18-617265	**53.5**	**10**	53.5	10			9	1.1	35	13.3	1.3	31.3	21.4
29	U18-913021	**51.0**	**17**	51.0	17			1	1.3	38	11.3	1.3	31.8	19.4
30	U18-915056	**57.5**	**2**	57.5	2			8	1.3	38	12.4	1.3	32.5	19.5
31	U18-917042	**52.3**	**14**	52.3	14			-2	1.0	34	11.1	1.3	31.4	20.3
32	U18-917054	**53.2**	**11**	53.2	11			-1	1.0	32	11.9	1.3	31.1	20.6
	Mean	**50.9**		50.9				2.4	1.6	34.9	13.7	1.4	32.3	20.2
	LSD(.05)	**4.2**		4.2										
	C.V. %	**10.2**		10.2										
	Replications	**9**		9										

2020 SCN PRELIMINARY TEST II
Yield (bu/a)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	53.6	32.5	43.7	66.9
2	LD02-4485 (SCN)	55.3	38.5	53.8	70.2
3	U11-917032 (SCN)	51.9	29.7	62.5	63.9
4	U14-910097 (SCN)	61.5	42.1	77.4	57.4
5	E16915	51.8	30.2	52.1	56.9
6	E18012	49.8	20.3	53.0	54.7
7	E18015	58.4	34.9	45.0	60.4
8	E18024T	50.4	31.8	51.9	64.8
9	E18073	54.0	19.5	54.1	51.8
10	E18433	56.5	27.4	47.4	59.8
11	E18580	48.4	.	48.7	56.4
12	E18610T	52.0	27.3	38.3	61.0
13	E18638T	51.3	29.4	33.2	62.6
14	LD17-2542	60.2	34.7	63.9	64.7
15	LD17-2558	59.8	35.4	51.5	65.4
16	LD17-2903	56.3	34.2	61.3	67.9
17	LD17-2967a	60.5	39.0	70.2	61.8
18	LD17-3185a	57.5	34.7	60.8	60.4
19	LD17-6035	61.2	28.7	61.6	66.6
20	LD17-6036a	58.3	35.8	64.4	65.9
21	LD17-6351	53.6	33.7	51.2	65.1
22	LD17-6422a	55.1	30.3	50.2	67.2
23	LD18-235	57.6	22.2	76.6	61.6
24	LD18-249	57.2	16.0	67.4	63.5
25	U18-613249	56.3	39.1	58.9	55.4
26	U18-615261	58.7	35.8	58.8	59.3
27	U18-615268	50.0	33.9	52.0	61.5
28	U18-617265	55.5	36.9	68.3	56.6
29	U18-913021	54.7	32.4	57.7	62.2
30	U18-915056	59.3	39.3	66.7	67.9
31	U18-917042	50.4	30.1	59.9	71.8
32	U18-917054	54.8	31.2	63.7	66.0
	Average	55.3	31.8	57.1	62.4
	LSD(.05)	6.7	8.5	19.4	10.4
	C.V. %	5.9	13.6	13.8	6.8
	Replications	2	3	2	2
	Row width (in.)	30	30	30	30

2020 SCN PRELIMINARY TEST II

Yield (rank)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	22	16	30	6
2	LD02-4485 (SCN)	17	5	19	2
3	U11-917032 (SCN)	25	23	10	14
4	U14-910097 (SCN)	1	1	1	26
5	E16915	26	21	21	27
6	E18012	31	29	20	31
7	E18015	8	10	29	22
8	E18024T	28	18	23	12
9	E18073	21	30	18	32
10	E18433	13	26	28	24
11	E18580	32	32	27	29
12	E18610T	24	27	31	21
13	E18638T	27	24	32	16
14	LD17-2542	4	11	8	13
15	LD17-2558	5	9	24	10
16	LD17-2903	14	13	12	3
17	LD17-2967a	3	4	3	18
18	LD17-3185a	11	12	13	23
19	LD17-6035	2	25	11	7
20	LD17-6036a	9	7	7	9
21	LD17-6351	22	15	25	11
22	LD17-6422a	18	20	26	5
23	LD18-235	10	28	2	19
24	LD18-249	12	31	5	15
25	U18-613249	14	3	15	30
26	U18-615261	7	8	16	25
27	U18-615268	30	14	22	20
28	U18-617265	16	6	4	28
29	U18-913021	20	17	17	17
30	U18-915056	6	2	6	4
31	U18-917042	28	22	14	1
32	U18-917054	19	19	9	8

2020 SCN PRELIMINARY TEST II

Maturity

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	9/18		9/26	9/05
2	LD02-4485 (SCN)	1		1	2
3	U11-917032 (SCN)	-6		-3	-3
4	U14-910097 (SCN)	12		6	3
5	E16915	2		5	1
6	E18012	0		5	1
7	E18015	4		4	2
8	E18024T	5		2	3
9	E18073	3		4	5
10	E18433	2		7	1
11	E18580	-2		2	2
12	E18610T	1		-1	1
13	E18638T	-3		-2	0
14	LD17-2542	5		6	7
15	LD17-2558	5		9	3
16	LD17-2903	-2		-3	-1
17	LD17-2967a	4		2	5
18	LD17-3185a	5		8	2
19	LD17-6035	1		1	2
20	LD17-6036a	2		4	4
21	LD17-6351	-5		-3	-2
22	LD17-6422a	-4		-3	-1
23	LD18-235	2		0	3
24	LD18-249	0		-1	2
25	U18-613249	10		8	6
26	U18-615261	8		10	4
27	U18-615268	4		6	1
28	U18-617265	8		10	8
29	U18-913021	0		4	0
30	U18-915056	8		8	7
31	U18-917042	-5		-3	1
32	U18-917054	-2		-1	1
	Planted	6/03	5/03	6/09	5/20

2020 SCN PRELIMINARY TEST II

Lodging (score)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	2.5	1.0	3.5	3.3
2	LD02-4485 (SCN)	2.3	1.0	3.0	2.0
3	U11-917032 (SCN)	2.5	1.0	3.0	1.0
4	U14-910097 (SCN)	3.3	1.0	3.0	1.5
5	E16915	1.3	1.0	2.0	1.0
6	E18012	1.3	1.0	1.0	1.0
7	E18015	2.0	1.0	3.0	1.0
8	E18024T	2.5	1.0	2.0	1.8
9	E18073	1.8	1.0	2.0	1.0
10	E18433	2.5	1.0	3.5	2.5
11	E18580	1.3	1.0	2.0	1.0
12	E18610T	3.3	1.0	4.0	2.5
13	E18638T	1.8	1.0	1.5	2.3
14	LD17-2542	2.0	1.0	2.5	1.3
15	LD17-2558	2.0	1.0	3.0	1.0
16	LD17-2903	1.8	1.0	3.5	1.0
17	LD17-2967a	1.5	1.0	2.5	1.0
18	LD17-3185a	2.0	1.0	2.0	1.0
19	LD17-6035	1.8	1.0	1.0	1.0
20	LD17-6036a	1.5	1.0	3.0	1.0
21	LD17-6351	1.0	1.0	1.0	1.0
22	LD17-6422a	1.5	1.0	2.0	1.0
23	LD18-235	1.0	1.0	2.0	1.0
24	LD18-249	2.0	1.0	2.5	1.0
25	U18-613249	1.8	1.0	2.0	1.0
26	U18-615261	1.3	1.0	1.0	1.0
27	U18-615268	1.3	1.0	2.0	1.0
28	U18-617265	1.3	1.0	1.0	1.0
29	U18-913021	1.5	1.0	1.5	1.0
30	U18-915056	1.5	1.0	1.5	1.0
31	U18-917042	1.0	1.0	1.0	1.0
32	U18-917054	1.0	1.0	1.0	1.0

2020 SCN PRELIMINARY TEST II

Height (inches)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	39	33	34	42
2	LD02-4485 (SCN)	38	35	36	41
3	U11-917032 (SCN)	34	29	31	36
4	U14-910097 (SCN)	36	30	32	37
5	E16915	38	32	32	40
6	E18012	34	26	32	42
7	E18015	35	29	29	39
8	E18024T	36	33	33	39
9	E18073	41	29	34	43
10	E18433	38	29	34	38
11	E18580	35	36	28	37
12	E18610T	36	31	32	39
13	E18638T	38	29	30	37
14	LD17-2542	37	32	34	41
15	LD17-2558	39	33	35	41
16	LD17-2903	36	31	32	38
17	LD17-2967a	37	32	35	40
18	LD17-3185a	35	31	33	41
19	LD17-6035	40	32	33	39
20	LD17-6036a	38	33	34	39
21	LD17-6351	35	26	32	35
22	LD17-6422a	31	24	29	33
23	LD18-235	38	30	35	40
24	LD18-249	39	29	36	42
25	U18-613249	44	35	37	46
26	U18-615261	37	29	34	40
27	U18-615268	38	30	33	39
28	U18-617265	37	28	33	42
29	U18-913021	39	35	35	43
30	U18-915056	40	32	40	42
31	U18-917042	35	31	32	37
32	U18-917054	34	28	29	37

2020 SCN PRELIMINARY TEST II

Seed Weight (g/100)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	12.8		16.3	12.6
2	LD02-4485 (SCN)	12.6		14.5	12.4
3	U11-917032 (SCN)	12.7		15.4	12.4
4	U14-910097 (SCN)	13.1		14.3	10.7
5	E16915	14.5		17.4	13.0
6	E18012	12.7		16.6	12.0
7	E18015	16.0		19.3	14.9
8	E18024T	15.9		17.2	13.9
9	E18073	15.5		16.4	13.3
10	E18433	13.2		17.3	12.4
11	E18580	12.9		17.1	12.7
12	E18610T	15.9		18.5	14.5
13	E18638T	14.0		16.9	14.7
14	LD17-2542	14.3		15.7	12.9
15	LD17-2558	14.7		16.5	12.6
16	LD17-2903	13.9		15.4	13.5
17	LD17-2967a	14.0		14.9	11.8
18	LD17-3185a	14.6		16.5	11.0
19	LD17-6035	13.2		13.9	11.7
20	LD17-6036a	13.5		16.5	12.6
21	LD17-6351	14.8		15.6	13.1
22	LD17-6422a	15.5		16.2	14.2
23	LD18-235	10.9		12.6	10.2
24	LD18-249	13.2		15.4	12.8
25	U18-613249	12.2		13.6	10.2
26	U18-615261	11.7		14.1	10.5
27	U18-615268	12.6		14.9	11.9
28	U18-617265	12.9		15.3	11.7
29	U18-913021	10.9		12.9	10.2
30	U18-915056	12.6		13.6	11.0
31	U18-917042	10.3		11.7	11.3
32	U18-917054	11.5		13.1	11.2

