

Table 1

ADVANCED CHIP-PROCESSING TRIAL
MONTCALM RESEARCH CENTER
May 5 to September 29, 2020 (147 days)
DD Base 40°F 3216⁸

LINE	N	CWT/A		PERCENT OF TOTAL ¹						CHIP SCORE ²	OTF SED ³	PERCENT (%) TUBER QUALITY ⁴					MAT ⁶	BRUISE ⁷	3-YR AVG
		US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR			HH	VD	IBS	BC	SCAB ⁵			US#1
MSAA252-7	1	389	409	95	5	95	0	0	1.083	1.0	0	10	0	0	0	1.5	5.0	3.6	-
MSBB626-11	2	378	409	93	8	92	1	0	1.085	1.5	1	5	0	0	0	0.8	4	3.0	-
MSZ219-01	1	375	390	96	4	89	7	0	1.080	1.0	0	0	0	0	0	0.7	3.0	1.3	341
MSAA076-6	1	370	413	90	10	90	0	0	1.092	1.0	0	0	0	10	0	1.3	3.0	2.7	334*
MSAA328-4	1	348	362	96	3	96	0	1	1.081	1.0	0	0	0	0	0	1.3	3.0	2.8	-
Huron Chipper	1	337	379	89	11	89	0	0	1.083	1.0	0	0	20	0	0	1.3	3.0	0.9	338
MSBB079-2	1	325	371	88	11	88	0	1	1.083	1.0	0	0	0	0	0	1.3	3.0	2.3	-
MSZ120-04	1	324	358	91	8	91	0	2	1.082	1.0	0	0	20	0	0	1.5	5.0	2.5	370*
MSBB611-3	1	320	360	89	10	89	0	1	1.086	1.5	0	0	0	0	0	2.5	3.0	3.6	-
MSBB635-14	2	318	353	91	9	91	0	2	1.081	1.0	0	0	10	0	0	1.7	2.5	1.3	-
MSBB610-13	1	317	338	94	5	94	0	1	1.083	1.0	0	0	0	0	0	0.8	2.0	1.3	-
MSBB617-2	1	315	339	93	6	93	0	1	1.083	1.0	0	20	10	0	0	1.5	2.0	0.6	-
MSAA100-1	1	314	326	96	4	96	0	0	1.069	ND	ND	0	70	0	0	1.3	3.0	ND	-
MSBB058-1	1	307	342	90	10	90	0	1	1.093	1.0	0	0	0	0	0	1.3	3.0	3.5	-
MSX245-2Y	1	304	329	92	4	90	2	4	1.081	1.0	1	0	0	0	0	1.8	4.0	1.0	404*
MSAA498-18	2	303	330	92	8	92	1	0	1.086	1.0	0	5	0	0	0	0.8	3.5	2.9	-
MSZ219-13	1	296	320	93	7	93	0	0	1.086	1.0	0	0	0	0	0	1.2	3.0	2.9	325
MSAA513-1	1	293	321	91	5	89	2	3	1.078	1.0	0	0	20	0	0	1.5	2.0	3.0	-
MSCC058-1	1	291	323	90	7	88	2	3	1.086	1.0	0	30	0	0	0	1.7	3	2.5	-
Mackinaw	2	291	319	91	9	91	0	1	1.090	1.0	0	0	0	0	0	1.7	3.5	1.3	277
MSAA232-4	1	285	329	87	9	87	0	4	1.081	1.0	0	10	0	0	0	2.2	3.0	0.5	-
Manistee	1	279	331	84	16	84	0	0	1.079	1.0	0	0	0	0	0	2.5	2.0	0.5	276
MSZ052-14	1	276	314	88	12	88	0	0	1.077	ND	ND	0	0	0	0	1.5	3.0	ND	278
MSZ052-11	1	271	328	83	15	83	0	2	1.078	ND	ND	0	0	0	0	0.5	3.0	ND	-
MSZ242-09	1	263	318	83	9	83	0	8	1.089	1.0	0	10	0	0	0	1.3	4.0	1.0	269
MSCC168-1	1	259	298	87	13	87	0	0	1.076	1.0	0	0	0	0	0	2.0	2.0	3.3	-
MSZ242-13	1	259	294	88	9	88	0	3	1.099	1.0	0	0	0	0	0	1.2	3.0	2.8	276
MSZ063-2	1	252	342	74	25	74	0	1	1.084	1.0	0	0	0	0	0	1.8	2	0.8	-
MSAA260-3	1	251	305	82	7	80	2	11	1.080	1.0	1	0	0	0	0	1.2	4.0	2.0	-
MSV498-1	1	248	269	92	8	92	0	0	1.078	ND	ND	0	80	0	0	1.7	2.0	ND	310
MSAA217-3	1	247	256	96	4	96	0	0	1.091	1.0	0	30	10	0	0	2.3	3	2.3	-
MSZ194-2	1	245	258	95	5	95	0	0	1.078	ND	ND	0	0	0	0	2.0	2.0	ND	-
MSZ242-07	1	241	288	84	12	84	0	4	1.098	1.0	0	0	0	0	0	1.0	3.0	1.4	305
Lamoka	2	238	288	83	17	83	0	1	1.082	1.0	0	0	10	0	0	0.8	2.5	2.6	277
MSBB618-9	1	229	295	78	15	76	2	8	1.066	ND	ND	0	0	0	0	1.5	2.0	ND	-
MSY156-2	1	229	280	81	18	81	0	0	1.084	1.0	0	0	0	0	0	1.0	4.0	0.3	331*
MSZ219-14	1	229	283	81	11	81	0	8	1.081	ND	ND	50	0	0	0	1.0	3.0	ND	329
FL2137	2	221	256	86	10	86	0	4	1.085	1.0	1	5	5	0	0	1.8	2.0	1.3	227*
MSZ052-13	1	214	243	88	12	88	0	0	1.085	ND	ND	0	0	0	0	0.5	3	ND	234*
Snowden	1	211	286	74	26	74	0	1	1.084	1.0	0	0	20	0	0	2.4	2.0	2.3	239
MSX526-1	2	203	235	86	14	86	0	0	1.083	1.0	0	0	0	0	0	1.3	2	1.4	-
Petoskey	1	200	236	85	15	85	0	0	1.092	1.0	1	0	0	0	0	1.3	2.0	1.0	199*
MSW163-3	1	190	243	78	6	78	0	16	1.074	ND	ND	0	0	0	0	1.2	3.0	ND	-
MSCC266-1	1	165	180	92	7	92	0	1	1.066	ND	ND	0	0	0	10	1.2	1.0	ND	-
Atlantic	2	149	170	87	13	87	0	1	1.085	1.0	0	10	5	0	0	1.9	2.0	1.8	242
MSZ248-10	1	122	159	77	6	77	0	17	1.083	ND	ND	0	0	0	0	1.0	4.0	ND	269*
MSBB614-10	1	107	121	88	8	88	0	4	1.078	1.0	0	0	0	0	0	1.2	3.0	0.4	-
MEAN		268	304						1.083							1.4	2.9	1.9	

