

**2023 SCN UNIFORM 0**

Strain	FPhlm	Parentage	Previous testing	Gen. Comp.	Predicted resistance genes based on SNP marker analysis	
					SCN	Iron Chlorosis
<b>1 ND Dickey (0)</b>	PGy	P.91M10 x Sheyenne	4	F4	none	LgA,Ch13
<b>2 MN0095</b>	PGibl	M92-270029 x M93-313135	12	F5	none	LgA,Ch13
<b>3 MN0404CN (SCN)</b>	PTbl	MN0902CN x MN0304	5	F5	rhg1-b	LgA,LgN,Ch13
<b>4 MN1511CN</b>	PGbf	M06-288181 x M06-358188	1	F5	rhg1-b, HET-Rhg4	LgA,LgN,Ch13
<b>5 M15-220021</b>	WGy	ND10-2993 x M07-292111	1	F5	rhg1-b	Het-LgN , R-Ch13
<b>6 M17-147055</b>	PLtbr/y	324-1BA1-472 x M09-269045	New		rhg1-b	LgA,Ch13
<b>7 M17-147079</b>	PGibl	324-1BA1-472 x M09-269045	New		HET-rhg1-a&b	LgA,Ch13
<b>8 M17-148028</b>	PMY/br	ND11-19471 x M10-181003	New		rhg1-b	H-LgN,Ch13
<b>9 M17-148036</b>	PTy/gr	ND11-19471 x M10-181003	New		?	H-LgA,H-LgN,H-Ch13
<b>10 M17-149067</b>	MMbr	M09-278026 x M10-181003	New		HET-rhg1-b	H-LgA,LgN,Ch13
<b>11 M17-152013</b>	PTbl	M11-271059 x M10-181003	New		rhg1-b	LgA,LgN,Ch13
<b>12 M17-152020</b>	WTbl/y	M11-271059 x M10-181003	New		rhg1-b	LgA,H-LgN,Ch13
<b>13 M17-152029</b>	PLtbl	M11-271059 x M10-181003	New		rhg1-b	H-LgN,H-Ch13
<b>14 M17-152076</b>	WLtbl	M11-271059 x M10-181003	New		HET-rhg1-b	H-LgA,H-Ch13
<b>15 M17-152136</b>	MMY/bf/br/bl	M11-271059 x M10-181003	New		HET-rhg1-b	H-LgA,H-LgN
<b>16 M17-157018</b>	MTbl	M11-271059 x M10-186021	New		rhg1-b	LgA,Ch13
<b>17 M17-186007</b>	PTy	MSC10-559061 x U11-917032	New		rhg1-b	LgA,Ch13
<b>18 M17-186022</b>	PGy	MSC10-559061 x U11-917032	New		none	H-LgA,Ch13
<b>19 M17-193054</b>	PTbl/br	324-1BA1-472 x M09-278096	New		rhg1-b	LgA,Ch13
<b>20 ND20-12884</b>	PGy	ND14-2695 x M10-181003	New	F8	none	LgA,Ch13
<b>21 ND20-14884</b>	PTy	ND14-3926 x ND Bison	New	F8	rhg1-b	LgA,Ch13
<b>22 OAC 19-05C-SCN</b>	Wlt+Ggr	OAC Prescott x M05-363022	1	F4	HET-rhg1-b	H-LgA,H-LgN

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Entry	MO SCN screening						SNP marker analysis			Root Knot	MN
	HG 7		HG 2.5.7		HG 1.2.5.7		rhg1-b	rhg1-a	Rhg4	Nematode	IDC
	FI	rating	FI	rating	FI	rating	PI88788	Peking	Peking		score
<b>1 ND Dickey (0)</b>	no data						S	S	S	S	1.3
<b>2 MN0095</b>	no data						S	S	S	S	1.0
<b>3 MN0404CN (SCN)</b>	13	R					R	S	S	S	1.8
<b>4 MN1511CN</b>	11	R	91	NR	80	NR	R	S	Het	S	1.5
<b>5 M15-220021</b>	14	R	93	NR			R	S	S	S	1.5
<b>6 M17-147055</b>	3	HR					R	S	S	R	1.5
<b>7 M17-147079</b>	14	R					Het	Het	-	R	1.0
<b>8 M17-148028</b>	15	R					R	S	S	S	1.3
<b>9 M17-148036</b>	13	R					-	-	-	Het	2.0
<b>10 M17-149067</b>	27	**					Het	S	S	S	2.5
<b>11 M17-152013</b>	11	R					R	S	S	S	2.0
<b>12 M17-152020</b>	15	R					R	S	S	S	2.0
<b>13 M17-152029</b>	8	HR					R	S	-	S	2.3
<b>14 M17-152076</b>	21	R					Het	S	S	S	2.0
<b>15 M17-152136</b>	72	NR					Het	S	S	S	1.8
<b>16 M17-157018</b>	14	R					R	S	S	S	1.8
<b>17 M17-186007</b>	20	R					R	S	S	S	1.5
<b>18 M17-186022</b>	98	NR					S	S	S	S	1.3
<b>19 M17-193054</b>	11	R					R	S	S	R	1.3
<b>20 ND20-12884</b>	97	NR					S	S	S	S	1.8
<b>21 ND20-14884</b>	11	R					R	S	S	S	1.5
<b>22 OAC 19-05C-SCN</b>	10	R	102	NR			Het	S	S	S	1.8