2020 SCN PRELIMINARY TEST II

Seed Quality (score)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	2.0		1.0	1.0
2	LD02-4485 (SCN)	3.0		1.0	1.0
3	U11-917032 (SCN)	3.0		1.0	1.0
4	U14-910097 (SCN)	2.0		1.0	1.0
5	E16915	2.0		1.0	1.0
6	E18012	2.0		1.0	1.0
7	E18015	2.0		1.0	1.0
8	E18024T	3.0		1.0	1.0
9	E18073	2.0		1.0	1.0
10	E18433	3.0		1.0	1.0
11	E18580	2.0		1.0	1.0
12	E18610T	2.0		1.0	1.0
13	E18638T	2.0		1.0	1.0
14	LD17-2542	2.0		1.0	1.0
15	LD17-2558	2.0		1.0	1.0
16	LD17-2903	2.0		1.0	1.0
17	LD17-2967a	2.0		1.0	1.0
18	LD17-3185a	2.0		1.0	1.0
19	LD17-6035	2.0		1.0	1.0
20	LD17-6036a	2.0		1.0	1.0
21	LD17-6351	2.0		1.0	1.0
22	LD17-6422a	2.0		1.0	1.0
23	LD18-235	1.0		1.0	1.0
24	LD18-249	2.0		1.0	1.0
25	U18-613249	3.0		1.0	1.0
26	U18-615261	2.0		1.0	1.0
27	U18-615268	2.0		1.0	1.0
28	U18-617265	2.0		1.0	1.0
29	U18-913021	2.0		1.0	1.0
30	U18-915056	2.0		1.0	1.0
31	U18-917042	2.0		1.0	1.0
32	U18-917054	2.0		1.0	1.0

2020 SCN PRELIMINARY TEST II

Protein (%)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	33.2		33.4	
2	LD02-4485 (SCN)	30.8		32.6	
3	U11-917032 (SCN)	32.8		30.9	
4	U14-910097 (SCN)	31.0		31.9	
5	E16915	32.1		32.7	
6	E18012	31.6		32.6	
7	E18015	31.6		33.6	
8	E18024T	34.2		33.4	
9	E18073	32.6		33.5	
10	E18433	32.5		32.9	
11	E18580	31.7		34.2	
12	E18610T	34.5		34.8	
13	E18638T	32.4		34.2	
14	LD17-2542	30.5		32.2	
15	LD17-2558	30.5		32.1	
16	LD17-2903	32.1		31.2	
17	LD17-2967a	31.8		31.6	
18	LD17-3185a	32.0		32.7	
19	LD17-6035	30.2		29.5	
20	LD17-6036a	30.6		32.0	
21	LD17-6351	33.4		34.3	
22	LD17-6422a	33.0		31.8	
23	LD18-235	31.8		32.8	
24	LD18-249	32.7		32.6	
25	U18-613249	.		32.9	
26	U18-615261	29.9		32.5	
27	U18-615268	33.4		33.3	
28	U18-617265	30.6		31.9	
29	U18-913021	31.6		32.0	
30	U18-915056	32.2		32.8	
31	U18-917042	31.1		31.8	
32	U18-917054	31.5		30.6	

2020 SCN PRELIMINARY TEST II

Oil (%)

		Pontiac IL	Decatur MI	Lincoln NE	Mead NE
	SCN HG Type	2.5.7	Inf	2.5.7	2.5.7
	Strain				
1	IA2102	20.2		19.4	
2	LD02-4485 (SCN)	20.9		18.5	
3	U11-917032 (SCN)	22.1		21.2	
4	U14-910097 (SCN)	20.9		20.7	
5	E16915	19.4		20.0	
6	E18012	20.9		19.4	
7	E18015	19.6		19.3	
8	E18024T	19.2		19.0	
9	E18073	22.0		20.2	
10	E18433	21.3		19.9	
11	E18580	20.7		19.9	
12	E18610T	19.7		18.9	
13	E18638T	20.6		19.5	
14	LD17-2542	20.7		19.7	
15	LD17-2558	20.7		19.3	
16	LD17-2903	21.0		21.3	
17	LD17-2967a	20.3		19.8	
18	LD17-3185a	19.9		18.7	
19	LD17-6035	21.2		21.8	
20	LD17-6036a	20.9		19.4	
21	LD17-6351	21.7		20.7	
22	LD17-6422a	21.4		21.0	
23	LD18-235	19.0		19.2	
24	LD18-249	20.0		19.9	
25	U18-613249	.		19.3	
26	U18-615261	21.0		19.0	
27	U18-615268	19.3		19.6	
28	U18-617265	21.7		21.1	
29	U18-913021	19.5		19.3	
30	U18-915056	19.3		19.8	
31	U18-917042	20.8		19.7	
32	U18-917054	21.1		20.2	

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2020 SCN UNIFORM TEST III

	Strain	Descriptive code	Parentage	Previous testing
1	LD11-2170 (SCN)	PLtbr	Syngenta 03JR313108 x LD05-3171	4
2	U15-606207	PGbf	LD07-3419 x U09-105007	2
3	LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817	4
4	U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419	1
5	LD15- 456	WLtbl	HM09-W084 x LD10-10226	1
6	LD15- 467	WLtbl	HM09-W084 x LD10-10226	1
7	LD15-1477	WLtbr	WN0902577 x LD07-4477	1
8	LD15-6762	PGbf	WN0902577 x SD08CV-2102	1
9	LD16-6787	WGy	LD07-3419 x LD10-10226	19SCN P III
10	LD16-6886	PGy+ibl	LD07-3419 x LD10-10226	19SCN P III
11	LD16-7669	PLt+Gbl+ibl	LD07-3395 x U09-133021	19SCN P III
12	SA14-9653	PTbl	LD07-4477 x LD02-9050	2
13	SA16-12491	PGibl	LS09-1803 x LD09-10911	19SCN P III

	Strain	Gen comp	SCN res source	Traits
1	LD11-2170 (SCN)	F5	PI 88788	
2	U15-606207	F5	PI 88788,437654	Rps
3	LD07-3395bf (SCN)	F5	PI 88788,437654	
4	U14-910097 (SCN)	F5	PI 88788,437654	
5	LD15- 456	F5	PI 88788	
6	LD15- 467	F5	PI 88788	
7	LD15-1477	F5	PI 88788	
8	LD15-6762	F5	PI 88788	
9	LD16-6787	F5	PI 88788,437654	
10	LD16-6886	F5	PI 88788,437654	
11	LD16-7669	F5	PI 88788,437654	
12	SA14-9653	F4	PI 88788	
13	SA16-12491	F5	PI 88788	

2020 SCN UNIFORM TEST III

		IL SCN screen				NE
		HG Type 0		HG Type 2.5.7		Gall midge
	Strain	FI	rating	FI	rating	score
1	LD11-2170 (SCN)	27	MR	80	NR	0.0
2	U15-606207	5	HR	1	HR	1.0
3	LD07-3395bf (SCN)	17	R	12	R	0.0
4	U14-910097 (SCN)	2	HR	2	HR	1.0
5	LD15- 456	25	MR	65	NR	1.5
6	LD15- 467	9	HR	55	LR	2.0
7	LD15-1477	6	HR	61	NR	1.5
8	LD15-6762	26	MR	90	NR	1.0
9	LD16-6787	4	HR	48	LR	0.0
10	LD16-6886	14	R	11	R	0.0
11	LD16-7669	18	R	21	R	0.0
12	SA14-9653	24	R	89	NR	0.0
13	SA16-12491	39	MR	69	NR	0.0

2020 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**		5*		1		6	6	5	5	5	5	5
1	LD11-2170 (SCN)	**71.0**	**4**	70.8	3	72.6	3	9/27	1.1	33	15.8	1.0	32.5	21.0
2	U15-606207	**69.5**	**6**	69.8	6	68.6	4	1	1.1	33	14.9	1.2	31.4	20.7
3	LD07-3395bf (SCN)	**71.4**	**3**	70.6	4	76.1	1	3	1.2	31	15.1	1.4	30.7	21.1
4	U14-910097 (SCN)	**69.6**	**5**	69.1	7	72.8	2	0	1.9	32	14.3	1.4	31.6	21.2
5	LD15- 456	**66.9**	**8**	68.6	8	59.3	11	-2	1.4	33	16.0	1.4	33.2	20.7
6	LD15- 467	**66.2**	**10**	67.8	10	59.0	12	-2	1.2	33	16.3	1.4	33.4	20.4
7	LD15-1477	**65.6**	**11**	65.4	11	66.9	5	-1	1.3	35	13.5	1.4	33.4	20.3
8	LD15-6762	**72.1**	**2**	73.8	2	64.0	7	2	1.3	36	14.4	1.4	33.4	20.0
9	LD16-6787	**73.4**	**1**	75.2	1	65.0	6	3	1.0	35	14.7	1.2	32.4	19.2
10	LD16-6886	**68.8**	**7**	70.5	5	61.0	9	-1	1.1	31	16.7	1.2	32.0	20.9
11	LD16-7669	**66.9**	**8**	68.4	9	59.5	10	2	1.1	37	12.5	1.3	32.1	20.2
12	SA14-9653	**62.9**	**12**	64.9	12	53.5	13	4	1.5	34	15.9	1.2	33.8	19.2
13	SA16-12491	**60.7**	**13**	60.4	13	62.2	8	2	1.8	36	12.3	1.4	32.2	19.4
	Mean	**68.1**		68.9		64.6		0.9	1.3	33.8	14.8	1.3	32.5	20.3
	LSD(.05)	**4.7**		5.3		12.7								
	C.V. %	**10.5**		10.6		9.0								
	Replications	**14**		12		2								

*Arthur, IL yield data not included in means

2020 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	**12**		9		3		12	12	10	11	11	10	10
1	LD11-2170 (SCN)	**66.0**	**4**	69.3	3	55.9	4	9/28	1.2	30.8	15.5	1.4	33.6	19.7
2	U15-606207	**67.1**	**2**	70.7	2	56.5	3	2	1.2	31.7	15.5	1.6	32.3	19.4
3	LD07-3395bf (SCN)	**65.8**	**5**	68.4	5	57.8	1	4	1.2	29.9	15.8	1.7	31.7	19.9
4	U14-910097 (SCN)	**66.2**	**3**	69.2	4	57.1	2	-1	1.8	29.8	14.8	1.5	32.5	20.0
5	LD15- 456	**63.8**	**6**	67.6	6	52.2	7	-1	1.4	31.1	16.4	1.7	34.0	19.5
6	LD15- 467	**63.6**	**7**	67.5	7	51.6	9	-1	1.3	31.2	16.9	1.7	34.2	19.4
7	LD15-1477	**63.3**	**9**	67.0	8	51.8	8	0	1.3	33.4	14.6	1.5	34.2	19.1
8	LD15-6762	**67.4**	**1**	71.5	1	55.1	6	1	1.4	34.2	15.3	1.6	34.3	19.0
12	SA14-9653	**63.3**	**8**	66.0	9	55.2	5	4	1.7	33.5	16.3	1.5	34.6	18.2
	Mean	**65.2**		68.6		54.8		1.0	1.4	31.7	15.7	1.6	33.5	19.4