¹SIZE: B: <2 in.; A: 2-3.25 in.; OV: >3.25 in.; PO: Pickouts.²CHIP SCORE: SNAC Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.³SED: Stem End Defect, Based on Paul Bethke's (USDA/UWisconsin - Madison) 0 - 5 scale. 0 = no SED; 3 = significant SED; 5 = severe SED⁴QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.⁵SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.⁶MATURITY RATING: August 20, 2019; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).⁷BRUISE: Simulated blackspot bruise test, average number of spots per tuber.

Plant Date: 5/5/20

Vine Kill: 9/1/20

Days from planting to vine kill: 119

⁸Enviroweather: Entrican Station. Planting to vine kill

Table 2

RUSSET TRIAL
MONTCALM RESEARCH CENTER
May 05 to September 16, 2020 (134 days)
DD Base 40°F 3216⁶

LINE	N	CWT/A		PERCENT OF TOTAL ¹					PERCENT (%) TUBER QUALITY ²							3-YR AVG	
		US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS	BC	SCAB ³	MAT ⁴	BRUISE ⁵	US#1
A09086-1LB	1	354	471	75	24	75	0	1	1.077	0	0	0	0	3.2	4.0	0.1	-
Umatilla Russet	1	335	494	68	26	68	0	6	1.084	10	0	0	0	0.8	4.0	1.5	-
Plover Russet	1	333	364	92	6	92	0	2	1.066	0	0	0	0	1.5	2.0	1.0	-
A08433-4Sto	1	330	392	84	13	84	0	3	1.072	30	0	0	0	2.3	4.0	0.2	-
CO09205-2Rus	1	312	384	81	19	81	0	0	1.070	10	0	0	0	2.7	3.0	1.1	-
Alverstone Russet (HZPC)	1	289	411	70	13	70	0	17	1.074	30	0	10	0	2.3	3.0	0.4	-
Dakota Russet	1	278	309	90	9	90	0	1	1.081	30	30	0	0	1.8	3.0	0.8	293*
SunSet Russet (TX13590-9Rus)	1	270	321	84	14	84	0	2	1.077	90	30	0	0	2.0	3.0	0.7	-
AO06191-1	1	248	281	88	10	88	0	2	1.079	0	0	0	0	0.5	2.0	0.5	-
Vanguard Russet	1	235	261	90	10	90	0	0	1.058	10	0	0	0	1.5	1.0	0.5	204
Goldrush Russet	1	213	339	63	23	63	0	14	1.061	0	50	0	0	0.3	2.0	0.4	201
Russet Norkotah/Texas 112	1	197	288	69	31	69	0	1	1.064	30	20	10	0	2.5	1.5	0.1	201
MEAN		283	359						1.072					1.8	2.7	0.6	202

* Two-Year Average

¹SIZE: B: < 4 oz.; A: 4-10 oz.; OV: > 10 oz.; PO: Pickouts.

²QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.

³SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.

⁴MATURITY RATING: August 20, 2019; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

⁵BRUISE: Simulated blackspot bruise test average number of spots per tuber.

⁶Enviroweather: Entrican Station. Planting to vine kill

Plant Date: 5/5/20

Vine Kill: 9/1/20

Days from planting to vine kill: 119

Table 3

ADAPTATION TRIAL, TABLESTOCK LINES
MONTCALM RESEARCH CENTER
May 05 to September 16, 2020 (134 days)
DD Base 40°F 3216⁶