(\*\*)=rep data too variable to rate

(-)=missing data

Mean 1.7

*Italic=2022 data*

CV 19.4

LSD 0.7

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	SNP marker analysis													
	Iron Chlorosis			Phytophthora							Brown stem rot	Frogeye leaf spot	Stem canker	
	Fec-LgA1	Fec-LgN	Ch13	Rps1a	Rps1c	Rps1d	Rps1k	Rps2	Rps3a	Rps6				
<b>1 ND Dickey (0)</b>	R	S	R	S	R	S	S	S	S	S	S	S	S	R
<b>2 MN0095</b>	R	S	R	-	S	S	S	S	S	S	S	S	S	R
<b>3 MN0404CN (SCN)</b>	R	R	R	S	S	S	R	S	S	R	R	S	S	R
<b>4 MN1511CN</b>	R	R	R	S	R	S	S	S	S	S	Het	S	S	R
<b>5 M15-220021</b>	S	Het	R	S	S	S	S	S	S	S	R	S	S	R
<b>6 M17-147055</b>	R	S	R	S	S	S	S	S	S	S	R	S	S	R
<b>7 M17-147079</b>	R	S	R	S	S	S	S	S	S	S	R	S	S	R
<b>8 M17-148028</b>	S	Het	R	S	S	S	S	S	S	S	R	S	S	R
<b>9 M17-148036</b>	Het	Het	Het	Het	Het	Het	-	S	Het	-	-	-	-	R
<b>10 M17-149067</b>	Het	R	R	Het	S	S	S	S	S	S	Het	S	S	R
<b>11 M17-152013</b>	R	R	R	S	S	S	S	S	S	S	S	S	S	R
<b>12 M17-152020</b>	R	Het	R	-	S	S	S	S	S	S	S	S	S	R
<b>13 M17-152029</b>	-	Het	Het	Het	-	S	-	S	S	S		S	S	R
<b>14 M17-152076</b>	Het	S	Het	-	S	S	S	S	S	S	S	S	S	R
<b>15 M17-152136</b>	Het	Het	-	S	S	S	S	S	S	S	Het	S	S	R
<b>16 M17-157018</b>	R	S	R	R	S	S	S	S	S	S	S	S	S	R
<b>17 M17-186007</b>	R	S	R	S	S	S	S	S	S	S	S	S	S	R
<b>18 M17-186022</b>	Het	S	R	S	R	S	S	S	S	S	S	S	S	R
<b>19 M17-193054</b>	R	S	R	Het	S	S	S	S	S	S	Het	S	S	R
<b>20 ND20-12884</b>	R	S	R	S	S	S	S	S	S	S	S	S	S	R
<b>21 ND20-14884</b>	R	S	R	S	R	S	S	S	S	S	S	S	S	R
<b>22 OAC 19-05C-SCN</b>	Het	Het	-	Het	S	S	S	S	-	S	Het	S	S	R

(-)=missing data

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### Predicted resistance genes based on SNP marker analysis

Entry	SCN	Iron Chlorosis	Phytophthora
1 ND Dickey (0)	None	LgA+Ch13	Rps1c
2 MN0095	None	LgA+Ch13	
3 MN0404CN (SCN)	Rhg1_P188788	LgA+LgN+Ch13	Rps1k+Rps6
4 MN1511CN	Rhg1_P188788+Het-Rhg4_Peking	LgA+LgN+Ch13	Rps1c
5 M15-220021	Rhg1_P188788	Het-LgN + R-Ch13	
6 M17-147055	Rhg1_P188788	LgA+Ch13	
7 M17-147079	Het-Rhg1_P188788&Peking	LgA+Ch13	
8 M17-148028	Rhg1_P188788	H-LgN+Ch13	
9 M17-148036	?	H-LgA+H-LgN+H-Ch13	?
10 M17-149067	Het-Rhg1_P188788	H-LgA+LgN+Ch13	H-Rps1a
11 M17-152013	Rhg1_P188788	LgA+LgN+Ch13	
12 M17-152020	Rhg1_P188788	LgA+H-LgN+Ch13	
13 M17-152029	Rhg1_P188788	H-LgN+H-Ch13	H-Rps1a
14 M17-152076	Het-Rhg1_P188788	H-LgA+H-Ch13	
15 M17-152136	Het-Rhg1_P188788	H-LgA+H-LgN	
16 M17-157018	Rhg1_P188788	LgA+Ch13	Rps1a
17 M17-186007	Rhg1_P188788	LgA+Ch13	
18 M17-186022	None	H-LgA+Ch13	Rps1c
19 M17-193054	Rhg1_P188788	LgA+Ch13	H-Rps1a
20 ND20-12884	None	LgA+Ch13	
21 ND20-14884	Rhg1_P188788	LgA+Ch13	Rps1c
22 OAC 19-05C-SCN	Het-Rhg1_P188788	H-LgA+H-LgN	H-Rps1a