2020 SCN UNIFORM TEST III

Yield (bu/a)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	87.4	85.2	57.9	57.5	80.1	73.5	72.6
2	U15-606207	59.9	93.7	56.7	51.6	80.7	66.9	68.6
3	LD07-3395bf (SCN)	64.4	84.0	67.0	50.2	80.6	70.6	76.1
4	U14-910097 (SCN)	75.8	86.8	67.5	56.5	72.6	62.3	72.8
5	LD15- 456	52.9	70.4	67.2	52.7	87.9	66.3	59.3
6	LD15- 467	60.5	80.2	66.2	53.5	65.8	73.8	59.0
7	LD15-1477	51.3	74.4	55.9	55.7	73.7	69.6	66.9
8	LD15-6762	64.1	82.8	67.5	60.2	88.8	70.3	64.0
9	LD16-6787	55.7	86.0	65.6	60.8	82.8	81.2	65.0
10	LD16-6886	61.9	88.4	62.4	53.2	72.3	76.4	61.0
11	LD16-7669	71.6	81.6	61.9	55.7	70.8	72.6	59.5
12	SA14-9653	77.2	71.8	60.2	51.9	71.0	69.7	53.5
13	SA16-12491	62.8	57.6	58.9	57.2	65.1	65.6	62.2
	Average	65.0	80.2	62.7	55.1	76.3	70.7	64.6
	LSD(.05)	28.4	17.4	6.9	13.6	18.2	11.2	12.7
	C.V. %	20.1	9.9	6.5	14.7	9.6	5.9	9.0
	Replications	2	2	3	3	2	2	2
	Row width (in.)	30	30	30	30	30	30	30

2020 SCN UNIFORM TEST III

Yield (rank)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	1	5	11	3	6	4	3
2	U15-606207	10	1	12	12	4	10	4
3	LD07-3395bf (SCN)	5	6	4	13	5	6	1
4	U14-910097 (SCN)	3	3	1	5	8	13	2
5	LD15- 456	12	12	3	10	2	11	11
6	LD15- 467	9	9	5	8	12	3	12
7	LD15-1477	13	10	13	7	7	9	5
8	LD15-6762	6	7	1	2	1	7	7
9	LD16-6787	11	4	6	1	3	1	6
10	LD16-6886	8	2	7	9	9	2	9
11	LD16-7669	4	8	8	6	11	5	10
12	SA14-9653	2	11	9	11	10	8	13
13	SA16-12491	7	13	10	4	13	12	8

Maturity

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	9/21	9/26	9/24	9/29		10/05	9/27
2	U15-606207	-1	1	0	4		3	0
3	LD07-3395bf (SCN)	5	2	4	4		4	2
4	U14-910097 (SCN)	2	-5	0	3		-1	-2
5	LD15- 456	-4	-2	0	1		-1	-4
6	LD15- 467	-4	-3	0	1		-1	-4
7	LD15-1477	-4	-2	0	2		-1	-3
8	LD15-6762	2	3	0	3		0	2
9	LD16-6787	5	2	1	4		4	3
10	LD16-6886	-4	-2	0	3		1	-3
11	LD16-7669	3	2	0	5		4	1
12	SA14-9653	4	3	3	3		6	3
13	SA16-12491	1	-2	0	5		5	2
	Planted	5/12	5/27	6/08	6/03	6/19	6/09	6/02

2020 SCN UNIFORM TEST III

Lodging (score)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	1.0	1.5	1.0	1.3		1.0	1.0
2	U15-606207	1.0	1.0	1.0	1.5		1.0	1.0
3	LD07-3395bf (SCN)	1.3	1.0	1.0	1.5		1.0	1.5
4	U14-910097 (SCN)	1.8	3.0	1.3	1.7		2.0	1.5
5	LD15- 456	1.0	2.5	1.0	1.5		1.5	1.0
6	LD15- 467	1.0	1.5	1.0	1.5		1.0	1.0
7	LD15-1477	1.0	1.5	1.0	1.5		1.5	1.0
8	LD15-6762	1.5	1.0	1.0	1.5		2.0	1.0
9	LD16-6787	1.0	1.0	1.0	1.2		1.0	1.0
10	LD16-6886	1.0	1.0	1.0	1.3		1.0	1.0
11	LD16-7669	1.3	1.0	1.0	1.5		1.0	1.0
12	SA14-9653	2.8	1.5	1.0	1.5		1.0	1.5
13	SA16-12491	1.5	3.0	1.7	1.5		1.5	1.5

Height (inches)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE	West Lafayette IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	40		36	25		33	32
2	U15-606207	39		37	25		30	34
3	LD07-3395bf (SCN)	33		36	23		33	33
4	U14-910097 (SCN)	36		35	26		31	34
5	LD15- 456	38		37	25		34	31
6	LD15- 467	37		37	26		35	33
7	LD15-1477	39		39	28		35	37
8	LD15-6762	41		40	27		36	37
9	LD16-6787	37		38	28		37	34
10	LD16-6886	35		33	23		35	30
11	LD16-7669	40		41	27		39	38
12	SA14-9653	46		39	27		24	32
13	SA16-12491	40		38	27		37	36

2020 SCN UNIFORM TEST III

Seed Weight (g/100)

		Arthur	Romney	Manhattan	Columbia	Holdrege	Lincoln	West Lafayette
		IL	IN	KS	MO	NE	NE	IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	15.1		15.0	17.4		16.1	15.5
2	U15-606207	13.4		15.0	16.4		15.2	14.4
3	LD07-3395bf (SCN)	14.9		13.0	17.6		15.1	14.8
4	U14-910097 (SCN)	14.5		12.0	16.5		14.2	14.3
5	LD15- 456	14.5		14.0	17.7		17.0	16.8
6	LD15- 467	14.8		14.0	18.5		17.8	16.5
7	LD15-1477	11.7		11.0	15.8		14.9	14.0
8	LD15-6762	12.8		13.0	16.0		15.6	14.8
9	LD16-6787	13.3		13.0	16.5		15.5	15.4
10	LD16-6886	14.9		15.0	18.8		17.8	17.2
11	LD16-7669	12.3		10.0	14.7		13.1	12.2
12	SA14-9653	15.7		13.0	18.1		16.8	15.8
13	SA16-12491	12.0		10.0	14.5		12.4	12.7

Seed Quality (score)

		Arthur	Romney	Manhattan	Columbia	Holdrege	Lincoln	West Lafayette
		IL	IN	KS	MO	NE	NE	IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	1.0		1.0	1.0		1.0	1.0
2	U15-606207	1.0		2.0	1.0		1.0	1.0
3	LD07-3395bf (SCN)	2.0		2.0	1.0		1.0	1.0
4	U14-910097 (SCN)	2.0		2.0	1.0		1.0	1.0
5	LD15- 456	2.0		2.0	1.0		1.0	1.0
6	LD15- 467	2.0		2.0	1.0		1.0	1.0
7	LD15-1477	2.0		2.0	1.0		1.0	1.0
8	LD15-6762	2.0		2.0	1.0		1.0	1.0
9	LD16-6787	1.0		2.0	1.0		1.0	1.0
10	LD16-6886	2.0		1.0	1.0		1.0	1.0
11	LD16-7669	1.0		2.0	1.0		1.0	1.5
12	SA14-9653	1.0		2.0	1.0		1.0	1.0
13	SA16-12491	2.0		2.0	1.0		1.0	1.0

2020 SCN UNIFORM TEST III

Protein (%)

		Arthur	Romney	Manhattan	Columbia	Holdrege	Lincoln	West Lafayette
		IL	IN	KS	MO	NE	NE	IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	32.7		32.5	31.7		31.8	34.1
2	U15-606207	29.8		31.1	33.1		31.6	31.5
3	LD07-3395bf (SCN)	28.8		30.8	32.6		30.6	30.6
4	U14-910097 (SCN)	31.0		31.2	32.7		32.0	31.4
5	LD15- 456	30.7		33.9	33.7		33.1	34.8
6	LD15- 467	31.6		33.1	33.4		34.0	35.0
7	LD15-1477	32.3		33.2	33.6		33.3	34.7
8	LD15-6762	31.1		32.0	33.7		34.7	35.4
9	LD16-6787	30.3		31.7	33.9		33.3	33.0
10	LD16-6886	30.4		31.5	33.0		32.0	33.0
11	LD16-7669	30.3		32.3	32.6		31.8	33.3
12	SA14-9653	33.9		32.6	34.4		33.9	34.4
13	SA16-12491	30.2		31.7	33.1		31.3	34.6

Oil (%)

		Arthur	Romney	Manhattan	Columbia	Holdrege	Lincoln	West Lafayette
		IL	IN	KS	MO	NE	NE	IN
	SCN HG Type	2.5.7	2.5.7	Inf	2.5.7	Inf	2.5.7	NI
	Strain							
1	LD11-2170 (SCN)	21.0		21.3	21.6		20.7	20.3
2	U15-606207	20.9		21.1	20.5		20.4	20.3
3	LD07-3395bf (SCN)	22.2		20.9	21.8		20.2	20.7
4	U14-910097 (SCN)	21.5		21.7	21.7		20.4	20.5
5	LD15- 456	21.4		21.1	20.8		20.3	20.1
6	LD15- 467	20.8		20.8	21.0		18.9	20.5
7	LD15-1477	20.4		20.5	20.9		19.7	19.7
8	LD15-6762	20.7		20.4	20.8		18.7	19.3
9	LD16-6787	20.2		19.1	18.5		19.2	18.9
10	LD16-6886	21.7		21.2	21.5		19.3	20.8
11	LD16-7669	20.7		20.5	20.9		19.9	19.0
12	SA14-9653	18.9		19.8	19.3		18.3	19.5
13	SA16-12491	20.5		20.0	20.0		18.8	17.6

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2020 SCN PRELIMINARY TEST III