LINE	N	CWT/A		PERCENT OF TOTAL ¹					PERCENT (%) TUBER QUALITY ²							
		US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS	BC	SCAB ³	MAT ⁴	BRUISE ⁵
MSZ416-8RY	1	430	490	88	9	49	37	4	1.056	0	10	0	0	1.2	2.0	0.8
MSAA120-1	1	410	437	94	5	92	2	1	1.071	30	0	0	0	2.2	3.0	1.2
MSBB213-1Spl	1	406	427	95	4	95	0	1	1.078	0	30	0	10	1.5	3.0	0.9
MSV093-1Y	1	405	437	93	3	93	0	4	1.067	0	0	0	0	1.7	4.0	0.4
MSZ551-1	1	388	419	93	5	87	6	2	1.075	0	10	0	0	1.8	4.0	1.9
MSX156-1Y	1	381	399	95	3	94	2	2	1.068	0	0	0	0	2.2	3.0	1.7
MSAA196-1	1	316	351	90	8	90	0	2	1.063	0	0	0	0	1.7	4.0	0.3
MSCC300-1	1	313	358	87	8	84	3	5	1.073	30	0	0	0	2.0	2.0	0.5
Blackberry	1	312	496	63	36	63	0	1	1.066	0	0	0	0	1.3	4.0	0.0
MSV443-1PP	2	292	350	84	17	83	1	0	1.062	0	0	0	0	1.3	2.0	0.2
MSY111-1	2	284	327	87	9	86	1	5	1.089	5	35	0	0	1.3	3.5	0.6
MSZ436-2Spl	1	268	289	93	7	91	2	0	1.054	0	10	0	0	1.8	2.0	0.1
MSCC302-1	1	260	296	88	12	88	0	0	1.076	0	0	0	0	2.0	3.0	1.9
MSW476-4R	1	259	317	82	17	82	0	1	1.073	0	30	0	0	2.0	2.0	0.8
Superior	1	247	269	92	8	92	0	0	1.056	0	10	10	0	1.8	1.0	0.5
MSCC515-2Y	1	242	269	90	9	90	0	1	1.066	0	0	0	0	2.0	2.0	0.1
MSV179-1	2	241	250	97	2	65	33	1	1.069	0	0	0	0	1.5	3.0	0.4
MSZ427-3R	1	239	290	83	15	83	0	2	1.055	0	10	0	0	2.0	2.0	0.4
MSW038-4Y	1	228	290	79	11	79	0	10	1.069	0	0	0	0	2.3	2.0	0.7
MSBB351-1	1	225	244	92	6	89	3	2	1.059	10	0	0	0	0.8	2.0	0.3
MSX193-1Y	1	225	273	82	18	82	0	0	1.073	0	10	0	0	2.7	2.0	0.3
MSX324-2R	1	218	285	76	20	76	0	4	1.066	0	0	0	0	1.2	1.0	0.6
MSX497-6	1	208	218	96	4	96	0	0	1.069	0	10	0	0	2.8	2.0	nd
MSAA174-1	1	204	234	87	11	87	0	2	1.056	0	10	0	0	1.7	2.0	0.2
MSX137-6	1	199	325	61	38	59	2	0	1.075	0	0	0	0	1.7	3.0	0.3
MSZ109-8PP	1	199	279	71	23	71	0	5	1.063	0	0	0	0	1.2	3.0	0.3
MSX324-1P	1	195	272	72	28	72	0	1	1.076	0	0	0	0	1.0	1.0	0.5
Yukon Gold	1	194	202	96	4	93	3	0	1.064	20	0	0	10	2.5	1.0	0.5
MSX293-1Y	1	191	228	84	16	84	0	0	1.066	0	10	0	0	2.7	2.0	0.2
MST252-1Y	1	186	246	76	24	76	0	0	1.066	0	0	0	0	0.8	1.0	0.6
MSZ268-1Y	1	185	263	70	7	70	0	23	1.072	10	10	0	0	1.0	4.0	0.4
MSZ590-1	1	184	260	71	28	71	0	1	1.061	10	0	0	0	0.7	2.0	1.1
MSY507-2	1	164	225	73	21	73	0	6	1.076	0	10	0	0	1.0	2.0	1.7
Queen Anne	1	157	245	64	34	64	0	2	1.061	0	0	0	0	1.8	1.0	0.1
MSZ615-2	2	139	176	81	18	79	2	2	1.066	0	20	0	0	1.5	1.0	0.5
MEAN		206	257						1.066					1.7	1.9	0.5

¹SIZE: B: <2 in.; A: 2-3.25 in.; OV: > 3.25 in.; PO: Pickouts.²QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.³SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.⁴MATURITY RATING: August 20, 2019; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

Plant Date: 5/5/20

Vine Kill: 9/1/20

⁵BRUISE: Simulated blackspot bruise test average number of spots per tuber.

Days from planting to vine kill: 119

⁶Enviroweather: Entrican Station. Planting to vine kill

Table 4

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICSPRELIMINARY TRIAL, CHIP-PROCESSING LINES
MONTCALM RESEARCH CENTER
May 5 to September 17, 2020 (135 days)
DD Base 40°F 3216⁸

LINE	N	CWT/A		PERCENT OF TOTAL ¹					SP GR	CHIP SCORE ²	OTF SED ³	PERCENT (%) TUBER QUALITY ⁴				SCAB ⁵	MAT ⁶	BRUISE ⁷
		US#1	TOTAL	US#1	Bs	As	OV	PO				HH	VD	IBS	BC			
MSCC725-232	1	457	533	86	7	84	1	7	1.068	1.0	0.0	30	0	0	0	1.2	4.0	0.1
MSBB017-1	1	439	545	81	19	81	0	1	1.079	1.5	0.0	0	20	0	0	1.8	3.0	1.2
MSEE033-2	1	434	453	96	4	92	4	0	1.071	1.0	0.0	10	20	10	0	1.7	3.0	0.5
MSEE131-1	1	420	443	95	4	93	1	1	1.077	1.5	0.0	10	0	0	0	1.7	4.0	0.4
MSEE063-6	1	414	428	97	3	93	4	0	1.076	1.0	0.0	0	10	0	0	1.0	4.0	0.2
MSBB621-3	1	413	460	90	10	90	0	0	1.069	1.5	2.0	0	30	0	0	2.0	4.0	0.9
MSEE163-1	1	403	450	90	9	90	0	1	1.074	1.0	0.0	0	30	0	0	1.0	4.0	ND
MSDD497-B	1	374	386	97	3	95	1	0	1.056	1.5	2.0	0	10	0	0	1.2	4.0	0.0
MSEE157-1	1	371	408	91	9	88	3	0	1.077	1.5	2.0	0	0	0	0	0.8	3.0	0.4
MSEE207-02	1	363	402	90	7	90	0	2	1.075	1.0	1.0	0	20	0	0	0.7	4.0	0.8
MSEE142-1	1	358	384	93	7	93	0	0	1.081	1.0	1.0	0	20	0	0	1.8	3.0	ND
MSEE149-2	1	336	339	99	1	95	4	0	1.084	1.5	2.0	0	10	0	0	1.3	4.0	1.3
MSBB179-1	1	335	351	95	5	90	5	0	1.072	1.0	0.0	0	60	0	0	1.2	3.0	1.1
MSEE136-1	1	331	375	88	12	88	0	0	1.072	2.0	2.0	0	0	0	0	2.0	2.0	0.9
MSEE171-2	1	330	341	97	3	93	4	0	1.082	1.5	2.0	0	10	70	0	1.0	4.0	2.9
MSEE031-3	1	326	358	91	9	91	0	0	1.078	1.5	1.0	0	10	20	0	1.0	2.0	0.6
MSEE101-2	1	325	358	91	9	91	0	0	1.083	1.5	1.0	0	0	0	0	1.0	2.0	1.4
Snowden	1	324	382	85	15	85	0	0	1.077	1.0	0.0	0	80	0	0	2.4	2.0	1.5
MSBB623-12	1	322	345	93	6	93	0	1	1.070	1.0	1.0	0	50	0	0	1.7	2.0	0.4
MSEE180-3P	1	317	393	81	19	81	0	0	1.076	ND	ND	0	10	0	0	0.8	2.0	0.2
MSEE149-1	1	313	324	97	3	82	15	0	1.075	1.0	0.0	10	20	0	0	1.3	5.0	1.6
MSBB190-1	1	306	324	95	5	90	4	0	1.068	1.5	1.0	10	0	0	0	1.7	3.0	0.4
MSEE151-2	1	296	343	86	10	86	0	3	1.075	1.0	1.0	0	20	10	0	1.2	2.0	1.4
MSEE018-2	1	283	317	89	7	88	2	3	1.092	1.5	1.0	0	10	0	0	2.0	4.0	2.1
MSEE151-3	1	280	339	83	17	83	0	1	1.078	1.0	0.0	0	10	0	0	2.7	2.0	0.3
MSEE052-5	1	275	316	87	10	87	0	3	1.070	1.0	1.0	0	10	0	0	1.2	3.0	0.0
MSBB107-1	1	273	315	87	12	87	0	1	1.068	1.0	0.0	0	0	0	0	2.3	3.0	0.1
MSX042-3	1	269	293	92	7	92	0	2	1.079	1.0	0.0	0	0	0	0	1.5	2.0	0.6
MSBB651-4	1	266	312	85	15	85	0	0	1.071	1.0	0.0	0	0	0	0	1.0	ND	0.4
MSDD530-1	1	249	281	88	12	88	0	0	1.065	1.0	0.0	0	0	0	0	1.8	3.0	0.2
MSBB166-1	1	240	297	81	18	81	0	1	1.071	1.5	0.0	10	0	0	0	1.0	2.0	1.0
MSAA241-1	1	234	265	88	12	88	0	0	1.077	1.0	0.0	0	30	0	0	1.2	3.0	0.9
MSEE137-3	1	227	272	84	16	84	0	0	1.077	1.0	1.0	0	0	0	0	1.8	2.0	0.2
MSBB625-2	1	217	259	84	16	84	0	0	1.089	1.5	0.0	10	20	10	0	0.8	3.0	1.0