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### 2023 Summary

Entry	Yield						Seed							
	All		Infested		Non-infested		Maturity	Lodging	Height	weight	quality	protein	oil	
	bu/a	rank	bu/a	rank	bu/a	rank	date	score	in.	g/100	score	@13%	@13%	
	Locations	8*		3*		5		8	9	7	6	6	6	6
<b>1 ND Dickey (0)</b>		<b>43.9</b>	<b>11</b>	40.8	17	45.7	3	9/20	1.3	31	18.0	1.1	35.0	17.7
<b>2 MN0095</b>		<b>37.3</b>	<b>22</b>	35.2	22	38.5	20	-5.5	1.4	30	14.2	1.9	34.7	18.7
<b>3 MN0404CN (SCN)</b>		<b>37.9</b>	<b>21</b>	37.9	21	37.8	22	-4.5	2.0	34	15.4	1.6	35.1	18.6
<b>4 MN1511CN</b>		<b>51.1</b>	<b>1</b>	52.1	1	50.6	1	7.4	1.6	42	14.8	1.4	33.7	18.2
<b>5 M15-220021</b>		<b>40.6</b>	<b>20</b>	44.7	9	38.2	21	-3.3	1.8	32	14.3	1.4	35.1	18.8
<b>6 M17-147055</b>		<b>43.3</b>	<b>14</b>	44.1	12	42.9	16	0.4	2.0	39	13.8	2.0	35.1	18.4
<b>7 M17-147079</b>		<b>41.0</b>	<b>19</b>	40.2	19	41.5	17	3.0	1.7	38	13.5	1.6	34.8	18.8
<b>8 M17-148028</b>		<b>45.9</b>	<b>3</b>	47.2	3	45.1	6	2.6	1.5	37	18.0	1.7	34.8	18.1
<b>9 M17-148036</b>		<b>43.2</b>	<b>15</b>	41.8	15	44.0	13	-1.8	1.4	32	18.3	2.0	36.2	17.6
<b>10 M17-149067</b>		<b>42.1</b>	<b>17</b>	40.6	18	43.0	15	6.0	1.4	29	16.7	1.8	35.5	17.6
<b>11 M17-152013</b>		<b>42.8</b>	<b>16</b>	44.9	8	41.5	18	-4.2	1.3	29	18.6	1.9	37.1	17.4
<b>12 M17-152020</b>		<b>45.5</b>	<b>4</b>	46.1	6	45.1	6	3.5	1.7	34	18.3	1.6	35.5	18.2
<b>13 M17-152029</b>		<b>46.2</b>	<b>2</b>	49.5	2	44.3	12	2.5	1.6	38	18.1	1.3	36.4	17.8
<b>14 M17-152076</b>		<b>43.7</b>	<b>12</b>	43.5	13	43.8	14	3.0	1.5	33	18.8	1.4	35.2	17.7
<b>15 M17-152136</b>		<b>44.8</b>	<b>9</b>	44.3	11	45.1	6	5.5	1.6	36	17.1	1.8	35.9	17.5
<b>16 M17-157018</b>		<b>45.3</b>	<b>6</b>	46.5	4	44.5	10	4.6	1.8	41	14.5	1.5	33.5	19.0
<b>17 M17-186007</b>		<b>45.2</b>	<b>7</b>	44.4	10	45.7	3	6.8	1.8	35	15.9	1.3	33.8	18.9
<b>18 M17-186022</b>		<b>43.4</b>	<b>13</b>	41.2	16	44.7	9	8.5	1.6	34	17.7	1.5	34.6	18.3
<b>19 M17-193054</b>		<b>41.4</b>	<b>18</b>	42.9	14	40.5	19	-0.2	2.0	37	14.3	2.0	34.7	18.8
<b>20 ND20-12884</b>		<b>44.0</b>	<b>10</b>	38.6	20	47.3	2	-1.4	1.4	30	15.8	1.2	35.3	18.4
<b>21 ND20-14884</b>		<b>45.4</b>	<b>5</b>	45.2	7	45.5	5	3.0	1.6	34	17.7	2.0	35.4	18.0
<b>22 OAC 19-05C-SCN</b>		<b>45.2</b>	<b>8</b>	46.2	5	44.5	11	0.5	1.4	37	16.4	1.8	35.6	18.1
Mean		<b>43.6</b>		43.5		43.6		21.1	1.6	34.6	16.3	1.6	35.1	18.2
C.V. %		<b>11.7</b>		13.5		10.5		13.5	27.9	11.5				
LSD(.05)		<b>2.9</b>		5.5		3.3		1.6	0.2	2.4				
Replications		<b>24</b>		9		15		20	27	21				