	Strain	Descriptive code	Parentage
1	LD11-2170 (SCN)	PLtbr	Syngenta 03JR313108 x LD05-3171
2	U15-606207	PGbf	LD07-3419 x U09-105007
3	LD07-3395bf (SCN)	WGbf	Syngenta WW115926 x LD00-2817
4	U14-910097 (SCN)	PGbf	U09-105007 x LD07-3419
5	CR14-6131	WTbl	LD06-7596 x LS05-3229
6	CR14-8383	PTbr	LD07-3395 x AR09-391017
7	CR17-1724	PTbl	LD00-3309 x L65-1274
8	CR17-1905	PTbl	LD00-3309 x L65-1274
9	LD17-2946a	WLtbl	U11-614119 x LD09-30224
10	LD17-4327a	PGbf	AR10-205011 x LD08-12435a
11	LD17-8668	PGy	E11128T x U09-105007
12	LD17-9766	PLtbr	U11-616086 x LDX11-319-7-108
13	LD17-9906	PGbf	LD11-7311 x LDX11-319-7-134
14	LD17-9973	PT+Ltbr	LD11-7311 x LDX11-319-7-134
15	LD17-10244	PLtbl	LD07-3395bf x U11-920017
16	LD17-10579	PLtbl	LD12-10534 x U11-920017
17	LD17-10640	WLtbl	LD12-10534 x LD10-9168
18	LD17-10786	WLtbr	LD12-10534 x LD11-7311
19	U17-303104	PLtbl	LD09-30224 x U13-905029
20	U17-304114	PLtbl	U11-614093 x LD09-30224
21	U17-306115	PGibl	LD09-30224 x U13-905029
22	U18-617270	PLtbl	LD12-3903 x U11-917032
23	U18-913029	PLtbl	LD10-10198 x U11-911079
24	U18-925025	PLtbl	LD12-3903 x U11-911079
25	U18-932054	PLtbl	LD12-3903 x U11-917032

2020 SCN PRELIMINARY TEST III

	Strain	Gen comp	SCN res source	Traits
1	LD11-2170 (SCN)	F5	PI 88788	
2	U15-606207	F5	PI 88788,437654	Rps
3	LD07-3395bf (SCN)	F5	PI 88788,437654	
4	U14-910097 (SCN)	F5	PI 88788,437654	
5	CR14-6131	F5		ACC
6	CR14-8383	F5		ACC
7	CR17-1724	F5		nod NILS x SCN
8	CR17-1905	F5		nod NILS x SCN
9	LD17-2946a	F5	PI 88788	Rag 1
10	LD17-4327a	F5	PI 88788	
11	LD17-8668	F5	PI 88788	
12	LD17-9766	F5	PI 88788	
13	LD17-9906	F5	PI 88788, soja	
14	LD17-9973	F5	PI 88788	
15	LD17-10244	F5	PI 88788,437654	
16	LD17-10579	F5	PI 88788, soja	
17	LD17-10640	F5	PI 88788, soja	
18	LD17-10786	F5	PI 88788, soja	
19	U17-303104	F5		
20	U17-304114	F5		
21	U17-306115	F5		
22	U18-617270	F5	PI 88788	
23	U18-913029	F5	PI 88788	
24	U18-925025	F5	PI 88788	
25	U18-932054	F5	PI 88788	

2020 SCN PRELIMINARY TEST III

		IL SCN screen				NE
		HG Type 0		HG Type 2.5.7		Gall midge
	Strain	FI	rating	FI	rating	score
1	LD11-2170 (SCN)	27	MR	80	NR	1.0
2	U15-606207	5	HR	1	HR	2.5
3	LD07-3395bf (SCN)	17	R	12	R	0.0
4	U14-910097 (SCN)	2	HR	2	HR	1.0
5	CR14-6131	23	R	38	LR	1.0
6	CR14-8383	4	HR	43	LR	0.0
7	CR17-1724	8	HR	65	NR	0.0
8	CR17-1905	9	HR	67	NR	0.0
9	LD17-2946a	2	HR	77	LR	0.0
10	LD17-4327a	12	R	57	LR	2.5
11	LD17-8668	43	LR	50	LR	1.0
12	LD17-9766	9	HR	27	MR	1.0
13	LD17-9906	9	HR	61	NR	1.0
14	LD17-9973	3	HR	38	MR	0.0
15	LD17-10244	7	HR	13	R	1.0
16	LD17-10579	48	LR	22	R	2.0
17	LD17-10640	23	R	66	LR	1.0
18	LD17-10786	14	R	36	MR	1.0
19	U17-303104	17	R	114	NR	1.5
20	U17-304114	18	R	91	NR	1.0
21	U17-306115	12	R	84	NR	2.0
22	U18-617270	16	R	31	MR	1.0
23	U18-913029	5	HR	49	LR	0.0
24	U18-925025	4	HR	53	LR	1.0
25	U18-932054	30	MR	73	NR	1.5

2020 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	**6**		6		0		5	5	4	4	4	4	4
1	LD11-2170 (SCN)	**74.8**	**2**	74.8	2			9/25	1.2	34	15.0	1.5	32.8	21.3
2	U15-606207	**70.4**	**8**	70.4	8			2	1.3	35	14.5	1.5	30.8	21.1
3	LD07-3395bf (SCN)	**74.6**	**3**	74.6	3			4	1.4	35	15.1	1.5	30.6	21.3
4	U14-910097 (SCN)	**76.1**	**1**	76.1	1			0	2.2	33	14.2	1.3	31.9	21.2
5	CR14-6131	**63.3**	**25**	63.3	25			2	1.3	37	12.7	1.6	32.0	21.0
6	CR14-8383	**68.7**	**14**	68.7	14			2	1.7	37	12.4	1.5	31.7	20.9
7	CR17-1724	**67.9**	**18**	67.9	18			4	1.3	36	12.7	1.6	32.1	19.8
8	CR17-1905	**69.3**	**12**	69.3	12			3	1.1	37	12.3	1.3	32.2	19.6
9	LD17-2946a	**73.2**	**4**	73.2	4			-2	1.6	36	15.0	1.5	34.6	20.3
10	LD17-4327a	**70.1**	**9**	70.1	9			1	1.5	36	16.1	1.5	32.7	20.7
11	LD17-8668	**64.5**	**23**	64.5	23			0	1.6	36	19.1	1.3	35.2	19.6
12	LD17-9766	**71.3**	**6**	71.3	6			2	1.3	36	13.4	1.5	31.7	20.0
13	LD17-9906	**65.5**	**22**	65.5	22			1	1.5	39	14.2	1.5	32.7	19.6
14	LD17-9973	**66.9**	**20**	66.9	20			3	1.4	38	13.9	1.5	31.9	20.1
15	LD17-10244	**67.5**	**19**	67.5	19			2	1.1	34	15.1	1.5	31.5	21.1
16	LD17-10579	**68.6**	**15**	68.6	15			0	1.6	38	17.9	1.8	32.3	20.8
17	LD17-10640	**69.5**	**11**	69.5	11			5	1.7	40	14.9	1.5	31.2	20.7
18	LD17-10786	**71.6**	**5**	71.6	5			3	1.2	37	16.8	1.3	33.3	20.1
19	U17-303104	**66.9**	**21**	66.9	20			0	1.6	36	16.0	1.8	33.0	20.7
20	U17-304114	**69.1**	**13**	69.1	13			1	1.4	35	15.5	1.6	32.9	20.2
21	U17-306115	**68.0**	**17**	68.0	17			1	1.3	33	15.3	1.8	33.1	20.0
22	U18-617270	**70.7**	**7**	70.7	7			3	1.2	34	16.6	1.5	32.9	20.6
23	U18-913029	**69.9**	**10**	69.9	10			-2	1.3	36	13.1	1.3	32.7	20.3
24	U18-925025	**68.1**	**16**	68.1	16			-2	1.1	37	12.8	1.5	33.0	21.2
25	U18-932054	**64.2**	**24**	64.2	24			0	1.1	34	17.9	1.6	33.5	20.7
	Mean	**69.2**		69.2				1.3	1.4	36.0	14.9	1.5	32.5	20.5
	LSD(.05)	**5.0**		5.0										
	C.V. %	**8.9**		8.9										
	Replications	**12**		12										

2020 SCN PRELIMINARY TEST III

Yield (bu/a)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	82.4	86.7	71.5	64.1	71.4	72.8
2	U15-606207	73.9	88.9	73.7	60.0	75.6	50.5
3	LD07-3395bf (SCN)	74.0	82.6	76.7	68.0	83.1	63.5
4	U14-910097 (SCN)	83.6	79.3	73.4	72.0	75.2	73.0
5	CR14-6131	73.0	80.1	63.8	48.6	57.8	56.5
6	CR14-8383	71.2	67.2	67.2	59.9	76.2	70.5
7	CR17-1724	67.9	77.6	76.6	53.1	57.3	74.7
8	CR17-1905	70.4	76.5	74.6	50.3	67.7	76.3
9	LD17-2946a	75.0	78.5	63.1	67.0	79.5	76.1
10	LD17-4327a	82.3	73.6	72.9	61.1	76.5	54.5
11	LD17-8668	77.0	77.7	66.4	44.2	65.8	56.1
12	LD17-9766	69.5	84.6	71.4	60.2	72.8	69.4
13	LD17-9906	67.1	74.7	67.1	53.4	62.7	68.0
14	LD17-9973	64.3	80.7	73.0	61.8	55.8	66.0
15	LD17-10244	64.1	90.4	68.3	60.2	70.2	52.0
16	LD17-10579	72.5	87.6	65.7	54.7	73.0	58.1
17	LD17-10640	58.2	91.4	69.8	64.8	67.7	64.9
18	LD17-10786	85.0	86.7	68.2	55.0	72.7	61.9
19	U17-303104	70.0	77.6	73.0	53.3	65.3	62.2
20	U17-304114	70.7	69.1	71.3	52.0	79.8	71.9
21	U17-306115	63.4	76.2	73.0	66.6	72.9	56.2
22	U18-617270	74.6	85.9	67.6	60.8	65.2	69.9
23	U18-913029	76.1	73.0	65.3	55.3	76.8	72.7
24	U18-925025	65.9	81.4	64.4	67.3	68.5	61.1
25	U18-932054	73.2	63.0	68.0	60.1	60.5	60.2
	Average	72.2	79.7	69.8	58.9	70.0	64.8
	LSD(.05)	16.3	12.1	3.4	10.4	16.9	13.1
	C.V. %	10.9	7.4	2.3	8.5	11.6	9.8
	Replications	2	2	2	2	2	2
	Row width (in.)	30	30	30	30	30	30