Table 4

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICSPRELIMINARY TRIAL, CHIP-PROCESSING LINES
MONTCALM RESEARCH CENTER
May 5 to September 17, 2020 (135 days)
DD Base 40°F 3216⁸

LINE	N	CWT/A		PERCENT OF TOTAL ¹					SP GR	CHIP SCORE ²	OTF SED ³	PERCENT (%) TUBER QUALITY ⁴				SCAB ⁵	MAT ⁶	BRUISE ⁷
		US#1	TOTAL	US#1	Bs	As	OV	PO				HH	VD	IBS	BC			
MSZ219-46	1	208	215	97	3	97	0	0	1.074	1.0	0.0	0	20	0	0	1.3	3.0	0.5
Pike	1	207	268	77	19	77	0	3	1.075	1.0	1.0	0	10	0	0	0.8	2.0	0.3
Atlantic	1	196	233	84	16	84	0	0	1.082	1.0	1.0	30	30	20	0	1.9	2.0	1.2
MSEE074-2	1	192	207	93	7	93	0	0	1.073	1.0	0.0	0	0	0	0	0.8	1.0	0.4
MSAA085-1	1	183	233	79	21	79	0	0	1.071	1.0	0.0	10	20	0	0	1.8	2.0	0.2
MSEE010-3	1	177	199	89	10	89	0	1	1.070	1.5	1.0	0	20	0	0	1.3	2.0	0.3
MSBB634-8	1	174	195	89	10	89	0	1	1.071	1.0	1.0	0	30	20	0	1.2	3.0	0.1
MSEE025-1	1	174	185	94	4	94	0	1	1.076	1.0	0.0	0	30	0	0	0.8	3.0	0.8
MSEE141-2	1	167	184	91	9	91	0	0	1.079	1.5	1.0	0	10	0	0	1.2	1.0	0.6
MSEE038-1	1	134	190	71	29	71	0	0	1.057	1.0	0.0	0	0	0	0	1.8	1.0	0.2
MSEE190-1	1	132	165	80	20	80	0	0	1.073	1.0	1.0	0	30	0	0	1.3	3.0	0.6
MSEE154-1	1	129	185	70	30	70	0	0	1.059	1.0	0.0	0	10	0	0	1.7	1.0	0.2
MSBB020-8	1	92	174	53	46	53	0	1	1.076	1.0	0.0	0	0	0	0	0.8	2.0	0.9
MSEE022-8	1	51	140	37	63	37	0	0	1.077	1.5	1.0	0	0	0	0	1.7	3.0	0.0
MEAN		278	316						1.074							1.4	2.7	0.7

¹SIZE: B: <2 in.; A: 2-3.25 in.; OV: >3.25 in.; PO: Pickouts.²CHIP SCORE: SNAC Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.³SED: Stem End Defect, Based on Paul Bethke's (USDA/UWisconsin - Madison) 0 - 5 scale. 0 = no SED; 3 = significant SED; 5 = severe SED⁴QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.⁵SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.⁶MATURITY RATING: August 20, 2019; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).⁷BRUISE: Simulated blackspot bruise test average number of spots per tuber.

Plant Date: 5/5/20

Vine Kill: 9/1/20

Days from planting to vine kill: 119

⁸Enviroweather: Entrican Station. Planting to vine kill

Table 5

PRELIMINARY TRIAL, TABLESTOCK LINES
MONTCALM RESEARCH CENTER
May 5 to September 17, 2020 (135 days)
DD Base 40°F 3216⁶