\*Absaraka, ND yield data not included in means.

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### 2 Year Summary

Entry	Yield						Maturity date	Lodging score	Height in.	Seed			
	All		Infested		Non-infested					weight g/100	quality score	protein @13%	oil @13%
Locations	bu/a	rank	bu/a	rank	bu/a	rank							
<b>1 ND Dickey (0)</b>	<b>49.2</b>	2	51.1	3	48.7	2	9/19	1.2	30	18.1	1.1	35.0	17.6
<b>2 MN0095</b>	<b>40.5</b>	6	43.5	6	39.2	5	-7.8	1.3	28	14.1	1.6	35.0	18.6
<b>3 MN0404CN (SCN)</b>	<b>40.9</b>	5	45.3	5	38.3	6	-5.8	1.6	31	15.1	1.5	34.8	18.7
<b>4 MN1511CN</b>	<b>53.0</b>	1	58.0	1	50.0	1	6.7	1.4	38	14.9	1.3	33.9	18.2
<b>5 M15-220021</b>	<b>43.4</b>	4	49.2	4	40.2	4	-4.3	1.5	30	14.2	1.3	35.4	18.7
<b>22 OAC 19-05C-SCN</b>	<b>49.0</b>	3	55.0	2	45.7	3	0.9	1.3	35	16.3	1.5	35.7	17.9
Mean	<b>46.0</b>		50.4		43.7		-2.0	1.4	32.0	15.4	1.4	35.0	18.3

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Yield (bu/a)

SCN HG Type	Grand								
	Absaraka	Prosper	Colfax	Crookston	Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>	5.7	31.2	43.9	47.2	54.0	40.0	39.6	45.5	54.9
<b>2 MN0095</b>	7.0	26.7	41.3	37.5	40.9	30.2	26.3	47.0	49.4
<b>3 MN0404CN (SCN)</b>	5.4	34.1	43.1	40.8	36.8	36.3	32.2	37.4	46.5
<b>4 MN1511CN</b>	10.3	54.6	59.8	41.8	54.9	46.3	36.4	50.4	65.1
<b>5 M15-220021</b>	10.0	41.0	51.4	41.6	42.7	34.0	29.9	43.6	42.7
<b>6 M17-147055</b>	21.5	42.0	51.5	38.7	53.0	34.5	32.9	43.8	50.0
<b>7 M17-147079</b>	2.4	35.2	44.7	40.8	48.6	38.4	34.7	41.9	43.8
<b>8 M17-148028</b>	3.3	47.9	47.0	46.9	44.3	44.7	38.9	47.0	53.2
<b>9 M17-148036</b>	9.6	44.3	36.7	44.5	46.7	39.7	37.0	46.0	52.3
<b>10 M17-149067</b>	10.5	42.1	37.8	42.0	46.8	43.0	32.3	42.3	50.8
<b>11 M17-152013</b>	10.4	44.8	44.7	45.3	40.9	37.2	30.8	47.9	50.6
<b>12 M17-152020</b>	15.3	45.6	48.6	44.0	43.5	39.1	38.4	49.4	55.4
<b>13 M17-152029</b>	8.9	46.0	60.9	41.6	50.2	38.6	34.3	43.5	54.7
<b>14 M17-152076</b>	15.6	45.8	38.2	46.6	45.2	43.2	33.2	46.0	51.5
<b>15 M17-152136</b>	6.5	45.5	46.7	40.9	54.4	37.9	34.8	43.9	54.6
<b>16 M17-157018</b>	15.4	49.0	50.8	39.6	53.6	38.4	31.8	42.8	56.1
<b>17 M17-186007</b>	9.1	47.4	44.2	41.7	54.0	41.9	34.7	43.0	50.9
<b>18 M17-186022</b>	4.3	34.1	41.7	50.4	47.5	41.4	33.5	45.7	55.4
<b>19 M17-193054</b>	8.6	44.3	47.3	36.9	49.8	36.7	29.8	37.5	48.6
<b>20 ND20-12884</b>	2.5	22.8	45.9	47.1	52.6	37.6	38.0	47.4	60.9
<b>21 ND20-14884</b>	7.8	38.3	50.0	47.2	50.8	42.2	37.1	46.5	51.1
<b>22 OAC 19-05C-SCN</b>	12.1	45.4	49.8	43.6	49.2	41.0	31.2	45.0	56.3
Mean	9.1	41.3	46.6	43.0	48.2	39.2	34.0	44.7	52.5
C.V. %	48.5	11.3	17.3	9.7	13.0	10.0	14.1	7.1	7.2
LSD(2-sided,.05)	7.5	7.7	13.3	6.9	10.3	6.5	7.7	5.2	7.4
Replications	3	3	3	3	3	3	3	3	3
Row spacing (in.)	30	30	30	24	30	30	30	13	17