2020 SCN PRELIMINARY TEST III

Yield (rank)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	3	5	10	7	13	5
2	U15-606207	10	3	4	14	7	25
3	LD07-3395bf (SCN)	9	9	1	2	1	14
4	U14-910097 (SCN)	2	13	5	1	8	4
5	CR14-6131	12	12	24	24	23	20
6	CR14-8383	14	24	18	15	6	8
7	CR17-1724	19	16	2	21	24	3
8	CR17-1905	16	18	3	23	16	1
9	LD17-2946a	7	14	25	4	3	2
10	LD17-4327a	4	21	9	9	5	23
11	LD17-8668	5	15	20	25	18	22
12	LD17-9766	18	8	11	12	11	10
13	LD17-9906	20	20	19	19	21	11
14	LD17-9973	22	11	6	8	25	12
15	LD17-10244	23	2	14	11	14	24
16	LD17-10579	13	4	21	18	9	19
17	LD17-10640	25	1	13	6	17	13
18	LD17-10786	1	5	15	17	12	16
19	U17-303104	17	16	6	20	19	15
20	U17-304114	15	23	12	22	2	7
21	U17-306115	24	19	6	5	10	21
22	U18-617270	8	7	17	10	20	9
23	U18-913029	6	22	22	16	4	6
24	U18-925025	21	10	23	3	15	17
25	U18-932054	11	25	16	13	22	18

Maturity

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	9/22	9/25	9/24	9/24		10/02
2	U15-606207	2	2	0	2		3
3	LD07-3395bf (SCN)	4	3	5	5		7
4	U14-910097 (SCN)	2	1	0	1		-1
5	CR14-6131	4	3	0	1		3
6	CR14-8383	3	3	0	2		4
7	CR17-1724	5	4	4	3		7
8	CR17-1905	5	3	0	2		7
9	LD17-2946a	-4	-5	0	-1		1
10	LD17-4327a	2	2	0	2		1
11	LD17-8668	-2	-2	0	-2		3
12	LD17-9766	4	3	0	1		3
13	LD17-9906	2	3	0	-3		3
14	LD17-9973	2	3	2	2		5
15	LD17-10244	3	2	0	2		5
16	LD17-10579	0	1	2	-2		1
17	LD17-10640	5	5	4	3		7
18	LD17-10786	3	4	0	2		5
19	U17-303104	-1	-1	0	-1		1
20	U17-304114	1	2	0	-1		1
21	U17-306115	1	-1	0	0		3
22	U18-617270	3	2	2	3		6
23	U18-913029	-6	-2	0	-3		-1
24	U18-925025	-6	-4	0	-3		0
25	U18-932054	-1	-3	0	1		1
	Planted	5/12	5/27	6/08	6/01	6/19	6/09

Lodging (score)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	1.0	1.0	1.0	2.0		1.0
2	U15-606207	1.5	1.0	1.0	1.8		1.0
3	LD07-3395bf (SCN)	1.8	1.5	1.0	1.8		1.0
4	U14-910097 (SCN)	2.3	2.0	2.0	2.8		2.0
5	CR14-6131	2.0	1.0	1.0	1.5		1.0
6	CR14-8383	2.3	2.0	1.0	2.1		1.0
7	CR17-1724	2.0	1.0	1.0	1.5		1.0
8	CR17-1905	1.3	1.0	1.0	1.3		1.0
9	LD17-2946a	2.0	2.0	1.0	2.0		1.0
10	LD17-4327a	1.5	1.0	1.5	1.8		1.5
11	LD17-8668	2.0	1.0	1.0	2.0		2.0
12	LD17-9766	1.8	1.0	1.0	1.8		1.0
13	LD17-9906	1.8	2.0	1.0	1.8		1.0
14	LD17-9973	2.3	1.0	1.0	1.8		1.0
15	LD17-10244	1.0	1.0	1.0	1.5		1.0
16	LD17-10579	1.5	1.0	1.0	1.8		2.5
17	LD17-10640	2.3	1.0	1.5	2.3		1.5
18	LD17-10786	1.5	1.0	1.0	1.5		1.0
19	U17-303104	1.5	1.5	1.0	2.0		2.0
20	U17-304114	1.5	2.0	1.0	1.5		1.0
21	U17-306115	1.0	1.5	1.0	1.8		1.0
22	U18-617270	1.5	1.0	1.0	1.5		1.0
23	U18-913029	1.3	1.0	1.5	1.5		1.0
24	U18-925025	1.0	1.0	1.0	1.5		1.0
25	U18-932054	1.0	1.0	1.0	1.5		1.0

2020 SCN PRELIMINARY TEST III

Height (inches)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	38		36	30		34
2	U15-606207	38		38	31		35
3	LD07-3395bf (SCN)	38		38	32		31
4	U14-910097 (SCN)	38		36	32		28
5	CR14-6131	43		41	31		34
6	CR14-8383	42		38	34		33
7	CR17-1724	40		40	31		35
8	CR17-1905	42		40	31		37
9	LD17-2946a	40		39	32		34
10	LD17-4327a	37		39	35		35
11	LD17-8668	42		39	31		32
12	LD17-9766	41		38	32		35
13	LD17-9906	43		42	33		38
14	LD17-9973	40		39	37		38
15	LD17-10244	36		37	31		31
16	LD17-10579	42		40	33		38
17	LD17-10640	41		43	39		38
18	LD17-10786	44		40	32		34
19	U17-303104	37		38	32		37
20	U17-304114	38		38	32		34
21	U17-306115	34		36	30		32
22	U18-617270	36		37	30		33
23	U18-913029	42		37	34		33
24	U18-925025	40		40	33		34
25	U18-932054	38		36	32		32

2020 SCN PRELIMINARY TEST III

Seed Weight (g/100)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	16.0		14.0	14.0		16.0
2	U15-606207	14.2		14.0	14.5		15.4
3	LD07-3395bf (SCN)	15.4		15.0	15.0		15.0
4	U14-910097 (SCN)	14.6		14.0	14.1		14.0
5	CR14-6131	13.1		13.0	11.8		13.1
6	CR14-8383	13.2		12.0	11.6		12.8
7	CR17-1724	12.9		13.0	11.9		13.1
8	CR17-1905	13.0		12.0	11.8		12.6
9	LD17-2946a	15.0		15.0	15.3		14.9
10	LD17-4327a	16.3		16.0	16.6		15.4
11	LD17-8668	19.2		20.0	17.3		19.7
12	LD17-9766	13.7		14.0	12.5		13.3
13	LD17-9906	14.5		15.0	12.7		14.5
14	LD17-9973	13.8		14.0	13.4		14.5
15	LD17-10244	14.0		16.0	15.0		15.6
16	LD17-10579	18.7		19.0	15.6		18.2
17	LD17-10640	15.5		15.0	14.2		14.8
18	LD17-10786	18.0		17.0	15.3		16.8
19	U17-303104	15.8		15.0	16.3		17.1
20	U17-304114	14.9		16.0	16.1		15.2
21	U17-306115	14.6		15.0	15.0		16.5
22	U18-617270	16.5		17.0	16.1		16.7
23	U18-913029	12.9		14.0	12.2		13.5
24	U18-925025	12.2		13.0	12.9		13.2
25	U18-932054	17.8		18.0	17.3		18.7

2020 SCN PRELIMINARY TEST III

Seed Quality (score)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	2.0		2.0	1.0		1.0
2	U15-606207	2.0		2.0	1.0		1.0
3	LD07-3395bf (SCN)	2.0		2.0	1.0		1.0
4	U14-910097 (SCN)	2.0		1.0	1.0		1.0
5	CR14-6131	2.0		2.0	1.5		1.0
6	CR14-8383	2.0		2.0	1.0		1.0
7	CR17-1724	2.0		2.0	1.5		1.0
8	CR17-1905	1.0		2.0	1.0		1.0
9	LD17-2946a	2.0		2.0	1.0		1.0
10	LD17-4327a	2.0		2.0	1.0		1.0
11	LD17-8668	2.0		1.0	1.0		1.0
12	LD17-9766	2.0		2.0	1.0		1.0
13	LD17-9906	2.0		2.0	1.0		1.0
14	LD17-9973	2.0		2.0	1.0		1.0
15	LD17-10244	2.0		2.0	1.0		1.0
16	LD17-10579	2.0		2.0	2.0		1.0
17	LD17-10640	2.0		2.0	1.0		1.0
18	LD17-10786	1.0		2.0	1.0		1.0
19	U17-303104	2.0		2.0	2.0		1.0
20	U17-304114	2.0		2.0	1.5		1.0
21	U17-306115	2.0		2.0	2.0		1.0
22	U18-617270	2.0		2.0	1.0		1.0
23	U18-913029	2.0		1.0	1.0		1.0
24	U18-925025	2.0		2.0	1.0		1.0
25	U18-932054	2.0		2.0	1.5		1.0

2020 SCN PRELIMINARY TEST III

Protein (%)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	34.0		30.6	34.0		32.8
2	U15-606207	30.8		30.7	30.9		30.9
3	LD07-3395bf (SCN)	31.8		30.3	31.0		29.2
4	U14-910097 (SCN)	31.3		31.5	32.8		31.9
5	CR14-6131	31.2		31.5	33.1		32.1
6	CR14-8383	31.4		32.8	32.5		30.3
7	CR17-1724	32.3		30.8	32.4		32.7
8	CR17-1905	32.8		33.2	32.0		30.8
9	LD17-2946a	34.4		35.0	34.8		34.3
10	LD17-4327a	32.0		33.3	34.4		31.1
11	LD17-8668	34.2		36.4	35.0		35.1
12	LD17-9766	31.3		30.3	33.1		32.1
13	LD17-9906	33.5		32.7	32.8		31.6
14	LD17-9973	32.6		30.8	31.8		32.5
15	LD17-10244	30.2		32.5	32.5		30.7
16	LD17-10579	31.0		32.8	32.9		32.5
17	LD17-10640	29.8		31.9	32.4		30.6
18	LD17-10786	33.5		34.0	33.0		32.7
19	U17-303104	33.0		32.1	33.8		32.9
20	U17-304114	32.9		32.8	32.9		32.9
21	U17-306115	32.9		32.0	34.8		32.7
22	U18-617270	33.6		33.3	33.2		31.6
23	U18-913029	31.7		31.9	33.2		33.9
24	U18-925025	32.3		33.2	34.7		32.0
25	U18-932054	34.4		33.6	32.6		33.3

2020 SCN PRELIMINARY TEST III

Oil (%)