LINE	N	CWT/A		PERCENT OF TOTAL ¹					PERCENT (%) TUBER QUALITY ²					SCAB ³	MAT ⁴	BRUISE ⁵
		US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS	BC			
MSBB305-2SPL	1	351	410	86	14	86	0	0	1.060	0	10	0	0	1.7	3.0	0.3
MSEE199-1	1	274	332	83	5	66	17	13	1.073	0	0	0	0	0.3	3.0	0.9
MSCC314-1	1	259	289	90	6	88	2	4	1.065	10	10	0	10	1.5	2.0	0.1
Paroli	1	259	306	85	14	85	0	2	1.054	0	0	0	0	2.0	1.0	0.0
Melody	1	255	304	84	14	84	0	2	1.067	0	0	0	0	2.3	4.0	0.8
MSBB371-1YSPL	1	247	333	74	24	74	0	2	1.070	0	10	0	0	1.2	1.0	0.5
MSAA342-2	1	242	254	95	5	88	7	0	1.065	0	10	0	0	1.7	3.0	1.0
Reba	1	234	274	85	14	85	0	1	1.063	10	0	0	0	2.7	3.0	0.5
Constance	1	234	336	69	20	69	0	10	1.060	0	0	10	0	2.8	2.0	0.7
Allora	1	201	267	75	18	75	0	7	1.064	0	0	0	0	2.5	3.0	0.5
Jacqueline Lee	1	182	357	51	35	51	0	14	1.081	0	10	0	0	3.0	3.0	1.8
Golden Globe	1	179	357	50	21	50	0	29	1.060	0	0	0	0	2.2	2.0	0.2
MSCC724-1Y	1	168	208	81	12	81	0	7	1.066	0	0	0	0	ND	1.0	0.3
Yukon Gold	1	136	156	87	8	87	0	4	1.062	10	0	0	0	2.5	2.0	ND
Nixie	1	120	257	47	50	47	0	3	1.065	0	0	0	0	2.8	3.0	0.1
MSEE255-1	1	120	144	83	8	76	7	9	1.073	10	20	10	0	1.5	3.0	1.4
MSEE085-1	1	58	235	25	75	25	0	1	1.075	0	0	0	0	1.5	3.0	0.7
MEAN		207	283						1.066					2.0	2.5	0.6

¹SIZE: B: <2 in.; A: 2-3.25 in.; OV: >3.25 in.; PO: Pickouts.

²QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.

³SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.

⁴MATURITY RATING: August 20, 2019; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

⁵BRUISE: Simulated blackspot bruise test average number of spots per tuber.

⁶Enviroweather: Entrican Station. Planting to vine kill

Plant Date: 5/5/20

Vine Kill: 9/1/20

Days from planting to vine kill: 119

Table 6

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS

PRELIMINARY TRIAL, PIGMENTED LINES
MONTCALM RESEARCH CENTER
May 5 to September 17, 2019 (135 days)
DD Base 40°F 3216⁶

LINE	N	CWT/A		PERCENT OF TOTAL ¹					PERCENT (%) TUBER QUALITY ²				SCAB ³	MAT ⁴	Bruise ⁵	
		US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS				BC
Fenway Red	1	325	391	83	14	81	2	3	1.072	0	10	0	0	2.3	3.0	0.5
CO99076-6R	1	275	327	84	11	84	0	5	1.067	0	10	0	0	2.8	2.0	0.7
MSZ107-6PP	1	243	341	71	28	71	0	1	1.075	0	0	0	0	1.8	1.0	0.2
MSEE247-6WP	1	236	278	85	14	85	0	1	1.060	10	0	0	0	1.0	2.0	0.1
MSBB308-2P	1	228	288	79	19	79	0	2	1.056	0	50	0	0	1.2	2.0	0.1
MSAA101-1RR	1	226	344	66	31	66	0	4	1.081	0	10	0	0	0.8	3.0	0.2
Dark Red NorlaND	1	207	255	81	17	81	0	1	1.052	0	20	0	0	ND	1.0	0.1
MSAA127-7PP mini	1	187	258	73	27	73	0	0	1.053	0	0	0	0	1.7	1.0	0.4
MSCC614-1RYSPL	1	179	333	54	45	54	0	1	1.079	0	10	0	0	1.7	2.0	0.2
MSZ427-1R mini	1	141	253	56	44	56	0	1	1.057	0	0	0	0	0.8	1.0	0.1
MSBB250-1PP	1	140	399	35	63	35	0	2	1.078	0	0	0	0	1.7	4.0	0.2
MSAA706-7PP	1	122	146	84	16	84	0	0	1.065	0	0	0	0	1.7	3.0	0.3
Vicki (HZPC)	1	118	238	50	37	50	0	13	1.065	0	0	0	0	0.7	3.0	0.1
MSX443-3P mini	1	97	305	32	68	32	0	0	1.074	0	0	10	0	1.8	4.0	0.1
MSCC542-1P	1	86	128	67	31	67	0	2	1.054	0	10	0	0	1.5	2.0	0.1
MSAA157-2PY	1	70	106	66	33	66	0	1	1.067	0	0	0	0	2.8	3.0	0.3
MEAN		180	274						1.066					1.6	2.3	0.2

¹SIZE: B: <2 in.; A: 2-3.25 in.; OV: >3.25 in.; PO: Pickouts.

²QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.

³SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.

Plant Date: 5/5/20

⁴MATURITY RATING: August 20, 2019; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

Vine Kill: 9/1/20

⁵BRUISE: Simulated blackspot bruise test, average number of spots per tuber.

Days from planting to vine kill: 119

⁶Enviroweather: Entrican Station. Planting to vine kill

Table 7

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2018-20 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, MONTCALM RESEARCH CENTER , MI