## 2023 SCN UNIFORM 0

Yield (rank)

SCN HG Type	Grand								
	Absaraka	Prosper	Colfax	Crookston	Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>	17	20	16	2	3	9	1	11	7
<b>2 MN0095</b>	15	21	19	21	20	22	22	5	18
<b>3 MN0404CN (SCN)</b>	18	18	17	17	22	19	16	22	20
<b>4 MN1511CN</b>	8	1	2	12	1	1	7	1	1
<b>5 M15-220021</b>	9	15	4	14	19	21	20	15	22
<b>6 M17-147055</b>	1	14	3	20	6	20	14	14	17
<b>7 M17-147079</b>	22	17	13	18	12	14	9	20	21
<b>8 M17-148028</b>	20	3	10	5	17	2	2	5	10
<b>9 M17-148036</b>	10	11	22	8	15	10	6	8	11
<b>10 M17-149067</b>	6	13	21	11	14	4	15	19	15
<b>11 M17-152013</b>	7	10	14	7	21	17	19	3	16
<b>12 M17-152020</b>	4	7	8	9	18	11	3	2	5
<b>13 M17-152029</b>	12	5	1	15	9	12	11	16	8
<b>14 M17-152076</b>	2	6	20	6	16	3	13	8	12
<b>15 M17-152136</b>	16	8	11	16	2	15	8	13	9
<b>16 M17-157018</b>	3	2	5	19	5	13	17	18	4
<b>17 M17-186007</b>	11	4	15	13	3	6	10	17	14
<b>18 M17-186022</b>	19	19	18	1	13	7	12	10	5
<b>19 M17-193054</b>	13	12	9	22	10	18	21	21	19
<b>20 ND20-12884</b>	21	22	12	4	7	16	4	4	2
<b>21 ND20-14884</b>	14	16	6	3	8	5	5	7	13
<b>22 OAC 19-05C-SCN</b>	5	9	7	10	11	8	18	12	3



## 2023 SCN UNIFORM 0

### Maturity

SCN HG Type	Grand								
	Absaraka	Prosper	Colfax	Crookston	Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>	9/21	9/26	9/26	9/19		9/12	9/18	9/23	9/16
<b>2 MN0095</b>	-10	-9	-10	-4		3	-5	-2	-7
<b>3 MN0404CN (SCN)</b>	-8	-4	-5	-4		-2	-6	-1	-5
<b>4 MN1511CN</b>	6	9	4	10		14	2	8	6
<b>5 M15-220021</b>	-4	-3	-4	-4		1	-2	-4	-6
<b>6 M17-147055</b>	-7	2	-2	5		1	-5	6	2
<b>7 M17-147079</b>	-9	3	-2	8		8	3	8	4
<b>8 M17-148028</b>	-1	2	4	3		9	-1	3	1
<b>9 M17-148036</b>	-3	-1	-3	0		2	-4	-1	-4
<b>10 M17-149067</b>	5	5	7	8		6	-1	9	9
<b>11 M17-152013</b>	-6	-5	-7	-4		0	-6	0	-6
<b>12 M17-152020</b>	1	3	0	8		5	3	1	7
<b>13 M17-152029</b>	3	3	0	3		5	2	2	2
<b>14 M17-152076</b>	1	4	4	0		9	1	3	2
<b>15 M17-152136</b>	2	4	3	12		6	5	7	5
<b>16 M17-157018</b>	2	7	0	5		4	4	9	5
<b>17 M17-186007</b>	2	7	5	10		15	3	6	5
<b>18 M17-186022</b>	7	10	7	10		12	9	8	5
<b>19 M17-193054</b>	-9	2	-2	5		3	-6	4	1
<b>20 ND20-12884</b>	-4	-4	-1	-2		-2	0	1	0
<b>21 ND20-14884</b>	3	9	2	3		5	2	1	-1
<b>22 OAC 19-05C-SCN</b>	-5	1	-3	5		7	0	-1	0
<b>Planted</b>	6/07	6/06	6/08	5/19	5/25	5/20	5/21	5/17	5/15