		Arthur IL	Romney IN	Manhattan KS	Columbia MO	Holdrege NE	Lincoln NE
	SCN HG Type	2.5.7	2.5.7	Inf	1.2.5.7	Inf	2.5.7
	Strain						
1	LD11-2170 (SCN)	19.8		23.0	22.4		20.0
2	U15-606207	20.3		21.3	22.2		20.3
3	LD07-3395bf (SCN)	20.3		21.7	22.6		20.6
4	U14-910097 (SCN)	20.7		22.2	21.7		20.2
5	CR14-6131	20.5		22.1	21.6		19.6
6	CR14-8383	20.8		21.2	21.8		19.9
7	CR17-1724	18.8		21.0	20.6		18.9
8	CR17-1905	19.1		19.4	20.2		19.5
9	LD17-2946a	19.1		21.1	21.0		19.9
10	LD17-4327a	20.7		21.4	21.0		19.9
11	LD17-8668	19.3		20.1	20.3		18.7
12	LD17-9766	19.6		21.2	20.2		19.0
13	LD17-9906	18.9		20.5	20.4		18.5
14	LD17-9973	18.8		21.9	20.5		19.3
15	LD17-10244	21.3		21.5	21.8		19.7
16	LD17-10579	20.4		21.5	21.5		19.7
17	LD17-10640	20.3		21.1	21.2		20.0
18	LD17-10786	19.8		21.1	20.7		18.6
19	U17-303104	20.1		22.1	20.6		19.8
20	U17-304114	19.1		21.6	21.1		19.1
21	U17-306115	18.8		21.3	20.5		19.5
22	U18-617270	19.3		21.7	22.1		19.5
23	U18-913029	19.3		21.9	20.9		19.1
24	U18-925025	21.1		21.5	21.6		20.6
25	U18-932054	19.9		21.7	21.6		19.6

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2020 SCN UNIFORM TEST IV

	Strain	Descriptive code	Parentage	Previous testing
1	LD06-7620 SCN)	PLtbl	IA3023 x LD00-3309	8
2	LD00-2817P (SCN)	PGibl	Ina x Dwight	11
3	LD07-3395bf SCN)	WGbf	Syngenta WW115926 x LD00-2817	6
4	LD17-10645	WTbl	LD12-10534 x LD10-9168	New
5	JTN-4120*	WT	LG01-5822 x AR8 SCN	New
6	JTN-4218	WTy	5002T x PI 494182	2
7	JTN-4220	WTg	LG01-5822 x AR8 SCN	New
8	JTN-4419*	PGibl	5601T x PI 437655	1
9	K16-1208	WGbf	LS07-3125 x K10-8556	1
10	K16-1729	PLtbl	K10-8556 x 435.TCS	1
11	K17-1515	PGibl	LS07-3131 x LD10-9168	New
12	K17-1532	PGibl	LS07-3131 x LD10-9168	New
13	K17-1720	WGbf	LG11-6208 x LS07-3131	New
14	K17-6380	PLtbl	LG11-6208 x K11-2363T	New
15	K17-6381	PLtbl	LG11-6208 x K11-2363T	New
16	K17-6388	PLtbl	LG11-6208 x K11-2363T	New
17	K17-6391	PLtbl	LG11-6208 x K11-2363T	New
18	K17-6484	PLtbl	LG11-6208 x K11-2363T	New
19	LD15-3818	PLtbl	LD09-3913 x Syngenta BN09002129	2
20	LD16-2955	PLtbl	LD07-3395 x LD10-10219	2
21	LD17-9755	P+WLtbr	U11-616086 x LDX11-319-7-108	New
22	LD17-9939	PLtbr	LD11-7311 x LDX11-319-7-134	New
23	LD17-10473	WLtbl/bf	LD07-3395bf x LD12-00268	New
24	S15-10879C	WGbf	S09-13635 x S11-17025	1
25	S13-2743C	WGbf	LS07-3125 x S05-11400	New
26	S17-17797C	WTbr	R09-430 x S11-20124	New
27	S09-13608C	WGbf	LG04-6863 x S04-10364	New
28	S17-1344C	PTbl	S11-16653 x S13-11434	New

2020 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	LD17-10645	F5	PI 88788, soja	
5	JTN-4120*	F12	PI 88788, Columbia	
6	JTN-4218	F9	PI 494182	new res source
7	JTN-4220	F12	PI 88788, Columbia	
8	JTN-4419*	F9	PI 437655	new res source
9	K16-1208	F4	PI 88788	
10	K16-1729	F4	PI 88788	
11	K17-1515	F5	PI88788	
12	K17-1532	F5	PI88788	
13	K17-1720	F5	PI88788	
14	K17-6380	F5	PI88788	
15	K17-6381	F5	PI88788	STS
16	K17-6388	F5	PI88788	
17	K17-6391	F5	PI88788	
18	K17-6484	F5	PI88788	STS
19	LD15-3818	F5	PI 88788	
20	LD16-2955	F5	PI 88788, 437654	
21	LD17-9755	F5	PI 88788	
22	LD17-9939	F5	PI 88788, soja	
23	LD17-10473	F5	PI 88788, 437654	
24	S15-10879C		PI 437654	High Oil, SC
25	S13-2743C		PI 437654	High Oil, PRR, FLS, SDS, CRT
26	S17-17797C		PI 437654	SC, RKN, Excluder
27	S09-13608C			SC
28	S17-1344C		PI 437654	SC, RKN

* Seed treated with Apron Maxx

2020 SCN UNIFORM TEST IV

		IL SCN screen			
		HG Type 0		HG Type 2.5.7	
	Strain	FI	rating	FI	rating
1	LD06-7620 SCN)	14	R	86	NR
2	LD00-2817P (SCN)	1	HR	1	HR
3	LD07-3395bf SCN)	17	R	12	R
4	LD17-10645	38	MR	47	LR
5	JTN-4120*	22	R	79	NR
6	JTN-4218	1	HR	1	HR
7	JTN-4220	8	HR	45	LR
8	JTN-4419*	2	HR	3	HR
9	K16-1208	38	MR	66	NR
10	K16-1729	21	R	15	R
11	K17-1515	10	R	78	NR
12	K17-1532	32	MR	59	LR
13	K17-1720	13	R	37	MR
14	K17-6380	12	R	115	NR
15	K17-6381	9	HR	116	NR
16	K17-6388	9	HR	88	NR
17	K17-6391	11	R	57	LR
18	K17-6484	23	R	39	MR
19	LD15-3818	26	MR	46	LR
20	LD16-2955	11	R	106	NR
21	LD17-9755	19	R	41	LR
22	LD17-9939	4	HR	45	LR
23	LD17-10473	6	HR	2	HR
24	S15-10879C	63	NR	20	R
25	S13-2743C	17	R	35	MR
26	S17-17797C	84	NR	32	MR
27	S09-13608C	102	NR	52	LR
28	S17-1344C	41	LR	40	LR

2020 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	**5**		4*		1		6	6	6	5	5	4	4
1	LD06-7620 SCN)	**54.2**	**11**	56.9	11	38.6	23	9/29	1.1	29	14.2	2.5	34.2	19.1
2	LD00-2817P (SCN)	**52.1**	**19**	53.0	21	48.1	9	3	1.4	34	13.4	2.5	33.2	19.9
3	LD07-3395bf SCN)	**51.1**	**23**	55.5	15	44.4	15	-2	1.2	28	14.9	2.7	30.8	20.5
4	LD17-10645	**53.1**	**15**	54.9	16	45.8	13	-4	1.6	33	14.4	2.2	32.8	19.9
5	JTN-4120*	**43.0**	**25**	42.3	27	40.1	22	4	2.2	37	11.8	2.2	33.7	18.5
6	JTN-4218	**41.4**	**27**	42.8	26	29.0	28	5	2.3	33	13.1	2.3	35.8	19.2
7	JTN-4220	**41.9**	**26**	43.1	25	37.4	24	5	2.0	37	11.9	1.9	34.5	17.6
8	JTN-4419*	**52.8**	**18**	54.7	17	33.9	25	4	1.6	32	12.9	2.3	32.5	20.7
9	K16-1208	**53.3**	**13**	55.7	14	50.2	5	2	1.2	33	13.6	2.5	33.0	20.3
10	K16-1729	**55.5**	**6**	57.9	7	43.5	18	0	1.0	29	15.3	1.6	33.5	19.7
11	K17-1515	**55.5**	**6**	57.2	10	48.7	7	0	1.0	32	15.2	1.9	33.1	20.0
12	K17-1532	**55.0**	**9**	60.5	2	30.6	27	1	1.0	31	14.7	2.2	33.3	19.9
13	K17-1720	**56.4**	**4**	57.9	9	50.5	4	2	1.0	30	14.1	2.3	34.2	20.0
14	K17-6380	**53.0**	**16**	56.2	13	46.1	12	1	1.0	31	14.6	2.0	33.3	19.0
15	K17-6381	**56.0**	**5**	58.0	6	45.1	14	2	1.6	34	15.1	1.9	32.8	19.5
16	K17-6388	**59.3**	**1**	61.3	1	51.2	3	3	1.0	31	14.5	2.1	32.8	19.8
17	K17-6391	**54.9**	**10**	56.7	12	47.6	10	4	1.0	29	15.1	2.1	32.9	20.5
18	K17-6484	**59.0**	**2**	60.4	3	41.0	20	0	1.0	30	15.0	2.3	33.5	20.2
19	LD15-3818	**58.4**	**3**	59.5	5	55.0	1	-1	1.0	30	15.0	2.2	33.8	20.9
20	LD16-2955	**51.6**	**21**	54.3	19	31.8	26	2	1.0	26	16.4	1.9	33.8	20.4
21	LD17-9755	**53.2**	**14**	52.9	22	49.8	6	-7	1.0	32	13.3	2.2	32.5	20.4
22	LD17-9939	**49.3**	**24**	49.6	24	48.3	8	-5	1.0	30	14.0	2.0	34.5	19.2
23	LD17-10473	**55.1**	**8**	59.8	4	43.8	17	0	1.1	30	14.1	2.1	33.4	20.6
24	S15-10879C	**51.9**	**20**	53.8	20	41.0	20	3	1.2	32	14.9	2.5	35.8	17.9
25	S13-2743C	**54.0**	**12**	57.9	8	44.0	16	4	1.1	34	13.7	2.1	33.8	19.9
26	S17-17797C	**33.5**	**28**	32.0	28	43.5	18	12	2.1	29	12.9	1.9	34.3	19.5
27	S09-13608C	**51.3**	**22**	52.5	23	46.3	11	8	1.3	34	14.3	2.3	34.4	18.4
28	S17-1344C	**53.0**	**16**	54.7	18	54.9	2	9	1.3	34	15.4	2.0	33.9	18.7
	Mean	**52.1**		54.0		43.9		2.1	1.3	31.6	14.2	2.2	33.6	19.6
	LSD(.05)	**3.9**		3.3		12.3								
	C.V. %	**10.4**		7.6		14.3								
	Replications	**14**		11		3								