LINE	3-YR* AVG.	2020 RATING	2020 WORST	2020 N	2019 RATING	2019 WORST	2019 N	2018 RATING	2018 WORST	2018 N
<i>Sorted by ascending 2020 Average Rating:</i>										
Goldrush Russet	0.4	0.3	0.5	3	0.7	1.0	3	0.3	0.5	3
MSEE199-1	-	0.3	0.5	3						
AO06191-1	-	0.5	0.5	3						
MSCC282-3RR	-	0.5	0.5	3						
MSEE182-3	-	0.5	1.0	3						
MSZ052-11	-	0.5	0.5	3						
MSZ052-13	0.6*	0.5	0.5	3	0.7	1.0	3			
MSEE207-2	-	0.7	1.0	3						
MSZ219-01 ^{PVYR}	0.6	0.7	1.0	3	0.5	0.5	3	0.5	0.5	3
MSZ590-1	1.0	0.7	1.0	3	1.3	1.5	3	1.0	1.0	3
Vicki	-	0.7	1.0	3						
MSEE025-1	-	0.8	1.0	2						
Lamoka	1.4	0.8	1.0	3	1.5	2.0	3	2.0	2.5	3
MSAA101-1RR	0.7	0.8	1.0	3	0.8	1.5	3	0.5	0.5	3
MSAA498-18	-	0.8	1.0	3						
MSBB020-8	0.8*	0.8	1.0	3	0.8	1.0	2			
MSBB351-1	-	0.8	1.5	3						
MSBB610-13	-	0.8	1.0	3						
MSBB625-2	-	0.8	1.0	3						
MSBB626-11	-	0.8	1.5	3						
MSEE074-2	-	0.8	1.0	3						
MSEE157-1	-	0.8	1.0	3						
MSEE180-3P	-	0.8	1.0	3						
MST252-1Y	1.3	0.8	1.0	3	1.7	2.0	3	1.5	1.5	3
MSZ427-1R	0.9	0.8	1.0	3	0.7	1.5	3	1.2	1.5	3
Pike	1.4	0.8	1.0	3	1.5	2.0	3	1.8	2.0	6
Umatilla Russet	-	0.8	1.5	3						
MSBB166-1	-	1.0	1.5	3						
MSBB651-4	-	1.0	1.0	3						
MSEE031-3	-	1.0	1.0	3						
MSEE063-6	-	1.0	1.0	3						
MSEE101-2	-	1.0	1.5	3						
MSEE115-1	-	1.0	1.5	3						
MSEE163-1	-	1.0	1.0	3						
MSEE171-2	-	1.0	1.5	3						
MSEE247-6WP	-	1.0	1.5	3						
MSX324-1P	1.1	1.0	1.0	3	1.3	1.5	3	0.8	1.0	3
MSY156-2	-	1.0	1.5	3						
MSY507-2	-	1.0	1.0	2						
MSZ219-14 ^{PVYR}	0.9	1.0	1.0	3	0.8	1.5	3	0.8	1.0	3
MSZ242-07	1.3	1.0	1.5	3	1.3	1.5	3	1.5	2.0	3
MSZ248-10	-	1.0	1.5	3						
MSZ268-1Y	-	1.0	1.0	3						
MSZ443-1PP	1.6	1.0	1.5	3	1.5	2.0	3	2.2	2.5	3
MSAA241-1	-	1.2	1.5	3						
MSAA260-3	-	1.2	1.5	3						
MSBB179-1	-	1.2	1.5	3						
MSBB308-2P	1.2*	1.2	2.0	3	1.2	1.5	3			
MSBB371-1YSpl	1.5*	1.2	2.0	3	1.8	2.0	3			
MSBB614-10	-	1.2	1.5	3						

Table 7

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2018-20 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, MONTCALM RESEARCH CENTER, MI

LINE	3-YR*	2020	2020	2020	2019	2019	2019	2018	2018	2018
	AVG.	RATING	WORST	N	RATING	WORST	N	RATING	WORST	N
MSBB634-8	1.3*	1.2	1.5	3	1.5	2.0	3			
MSCC266-1	-	1.2	1.5	3						
MSCC725-232	-	1.2	1.5	3						
MSDD497-B	-	1.2	1.5	3						
MSEE052-5	-	1.2	1.5	3						
MSEE141-2	-	1.2	2.0	3						
MSEE151-2	-	1.2	1.5	3						
MSW163-3	-	1.2	1.5	3						
MSX324-2R	1.4	1.2	1.5	3	1.2	2.0	3	2.0	2.0	3
MSZ109-8PP	-	1.2	1.5	3						
MSZ219-13 ^{PVYR}	0.9	1.2	2.0	3	0.7	1.0	3	0.8	1.0	3
MSZ242-13	1.2	1.2	1.5	3	1.2	1.5	3	1.3	1.5	3
MSZ413-6P	1.4	1.2	1.5	3	1.8	2.0	3	1.3	2.0	3
MSZ416-8RY	1.1*	1.2	1.5	3	1.0	1.5	3			
Blackberry (MSZ109-10PP)	1.2	1.3	1.5	3	1.2	1.5	3	1.2	1.5	3
Huron Chipper (MSW485-2)	1.7	1.3	1.5	3	2.0	2.5	3	1.7	2.0	3
MSAA076-6	1.5	1.3	1.5	3	1.8	2.5	3	1.3	1.5	3
MSAA100-1	-	1.3	1.5	3						
MSAA161-4RY	1.2	1.3	2.5	3	1.3	1.5	3	0.8	1.0	3
MSAA182-3R	1.5	1.3	1.5	3	1.7	2.0	3	1.5	2.0	3
MSAA328-4	-	1.3	1.5	3						
MSBB058-1	-	1.3	1.5	3						
MSBB079-2	1.3*	1.3	2.0	3	1.3	1.5	3			
MSBB637-6	-	1.3	1.5	3						
MSEE010-3	-	1.3	1.5	3						
MSEE149-1	-	1.3	1.5	3						
MSEE149-2	-	1.3	2.0	3						
MSEE169-1	-	1.3	1.5	3						
MSEE190-1	-	1.3	1.5	3						
MSV443-1PP	1.4	1.3	2.0	3	1.3	1.5	3	1.5	2.0	3
MSX225-2	1.4	1.3	1.5	3	1.3	1.5	2	1.5	2.0	3
MSX526-1	1.2*	1.3	2.0	3	1.2	1.5	3			
MSY111-1	-	1.3	1.5	3						
MSZ219-46	-	1.3	1.5	3						
MSZ242-09	1.2	1.3	2.0	3	1.5	1.5	2	0.7	1.0	3
Petoskey (MSV030-4)	1.3*	1.3	1.5	3	1.3	2.0	3			
Isle Royale (MSX569-1R)	1.7	1.5	2.5	3	2.3	3.5	3	1.3	2.0	3
MSAA252-7	-	1.5	2.0	3						
MSAA513-1	-	1.5	2.0	3						
MSAA570-3	-	1.5	2.0	3						
MSBB213-1Spl	1.4*	1.5	1.5	3	1.3	1.5	2			
MSBB364-1	1.4*	1.5	2.0	3	1.3	1.5	3			
MSBB617-2	-	1.5	1.5	3						
MSBB618-9	-	1.5	2.0	3						
MSCC314-1	-	1.5	2.5	3						
MSCC542-1P	-	1.5	2.0	3						
MSEE085-1	-	1.5	2.0	3						
MSEE102-1	-	1.5	2.0	2						
MSEE130-1	-	1.5	2.0	3						
MSEE255-1	-	1.5	1.5	3						
MSV179-1	1.5	1.5	2.5	3	1.5	2.0	2	1.5	1.5	1