## 2023 SCN UNIFORM 0

### Lodging (score)

SCN HG Type	Grand								
	Absaraka	Prosper	Colfax	Crookston	Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>	1.0	1.0	1.0	1.3	1.0	1.0	1.0	1.0	3.0
<b>2 MN0095</b>	1.0	1.0	1.3	2.0	1.0	1.0	1.0	1.0	3.0
<b>3 MN0404CN (SCN)</b>	1.0	3.3	2.7	2.4	1.0	1.0	1.3	1.3	4.0
<b>4 MN1511CN</b>	1.0	1.0	1.7	1.7	1.7	1.0	1.0	1.2	3.7
<b>5 M15-220021</b>	1.0	1.3	2.3	2.3	1.0	1.0	1.0	1.0	5.0
<b>6 M17-147055</b>	1.0	2.3	2.0	2.7	2.0	1.0	1.0	1.0	4.7
<b>7 M17-147079</b>	1.0	1.0	1.7	2.3	1.3	1.0	1.0	1.3	4.3
<b>8 M17-148028</b>	1.0	1.0	1.3	2.3	1.0	1.0	1.0	1.2	3.7
<b>9 M17-148036</b>	1.0	1.0	1.3	2.0	1.0	1.0	1.0	1.0	3.3
<b>10 M17-149067</b>	1.0	1.0	1.2	1.7	1.7	1.0	1.0	1.0	3.0
<b>11 M17-152013</b>	1.0	1.0	1.0	1.3	1.0	1.0	1.0	1.0	3.0
<b>12 M17-152020</b>	1.0	1.0	1.7	2.3	1.0	1.0	1.0	1.3	5.0
<b>13 M17-152029</b>	1.0	1.0	1.7	2.0	2.0	1.0	1.0	1.3	3.7
<b>14 M17-152076</b>	1.0	1.0	1.0	2.3	1.0	1.0	1.0	1.2	4.0
<b>15 M17-152136</b>	1.0	1.0	1.0	2.0	1.7	1.0	1.0	1.5	4.3
<b>16 M17-157018</b>	1.0	1.0	2.0	2.0	2.0	1.0	1.0	1.7	4.3
<b>17 M17-186007</b>	1.0	1.0	1.7	2.0	2.3	1.0	1.0	1.3	4.7
<b>18 M17-186022</b>	1.0	1.0	1.0	2.7	1.3	1.0	1.0	1.3	4.0
<b>19 M17-193054</b>	1.0	2.3	2.7	2.3	1.3	1.0	1.0	1.8	5.0
<b>20 ND20-12884</b>	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	3.3
<b>21 ND20-14884</b>	1.0	1.3	3.3	1.7	1.0	1.0	1.0	1.0	2.7
<b>22 OAC 19-05C-SCN</b>	1.0	1.0	1.0	2.0	1.7	1.0	1.0	1.0	3.3

## 2023 SCN UNIFORM 0

Height (inches)

SCN HG Type	Absaraka	Prosper	Colfax	Crookston	Grand	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	Rapids	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>			30	25	27	28	28	38	41
<b>2 MN0095</b>			31	30	24	25	23	40	41
<b>3 MN0404CN (SCN)</b>			30	33	27	32	33	38	48
<b>4 MN1511CN</b>			39	34	32	43	36	51	58
<b>5 M15-220021</b>			33	31	27	29	29	36	41
<b>6 M17-147055</b>			35	31	33	37	37	46	52
<b>7 M17-147079</b>			37	37	30	37	32	49	47
<b>8 M17-148028</b>			32	31	27	35	33	50	50
<b>9 M17-148036</b>			27	29	26	28	29	38	44
<b>10 M17-149067</b>			24	26	26	31	26	35	39
<b>11 M17-152013</b>			27	30	26	28	25	33	38
<b>12 M17-152020</b>			32	31	25	33	33	37	47
<b>13 M17-152029</b>			35	29	29	36	40	47	46
<b>14 M17-152076</b>			28	32	27	35	31	37	41
<b>15 M17-152136</b>			31	33	29	32	34	43	49
<b>16 M17-157018</b>			35	34	34	38	40	48	58
<b>17 M17-186007</b>			31	28	31	38	34	39	44
<b>18 M17-186022</b>			32	35	25	33	34	39	43
<b>19 M17-193054</b>			34	31	32	36	31	48	47
<b>20 ND20-12884</b>			27	31	26	26	29	33	38
<b>21 ND20-14884</b>			36	31	27	32	33	37	44
<b>22 OAC 19-05C-SCN</b>			32	34	31	40	33	42	44