*Clarkton, MO yield data not included in means

2020 SCN UNIFORM TEST IV

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	12		8		4		15	15	15	13	13	10	10
1	LD06-7620 SCN)	**53.1**	**7**	55.0	7	47.2	8	9/30	1.2	28	14.1	2.5	34.2	18.5
2	LD00-2817P (SCN)	**53.0**	**8**	54.3	9	49.5	6	1	1.5	32	13.5	2.6	33.4	19.1
3	LD07-3395bf SCN)	**55.3**	**5**	58.3	5	51.3	5	-2	1.2	26	15.4	2.7	32.2	19.7
6	JTN-4218	**40.0**	**10**	42.0	10	33.5	10	4	2.3	31	12.5	2.5	35.9	18.3
8	JTN-4419*	**52.2**	**9**	54.6	8	43.7	9	3	1.7	31	12.5	2.3	32.8	19.7
9	K16-1208	**57.3**	**3**	59.2	3	54.2	2	1	1.3	31	14.0	2.4	33.6	19.0
10	K16-1729	**57.7**	**2**	59.4	2	52.8	3	-1	1.1	29	15.3	1.8	34.0	18.5
19	LD15-3818	**59.2**	**1**	61.1	1	54.9	1	-1	1.1	29	14.9	2.2	34.3	19.6
20	LD16-2955	**57.3**	**3**	58.8	4	51.4	4	1	1.1	26	16.7	2.2	34.1	19.5
24	S15-10879C	**54.1**	**6**	56.0	6	48.7	7	1	1.2	32	14.5	2.3	35.9	17.1
	Mean	**53.9**		55.9		48.7		0.8	1.4	29.9	14.4	2.3	34.1	19.0

2020 SCN UNIFORM TEST IV

Yield (bu/a)

	SCN HG Type	Flora IL 2.5.7	Manhattan KS Inf	Ottawa KS Inf	Clarkton MO 2.5.7	Jackson TN 1.2.5.7	Portage-ville MO NI
	Strain						
1	LD06-7620 SCN)	64.0	79.4	49.8	28.5	35.2	38.6
2	LD00-2817P (SCN)	59.5	70.5	48.0	39.0	34.4	48.1
3	LD07-3395bf SCN)	60.2	75.9	53.2	30.0	33.5	44.4
4	LD17-10645	63.8	73.3	49.6	30.7	33.4	45.8
5	JTN-4120*	48.8	48.6	34.1	27.8	38.3	40.1
6	JTN-4218	40.6	59.4	36.4	23.8	35.3	29.0
7	JTN-4220	44.5	51.1	37.7	28.1	39.9	37.4
8	JTN-4419*	58.4	73.4	49.7	38.3	38.0	33.9
9	K16-1208	58.9	75.1	53.4	28.0	36.0	50.2
10	K16-1729	60.1	75.3	54.3	26.3	42.7	43.5
11	K17-1515	64.8	77.6	48.8	33.3	38.3	48.7
12	K17-1532	66.1	80.7	54.8	26.0	41.2	30.6
13	K17-1720	63.2	76.8	54.8	24.6	37.4	50.5
14	K17-6380	61.9	74.4	54.6	19.2	34.5	46.1
15	K17-6381	65.4	73.1	50.0	29.4	44.2	45.1
16	K17-6388	65.5	78.4	57.2	27.4	44.6	51.2
17	K17-6391	62.2	71.8	52.5	31.6	41.0	47.6
18	K17-6484	64.2	77.6	54.0	30.2	46.4	41.0
19	LD15-3818	68.9	83.0	50.5	29.7	36.4	55.0
20	LD16-2955	59.1	78.1	46.8	29.1	33.9	31.8
21	LD17-9755	61.4	71.0	47.1	22.2	33.0	49.8
22	LD17-9939	50.9	71.5	45.3	19.6	31.3	48.3
23	LD17-10473	69.9	82.0	49.7	24.0	38.4	43.8
24	S15-10879C	56.5	72.4	43.3	34.3	43.7	41.0
25	S13-2743C	59.3	78.5	54.0	27.4	40.6	44.0
26	S17-17797C	53.9	13.7	10.8	50.4	50.4	43.5
27	S09-13608C	54.1	62.0	50.1	20.5	44.4	46.3
28	S17-1344C	61.7	66.8	45.0	36.1	46.0	54.9
	Average	59.5	70.4	47.7	29.1	39.0	43.9
	LSD(.05)	9.8	4.6	5.4	14.3	8.1	12.3
	C.V. %	8.0	4.0	6.9	**25.1**	12.7	14.3
	Replications	2	3	3	3	3	3
	Row width (in.)	30	30	30	30	30	30

2020 SCN UNIFORM TEST IV

Yield (rank)

		Flora IL	Manhattan KS	Ottawa KS	Clarkton MO	Jackson TN	Portage-ville MO
	SCN HG Type	2.5.7	Inf	Inf	2.5.7	1.2.5.7	NI
	Strain						
1	LD06-7620 SCN)	8	4	14	14	21	23
2	LD00-2817P (SCN)	17	22	19	2	23	9
3	LD07-3395bf SCN)	15	11	9	10	25	15
4	LD17-10645	9	16	17	8	26	13
5	JTN-4120*	26	27	27	17	14	22
6	JTN-4218	28	25	26	24	20	28
7	JTN-4220	27	26	25	15	12	24
8	JTN-4419*	21	15	16	3	16	25
9	K16-1208	20	13	8	16	19	5
10	K16-1729	16	12	5	20	8	18
11	K17-1515	6	8	18	6	14	7
12	K17-1532	3	3	2	21	9	27
13	K17-1720	10	10	2	22	17	4
14	K17-6380	12	14	4	28	22	12
15	K17-6381	5	17	13	12	6	14
16	K17-6388	4	6	1	18	4	3
17	K17-6391	11	19	10	7	10	10
18	K17-6484	7	8	6	9	2	20
19	LD15-3818	2	1	11	11	18	1
20	LD16-2955	19	7	21	13	24	26
21	LD17-9755	14	21	20	25	27	6
22	LD17-9939	25	20	22	27	28	8
23	LD17-10473	1	2	15	23	13	17
24	S15-10879C	22	18	24	5	7	20
25	S13-2743C	18	5	6	18	11	16
26	S17-17797C	24	28	28	1	1	18
27	S09-13608C	23	24	12	26	5	11
28	S17-1344C	13	23	23	4	3	2

2020 SCN UNIFORM TEST IV

Maturity

	SCN HG Type	Flora IL 2.5.7	Manhattan KS Inf	Ottawa KS Inf	Clarkton MO 2.5.7	Jackson TN 1.2.5.7	Portage-ville MO NI
	Strain						
1	LD06-7620 SCN)	9/28	10/08	9/18	9/24	9/19	10/16
2	LD00-2817P (SCN)	3	0	4	8	4	-1
3	LD07-3395bf SCN)	-3	-8	-2	-1	4	-3
4	LD17-10645	-5	-5	-1	-5	-2	-5
5	JTN-4120*	5	0	11	7	5	-4
6	JTN-4218	4	2	14	6	5	-2
7	JTN-4220	8	0	11	8	7	-4
8	JTN-4419*	4	0	7	8	8	0
9	K16-1208	2	0	7	-3	5	0
10	K16-1729	-2	0	4	-1	2	-2
11	K17-1515	2	0	2	-1	1	-3
12	K17-1532	2	0	4	-2	2	-3
13	K17-1720	4	0	5	1	3	1
14	K17-6380	2	0	4	-1	3	-2
15	K17-6381	2	0	5	3	2	-2
16	K17-6388	2	0	6	5	4	-1
17	K17-6391	5	0	9	6	4	1
18	K17-6484	2	-1	4	0	-1	-2
19	LD15-3818	2	0	-2	2	-2	-4
20	LD16-2955	2	0	4	4	4	-3
21	LD17-9755	-3	-7	-5	-10	-9	-5
22	LD17-9939	-3	-6	-2	-7	-11	-5
23	LD17-10473	-2	-6	2	2	6	-3
24	S15-10879C	3	1	7	5	4	-1
25	S13-2743C	5	1	12	4	4	0
26	S17-17797C	12	9	17	15	16	4
27	S09-13608C	11	6	14	0	16	-1
28	S17-1344C	7	3	15	15	12	3
	Planted	6/02	6/08	5/20	6/04	5/21	6/12

2020 SCN UNIFORM TEST IV

Lodging (score)

	Strain	Flora IL	Manhattan KS	Ottawa KS	Clarkton MO	Jackson TN	Portage-ville MO
	SCN HG Type	2.5.7	Inf	Inf	2.5.7	1.2.5.7	NI
1	LD06-7620 SCN)	1.3	1.3	1.0	1.0	1.0	1.0
2	LD00-2817P (SCN)	1.8	2.0	1.0	1.0	1.3	1.3
3	LD07-3395bf SCN)	1.0	1.0	1.0	1.3	1.7	1.3
4	LD17-10645	2.0	2.0	1.0	2.0	1.3	1.0
5	JTN-4120*	2.8	2.3	2.0	1.3	2.3	2.3
6	JTN-4218	2.8	3.0	3.0	1.0	2.7	1.3
7	JTN-4220	2.0	2.3	1.7	1.7	2.7	1.3
8	JTN-4419*	2.0	2.0	1.0	2.0	1.3	1.0
9	K16-1208	1.5	1.7	1.0	1.0	1.0	1.0
10	K16-1729	1.0	1.0	1.0	1.0	1.0	1.0
11	K17-1515	1.3	1.0	1.0	1.0	1.0	1.0
12	K17-1532	1.0	1.0	1.0	1.0	1.0	1.0
13	K17-1720	1.0	1.0	1.0	1.0	1.0	1.0
14	K17-6380	1.0	1.0	1.0	1.0	1.0	1.0
15	K17-6381	2.3	2.0	1.3	1.3	2.0	1.0
16	K17-6388	1.3	1.0	1.0	1.0	1.0	1.0
17	K17-6391	1.0	1.0	1.0	1.0	1.0	1.0
18	K17-6484	1.0	1.0	1.0	1.0	1.0	1.0
19	LD15-3818	1.0	1.0	1.0	1.0	1.0	1.0
20	LD16-2955	1.0	1.0	1.0	1.0	1.0	1.0
21	LD17-9755	1.0	1.0	1.0	1.0	1.0	1.0
22	LD17-9939	1.3	1.0	1.0	1.0	1.0	1.0
23	LD17-10473	1.0	1.0	1.0	1.0	1.3	1.0
24	S15-10879C	1.0	2.0	1.0	1.0	1.0	1.0
25	S13-2743C	1.5	1.3	1.0	1.0	1.0	1.0
26	S17-17797C	3.0	2.7	2.7	1.3	2.0	1.0
27	S09-13608C	1.5	1.7	1.0	1.0	1.3	1.0
28	S17-1344C	2.0	1.7	1.0	1.0	1.0	1.0