Table 7

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2018-20 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, MONTCALM RESEARCH CENTER, MI

LINE	3-YR*	2020	2020	2020	2019	2019	2019	2018	2018	2018
	AVG.	RATING	WORST	N	RATING	WORST	N	RATING	WORST	N
MSX042-3	-	1.5	1.5	3						
MSX398-2	1.6	1.5	2.5	2	1.5	2.5	3	1.8	2.0	3
MSZ052-14	1.4	1.5	1.5	3	1.3	1.5	3	1.5	2.0	3
MSZ120-4	1.6	1.5	2.0	3	1.7	2.0	3	1.7	2.0	3
MSZ513-2	1.5	1.5	2.0	3	1.7	2.0	3	1.3	2.0	3
MSZ615-2	1.4	1.5	1.5	3	1.2	1.5	3	1.7	2.0	3
Plover Russet	-	1.5	2.0	2						
Vanguard Russet (TX08352-5Rus)	1.6	1.5	2.0	3	1.3	1.5	3	1.8	2.5	3
Mackinaw (MSX540-4) ^{PVYR, LBR}	1.7	1.7	2.0	3	1.5	2.0	3	1.8	2.0	3
MSAA127-7PP	1.9	1.7	2.5	3	1.8	2.0	3	2.2	2.5	3
MSAA174-1	1.6	1.7	2.0	3	1.5	1.5	3	1.5	2.0	3
MSAA196-1	-	1.7	2.5	3						
MSAA313-1	-	1.7	2.5	3						
MSAA342-2	1.8*	1.7	2.0	3	1.8	2.5	3			
MSAA373-3	-	1.7	2.0	3						
MSAA706-7PP	1.6	1.7	2.5	3	1.3	1.5	3	1.8	3.0	3
MSBB190-1	1.8*	1.7	2.0	3	2.0	2.0	3			
MSBB250-1PP	-	1.7	2.0	3						
MSBB252-1PP	-	1.7	3.5	3						
MSBB305-2Sp1	1.6*	1.7	3.0	3	1.5	1.5	2			
MSBB623-12	-	1.7	2.5	3						
MSBB635-14	1.4*	1.7	2.0	3	1.2	1.5	3			
MSCC058-1	-	1.7	2.0	3						
MSCC282-2PP	-	1.7	2.0	3						
MSCC287-1	-	1.7	2.0	3						
MSCC614-1RYSPL	-	1.7	2.5	3						
MSEE022-8	-	1.7	2.5	3						
MSEE033-2	-	1.7	2.0	3						
MSEE131-1	-	1.7	2.0	3						
MSEE154-1	-	1.7	2.5	3						
MSEE187-1	-	1.7	2.0	3						
MSV093-1Y	1.5	1.7	2.0	3	1.2	1.5	3	1.7	2.0	3
MSV498-1	1.6	1.7	2.0	3	1.2	2.0	3	1.8	2.0	3
MSX137-6	-	1.7	2.0	3						
MSX472-2	1.4	1.7	2.0	3	1.3	1.5	2	1.3	2.0	3
MSZ109-7PP	1.7	1.7	2.5	3	1.5	2.0	3	1.8	2.0	3
MSZ248-02	-	1.7	2.0	3						
Queen Anne	1.8	1.8	2.5	2	1.8	2.0	3	1.7	2.0	3
Superior	1.7*	1.8	2.5	2	1.7	2.0	3			
Dakota Russet	-	1.8	2.5	3						
MSAA085-1Y	1.8	1.8	2.0	3	1.8	2.0	3	1.8	2.0	3
MSAA166-2P	-	1.8	2.5	3						
MSBB017-1	-	1.8	2.5	3						
MSBB238-1RY	1.3*	1.8	2.0	3	0.8	1.0	3			
MSCC447-1WR	-	1.8	2.0	3						
MSCC576-1	-	1.8	2.0	3						
MSDD530-1	-	1.8	2.5	3						
MSEE038-1	-	1.8	2.0	3						
MSEE137-3	-	1.8	2.0	3						
MSEE142-1	-	1.8	2.5	3						
MSW164-2	-	1.8	2.5	3						

Table 7

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS

2018-20 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, MONTCALM RESEARCH CENTER , MI