## 2023 SCN UNIFORM 0

Seed Weight (g/100)

SCN HG Type	Grand								
	Absaraka	Prosper	Colfax	Crookston	Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>		16.8		16.3		19.1	16.5	16.7	22.3
<b>2 MN0095</b>		13.6		13.1		14.2	12.9	14.0	17.1
<b>3 MN0404CN (SCN)</b>		16.6		14.2		14.0	13.3	15.7	18.7
<b>4 MN1511CN</b>		15.0		12.3		14.0	12.3	17.1	17.9
<b>5 M15-220021</b>		15.6		13.5		13.5	12.4	14.5	16.1
<b>6 M17-147055</b>		14.7		12.0		12.9	11.5	14.6	16.8
<b>7 M17-147079</b>		13.5		12.1		13.2	11.7	13.6	16.7
<b>8 M17-148028</b>		18.7		15.9		16.7	14.8	18.8	23.3
<b>9 M17-148036</b>		20.3		16.4		18.1	15.6	18.0	21.2
<b>10 M17-149067</b>		18.3		14.7		14.7	13.9	18.1	20.5
<b>11 M17-152013</b>		19.8		16.3		18.9	16.3	18.3	21.7
<b>12 M17-152020</b>		19.7		16.8		16.6	15.6	18.8	22.0
<b>13 M17-152029</b>		20.1		16.3		16.6	15.1	19.0	21.2
<b>14 M17-152076</b>		20.9		16.8		17.7	15.4	19.5	22.6
<b>15 M17-152136</b>		18.8		14.6		15.7	14.5	18.1	20.8
<b>16 M17-157018</b>		15.4		13.0		12.9	12.3	16.0	17.5
<b>17 M17-186007</b>		17.2		14.1		15.2	12.8	16.3	19.6
<b>18 M17-186022</b>		16.6		15.5		17.0	14.6	19.9	22.3
<b>19 M17-193054</b>		14.5		12.1		13.5	12.4	15.8	17.2
<b>20 ND20-12884</b>		13.9		14.2		16.1	14.4	15.7	20.5
<b>21 ND20-14884</b>		17.8		15.7		18.1	14.5	18.6	21.2
<b>22 OAC 19-05C-SCN</b>		18.2		14.9		15.9	13.8	16.4	19.2

## 2023 SCN UNIFORM 0

### Seed Quality (score)

SCN HG Type	Grand								
	Absaraka	Prosper	Colfax	Crookston	Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>		1.0		1.0		1.0	1.0	1.5	1.3
<b>2 MN0095</b>		2.0		2.0		2.0	2.0	1.5	2.0
<b>3 MN0404CN (SCN)</b>		2.0		1.0		1.0	2.0	1.5	2.0
<b>4 MN1511CN</b>		1.0		2.0		1.0	1.0	1.5	2.0
<b>5 M15-220021</b>		2.0		1.0		1.0	1.0	1.5	1.7
<b>6 M17-147055</b>		1.0		2.0		1.0	2.0	3.5	2.3
<b>7 M17-147079</b>		2.0		1.0		1.0	1.0	2.5	2.0
<b>8 M17-148028</b>		1.0		1.0		2.0	2.0	2.0	2.0
<b>9 M17-148036</b>		3.0		1.0		2.0	2.0	2.0	2.0
<b>10 M17-149067</b>		1.0		2.0		2.0	2.0	1.5	2.0
<b>11 M17-152013</b>		2.0		2.0		2.0	2.0	1.5	2.0
<b>12 M17-152020</b>		1.0		1.0		2.0	2.0	1.5	2.0
<b>13 M17-152029</b>		1.0		1.0		1.0	1.0	1.5	2.0
<b>14 M17-152076</b>		1.0		2.0		1.0	1.0	1.5	2.0
<b>15 M17-152136</b>		1.0		1.0		2.0	2.0	2.5	2.0
<b>16 M17-157018</b>		2.0		1.0		2.0	1.0	1.5	1.7
<b>17 M17-186007</b>		1.0		1.0		1.0	1.0	1.5	2.0
<b>18 M17-186022</b>		1.0		1.0		2.0	2.0	1.5	1.3
<b>19 M17-193054</b>		2.0		2.0		2.0	2.0	2.0	2.0
<b>20 ND20-12884</b>		1.0		1.0		1.0	1.0	1.5	1.7
<b>21 ND20-14884</b>		1.0		2.0		2.0	2.0	2.5	2.7
<b>22 OAC 19-05C-SCN</b>		1.0		1.0		2.0	2.0	2.5	2.0