2020 SCN UNIFORM TEST IV

Height (inches)

		Flora IL	Manhattan KS	Ottawa KS	Clarkton MO	Jackson TN	Portage-ville MO
	SCN HG Type	2.5.7	Inf	Inf	2.5.7	1.2.5.7	NI
	Strain						
1	LD06-7620 SCN)	35	40	31	21	27	18
2	LD00-2817P (SCN)	41	45	38	24	30	24
3	LD07-3395bf SCN)	33	36	31	22	27	20
4	LD17-10645	42	42	35	23	32	23
5	JTN-4120*	44	45	41	30	34	29
6	JTN-4218	42	44	40	21	31	21
7	JTN-4220	42	45	41	32	35	29
8	JTN-4419*	40	42	37	26	27	22
9	K16-1208	38	43	37	25	30	23
10	K16-1729	33	39	34	23	27	21
11	K17-1515	40	41	35	22	33	23
12	K17-1532	39	39	35	22	29	20
13	K17-1720	37	39	34	22	29	22
14	K17-6380	36	40	36	22	28	22
15	K17-6381	41	45	37	25	33	23
16	K17-6388	35	41	37	22	29	22
17	K17-6391	36	38	33	21	26	22
18	K17-6484	36	40	37	22	27	20
19	LD15-3818	35	41	32	22	27	23
20	LD16-2955	32	36	28	19	25	18
21	LD17-9755	39	42	35	24	28	25
22	LD17-9939	34	40	33	22	29	23
23	LD17-10473	37	38	33	21	29	20
24	S15-10879C	39	42	36	23	30	25
25	S13-2743C	41	45	40	23	33	21
26	S17-17797C	31	37	37	22	30	19
27	S09-13608C	42	46	39	22	33	23
28	S17-1344C	40	42	38	30	32	24

2020 SCN UNIFORM TEST IV

Seed Weight (g/100)

		Flora IL	Manhattan KS	Ottawa KS	Clarkton MO	Jackson TN	Portage-ville MO
	SCN HG Type	2.5.7	Inf	Inf	2.5.7	1.2.5.7	NI
	Strain						
1	LD06-7620 SCN)	14.1	15.0		12.7	14.3	14.9
2	LD00-2817P (SCN)	12.4	14.0		12.2	13.2	15.2
3	LD07-3395bf SCN)	14.6	16.0		12.6	14.8	16.4
4	LD17-10645	13.4	16.0		12.4	13.9	16.1
5	JTN-4120*	12.4	11.0		10.4	12.3	12.7
6	JTN-4218	11.6	14.0		10.8	13.2	16.1
7	JTN-4220	12.1	11.0		10.3	12.5	13.4
8	JTN-4419*	11.6	13.0		11.6	12.5	16.0
9	K16-1208	12.0	14.0		11.8	14.1	16.1
10	K16-1729	13.4	17.0		12.8	14.5	18.7
11	K17-1515	14.9	16.0		12.8	13.5	18.6
12	K17-1532	14.4	16.0		11.6	13.3	18.3
13	K17-1720	13.7	16.0		11.4	13.2	16.1
14	K17-6380	14.4	15.0		11.5	14.6	17.5
15	K17-6381	14.0	17.0		12.0	15.0	17.4
16	K17-6388	13.6	16.0		12.4	13.0	17.3
17	K17-6391	13.6	15.0		13.3	15.6	17.8
18	K17-6484	14.5	16.0		12.7	15.0	16.8
19	LD15-3818	14.7	16.0		13.1	14.4	16.6
20	LD16-2955	16.0	18.0		14.0	14.8	19.1
21	LD17-9755	12.6	15.0		10.7	13.2	15.2
22	LD17-9939	13.7	15.0		11.0	14.1	16.1
23	LD17-10473	13.1	14.0		11.9	15.0	16.4
24	S15-10879C	12.9	14.0		13.4	16.7	17.6
25	S13-2743C	12.4	13.0		11.9	14.4	16.7
26	S17-17797C	10.9	12.0		11.9	14.1	15.6
27	S09-13608C	12.9	14.0		11.2	17.1	16.2
28	S17-1344C	14.8	15.0		13.6	15.7	17.8

2020 SCN UNIFORM TEST IV

Seed Quality (score)

		Flora	Manhattan	Ottawa	Clarkton	Jackson	Portage-ville
		IL	KS	KS	MO	TN	MO
	SCN HG Type	2.5.7	Inf	Inf	2.5.7	1.2.5.7	NI
	Strain						
1	LD06-7620 SCN)	1.0	2.0		3.0	3.7	3.0
2	LD00-2817P (SCN)	2.0	2.0		3.0	3.3	2.0
3	LD07-3395bf SCN)	2.0	2.0		3.0	3.7	2.7
4	LD17-10645	1.0	2.0		3.0	3.0	2.0
5	JTN-4120*	2.0	2.0		3.0	2.0	2.0
6	JTN-4218	2.0	2.0		2.3	2.3	2.7
7	JTN-4220	2.0	1.0		2.3	2.0	2.3
8	JTN-4419*	2.0	2.0		2.3	3.0	2.0
9	K16-1208	2.0	2.0		2.7	3.0	3.0
10	K16-1729	1.0	1.0		2.0	2.0	2.0
11	K17-1515	1.0	2.0		2.3	2.3	2.0
12	K17-1532	1.0	2.0		3.0	3.0	2.0
13	K17-1720	2.0	2.0		2.0	3.0	2.3
14	K17-6380	1.0	2.0		2.3	2.7	2.0
15	K17-6381	1.0	2.0		2.7	2.0	2.0
16	K17-6388	1.0	2.0		2.3	2.7	2.7
17	K17-6391	2.0	2.0		2.7	2.0	2.0
18	K17-6484	2.0	2.0		2.3	3.0	2.0
19	LD15-3818	1.0	2.0		2.3	3.0	2.7
20	LD16-2955	1.0	1.0		2.7	2.7	2.0
21	LD17-9755	1.0	2.0		2.7	2.3	3.0
22	LD17-9939	1.0	2.0		2.7	2.0	2.3
23	LD17-10473	1.0	1.0		2.3	3.0	3.0
24	S15-10879C	2.0	2.0		2.7	2.7	3.0
25	S13-2743C	1.0	2.0		3.0	2.3	2.3
26	S17-17797C	2.0	2.0		2.0	1.7	2.0
27	S09-13608C	2.0	2.0		2.0	2.7	2.7
28	S17-1344C	1.0	2.0		2.7	2.0	2.3

2020 SCN UNIFORM TEST IV

Protein (%)

	SCN HG Type	Flora IL 2.5.7	Manhattan KS Inf	Ottawa KS Inf	Clarkton MO 2.5.7	Jackson TN 1.2.5.7	Portage-ville MO NI
	Strain						
1	LD06-7620 SCN)	33.2	33.2		35.6	34.7	
2	LD00-2817P (SCN)	32.4	31.6		33.5	35.5	
3	LD07-3395bf SCN)	32.1	31.4		34.7	33.4	
4	LD17-10645	31.7	32.5		32.7	34.5	
5	JTN-4120*	35.6	32.8		33.3	33.1	
6	JTN-4218	34.7	35.2		38.0	35.4	
7	JTN-4220	35.8	33.0		34.1	34.9	
8	JTN-4419*	32.7	31.0		33.0	33.2	
9	K16-1208	31.7	31.9		34.4	34.0	
10	K16-1729	32.4	34.0		35.5	32.3	
11	K17-1515	34.2	31.4		34.5	32.3	
12	K17-1532	33.5	31.5		36.2	32.2	
13	K17-1720	33.9	34.1		36.1	32.4	
14	K17-6380	33.3	.		34.7	31.8	
15	K17-6381	34.6	32.2		33.1	31.2	
16	K17-6388	33.6	31.2		35.3	31.0	
17	K17-6391	32.0	31.7		34.8	33.3	
18	K17-6484	34.9	32.6		34.9	31.8	
19	LD15-3818	34.2	33.9		34.7	32.1	
20	LD16-2955	33.6	32.7		34.6	34.2	
21	LD17-9755	33.6	30.9		33.9	31.5	
22	LD17-9939	35.9	33.3		34.7	34.1	
23	LD17-10473	33.2	31.5		34.2	34.6	
24	S15-10879C	36.0	34.2		36.4	36.5	
25	S13-2743C	34.5	32.2		34.3	34.1	
26	S17-17797C	34.1	.		33.6	35.3	
27	S09-13608C	33.8	33.0		35.0	35.7	
28	S17-1344C	32.9	33.2		34.7	34.8	

2020 SCN UNIFORM TEST IV

Oil (%)

	SCN HG Type	Flora IL 2.5.7	Manhattan KS Inf	Ottawa KS Inf	Clarkton MO 2.5.7	Jackson TN 1.2.5.7	Portage-ville MO NI
	Strain						
1	LD06-7620 SCN)	19.2	18.9		18.6	19.7	
2	LD00-2817P (SCN)	20.4	20.0		19.2	19.9	
3	LD07-3395bf SCN)	21.6	20.7		18.7	20.8	
4	LD17-10645	20.1	18.9		19.7	21.1	
5	JTN-4120*	17.6	17.4		19.1	19.8	
6	JTN-4218	19.3	17.9		19.0	20.5	
7	JTN-4220	17.5	17.3		17.4	18.0	
8	JTN-4419*	20.9	20.8		19.6	21.7	
9	K16-1208	20.7	19.5		19.8	21.4	
10	K16-1729	20.1	18.9		18.2	21.5	
11	K17-1515	19.0	19.4		19.3	22.2	
12	K17-1532	19.9	19.2		18.2	22.5	
13	K17-1720	20.0	19.5		19.0	21.8	
14	K17-6380	18.9	.		17.9	20.2	
15	K17-6381	18.9	18.9		18.1	22.0	
16	K17-6388	19.9	19.1		18.5	21.5	
17	K17-6391	20.8	20.1		18.6	22.3	
18	K17-6484	19.9	19.2		18.8	23.0	
19	LD15-3818	20.2	19.5		20.0	23.9	
20	LD16-2955	19.9	20.1		20.0	21.8	
21	LD17-9755	19.2	20.2		19.6	22.6	
22	LD17-9939	17.8	19.0		18.4	21.5	
23	LD17-10473	20.8	20.7		19.5	21.3	
24	S15-10879C	18.0	18.2		16.9	18.7	
25	S13-2743C	19.8	18.7		18.9	22.3	
26	S17-17797C	19.0	.		19.5	20.0	
27	S09-13608C	18.1	17.7		18.6	19.0	
28	S17-1344C	19.4	17.3		18.0	20.2	