## 2023 SCN UNIFORM 0

### Protein (%)

SCN HG Type	Grand								
	Absaraka	Prosper	Colfax	Crookston	Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>		34.6		33.4		33.5	33.5	37.8	37.1
<b>2 MN0095</b>		35.4		33.8		33.5	32.5	37.1	36.0
<b>3 MN0404CN (SCN)</b>		35.7		34.1		32.6	33.8	37.5	36.9
<b>4 MN1511CN</b>		33.1		33.0		31.1	31.6	37.4	35.7
<b>5 M15-220021</b>		35.9		34.6		33.3	34.1	36.9	35.8
<b>6 M17-147055</b>		35.3		34.5		32.9	33.8	37.1	37.1
<b>7 M17-147079</b>		35.1		33.5		32.3	33.1	38.0	36.7
<b>8 M17-148028</b>		35.3		34.0		33.0	33.4	36.6	36.5
<b>9 M17-148036</b>		37.3		35.0		34.2	34.4	38.6	37.7
<b>10 M17-149067</b>		36.1		33.8		33.0	33.9	37.8	38.5
<b>11 M17-152013</b>		37.0		35.9		36.0	36.2	38.2	39.5
<b>12 M17-152020</b>		34.7		35.2		33.6	34.0	38.1	37.5
<b>13 M17-152029</b>		37.1		35.1		34.1	34.0	39.0	39.1
<b>14 M17-152076</b>		36.4		34.9		32.7	33.2	37.1	36.8
<b>15 M17-152136</b>		37.2		34.5		34.0	33.5	38.7	37.6
<b>16 M17-157018</b>		33.1		33.1		31.2	32.8	35.6	34.9
<b>17 M17-186007</b>		32.7		32.8		31.6	32.2	37.1	36.2
<b>18 M17-186022</b>		34.9		33.2		33.4	32.5	37.7	36.0
<b>19 M17-193054</b>		34.9		33.7		33.0	32.8	37.0	36.4
<b>20 ND20-12884</b>		35.3		33.9		34.0	33.5	37.7	37.4
<b>21 ND20-14884</b>		36.2		33.8		34.2	33.2	38.0	36.8
<b>22 OAC 19-05C-SCN</b>		35.5		34.6		33.6	33.8	38.7	37.5

## 2023 SCN UNIFORM 0

Oil (%)

SCN HG Type	Absaraka	Prosper	Colfax	Crookston	Grand Rapids	Moorhead	Shelly	Elora	Ottawa
	ND	ND	ND	MN	MN	MN	MN	ON	ON
	2.5.7	7	2.5.7	2.7	NI	NI	NI	NI	NI
Strain									
<b>1 ND Dickey (0)</b>		17.3		18.7		19.2	18.0	16.0	16.8
<b>2 MN0095</b>		18.6		19.6		20.0	19.9	16.4	17.7
<b>3 MN0404CN (SCN)</b>		17.9		18.8		20.0	20.0	17.2	17.9
<b>4 MN1511CN</b>		18.1		18.9		19.8	19.5	16.1	16.9
<b>5 M15-220021</b>		18.4		19.7		19.9	19.5	17.0	18.1
<b>6 M17-147055</b>		18.1		18.5		19.6	19.0	17.1	17.9
<b>7 M17-147079</b>		18.9		19.2		20.7	20.2	16.0	17.9
<b>8 M17-148028</b>		17.8		18.1		19.1	19.1	17.3	17.0
<b>9 M17-148036</b>		16.5		18.4		18.5	19.1	16.1	17.2
<b>10 M17-149067</b>		17.0		18.4		19.0	18.1	16.5	16.3
<b>11 M17-152013</b>		17.1		18.0		18.6	17.9	16.5	16.1
<b>12 M17-152020</b>		18.5		18.3		19.6	19.1	16.4	17.5
<b>13 M17-152029</b>		17.2		18.9		19.0	18.3	16.2	17.1
<b>14 M17-152076</b>		17.5		18.4		18.7	18.4	16.4	17.0
<b>15 M17-152136</b>		16.7		18.4		19.0	19.1	15.3	16.8
<b>16 M17-157018</b>		19.3		19.1		20.0	19.3	17.7	18.5
<b>17 M17-186007</b>		18.8		19.5		20.5	19.7	16.9	17.8
<b>18 M17-186022</b>		18.2		18.7		19.2	19.6	16.2	17.6
<b>19 M17-193054</b>		18.2		19.0		20.3	20.1	16.9	18.4
<b>20 ND20-12884</b>		18.3		19.1		19.4	19.1	17.2	17.2
<b>21 ND20-14884</b>		17.8		18.7		19.2	19.1	16.3	16.9
<b>22 OAC 19-05C-SCN</b>		17.8		18.4		19.3	18.2	17.5	17.5