LINE	3-YR* AVG.	2020 RATING	2020 WORST	2020 N	2019 RATING	2019 WORST	2019 N	2018 RATING	2018 WORST	2018 N
MSX050-1	-	1.8	2.0	3						
MSX245-2Y	1.9	1.8	2.0	3	2.0	2.0	3	2.0	2.0	3
MSX443-3P	2.1	1.8	2.5	3	2.0	2.5	3	2.5	4.0	3
MSZ063-2	-	1.8	2.5	3						
MSZ107-6PP	2.0	1.8	2.0	3	2.3	2.5	2	2.0	2.5	3
MSZ436-2SPL	1.8	1.8	2.0	3	1.8	2.0	3	1.8	2.0	3
MSZ551-1	1.8*	1.8	2.5	3	1.8	2.0	3			
Atlantic	2.5	1.9	3.0	6	2.5	2.5	3	3.0	3.5	3
MSBB272-1P	-	2.0	2.0	3						
MSBB621-3	1.8*	2.0	2.5	3	1.7	2.0	3			
MSCC168-1	-	2.0	2.0	3						
MSCC300-1	-	2.0	2.0	3						
MSCC302-1	-	2.0	2.5	3						
MSCC512-1PP	-	2.0	2.0	3						
MSCC515-2Y	-	2.0	2.5	3						
MSEE018-2	-	2.0	2.0	3						
MSEE055-1R	-	2.0	2.5	2						
MSEE136-1	-	2.0	2.0	3						
MSEE142-2	-	2.0	2.0	3						
MSW476-4R	-	2.0	2.0	3						
MSZ194-2	-	2.0	2.5	3						
MSZ427-3R	1.8	2.0	2.5	3	1.3	2.0	3	2.0	2.5	3
Paroli	-	2.0	2.5	3						
Sunset Russet	-	2.0	2.5	3						
Golden Globe	-	2.2	3.0	3						
MSAA120-1	-	2.2	2.5	3						
MSAA232-4	-	2.2	2.5	3						
MSX156-1Y	2.3	2.2	2.5	3	2.7	3.0	3	2.1	2.5	5
A08433-4sto	-	2.3	3.5	3						
Alverstone	-	2.3	3.5	3						
Fenway Red	-	2.3	3.0	3						
Melody	-	2.3	2.5	3						
MSAA217-3	-	2.3	3.0	3						
MSAA275-3	-	2.3	3.0	3						
MSBB107-1	2.2*	2.3	2.5	3	2.2	2.5	3			
MSBB270-1Yspl	2.1*	2.3	2.5	3	1.8	2.5	3			
MSW038-4Y	-	2.3	2.5	3						
Snowden	2.7	2.4	3.5	6	2.8	3.5	6	3.0	3.5	3
Allora	-	2.5	2.5	3						
Manistee	2.6	2.5	3.0	3	3.0	3.5	3	2.2	2.5	3
MSBB611-3	-	2.5	3.5	3						
Russet Norkotah	2.5	2.5	3.0	3	2.2	3.0	3	2.8	4.0	3
Yukon Gold	2.7	2.5	2.5	1	3.0	3.5	6	2.6	3.5	6
CO09205-2Rus	-	2.7	3.5	3						
MSEE151-3	-	2.7	3.0	3						
MSRM#2	-	2.7	3.5	3						
MSX193-1Y	2.3*	2.7	3.0	3	2.0	2.5	2			
MSX293-1Y	-	2.7	3.0	3						
Reba	2.6	2.7	3.0	3	2.5	2.5	2	2.5	2.5	3
Michigan Purple	-	2.8	3.0	2						
CO99076-6R	-	2.8	3.5	3						

Table 7

**2018-20 SCAB DISEASE TRIAL SUMMARY
 SCAB NURSERY, MONTCALM RESEARCH CENTER , MI**

LINE	3-YR* AVG.	2020 RATING	2020 WORST	2020 N	2019 RATING	2019 WORST	2019 N	2018 RATING	2018 WORST	2018 N
Constance	-	2.8	3.0	3						
MSAA157-2PY	2.8	2.8	4.0	3	3.3	3.5	3	2.3	2.5	3
MSEE202-4	-	2.8	3.5	3						
MSX497-6 ^{LBR}	2.7	2.8	3.5	3	2.2	3.0	3	3.0	3.5	3
Nixie	-	2.8	3.0	3						
Jacqueline Lee	-	3.0	3.0	2						
MSBB719-1	2.6*	3.0	3.5	3	2.2	2.5	3			
A09086-1LB	-	3.2	3.5	3						

SCAB DISEASE RATING: MSU Scab Nursery plot rating of 0-5; 0: No Infection; 1: Low Infection <5%, no pitted lesions; 3: Intermediate >20%, some pitted lesions (Susceptible, as commonly seen on Atlantic); 5: Highly Susceptible, >75% coverage and severe pitted lesions.

N= Number of replications.

*2-Year Average.

Table 8

MICHIGAN STATE UNIVERSITY
 POTATO BREEDING and GENETICS

**2020 SCAB DISEASE EARLY GENERATION TRIAL SUMMARY
 SCAB NURSERY, MONTCALM RESEARCH CENTER, MI**

LINE	2020 RATING	LINE	2020 RATING
<i>Sorted by ascending 2020 Rating:</i>			
MSCC248-2	0.5	MSEE074-01	1.0
MSCC282-3RR	0.5	MSEE085-01	1.0
MSCC300-1	0.5	MSEE101-02	1.0
MSCC376-1	0.5	MSEE102-01	1.0
MSCC542-1P	0.5	MSEE136-01	1.0
MSCC553-1R	0.5	MSEE149-01	1.0
MSEE025-01	0.5	MSEE157-01	1.0
MSEE054-20	0.5	MSEE163-01	1.0
MSEE074-02	0.5	MSEE169-01	1.0
MSFF018-1	0.5	MSEE187-01	1.0
MSFF032-4	0.5	MSEE199-01	1.0
MSFF037-17	0.5	MSEE204-10	1.0
MSFF044-1	0.5	MSEE204-13	1.0
MSFF061-1	0.5	MSEE255-01	1.0
MSFF073-03	0.5	MSFF006-01	1.0
MSFF111-1	0.5	MSFF017-1	1.0
MSFF142-1P	0.5	MSFF031-06	1.0
MSFF142-2SPL	0.5	MSFF033-10	1.0
MSFF145-1P	0.5	MSFF035-3	1.0
MSFF193-3	0.5	MSFF043-04	1.0
MSFF198-03	0.5	MSFF043-10	1.0
MSFF198-13PY	0.5	MSFF056-1Y	1.0
MSFF223-1RY	0.5	MSFF067-1	1.0
MSFF274-2	0.5	MSFF073-07	1.0
MSFF296-01	0.5	MSFF120-1	1.0
MSFF316-1R	0.5	MSFF131-1SPL	1.0
MSFF321-1	0.5	MSFF134-2RR	1.0
MSFF344-3RY	0.5	MSFF148-1PP	1.0
MSSCC614-01RY	0.5	MSFF171-1	1.0
MSCC009-1	1.0	MSFF178-1	1.0
MSCC129-02	1.0	MSFF211-02	1.0
MSCC168-1	1.0	MSFF234-1R	1.0
MSCC256-2	1.0	MSFF271-3	1.0
MSCC374-1Y	1.0	MSFF277-1	1.0
MSCC409-1	1.0	MSFF283-1	1.0
MSEE022-08	1.0	MSFF297-1	1.0
MSEE031-03	1.0	MSFF303-03	1.0
MSEE035-05	1.0	MSFF316-1	1.0
MSEE049-07	1.0	MSFF323-1RY	1.0
MSEE057-13	1.0	MSFF331-2RR	1.0
MSEE063-06	1.0	MSFF334-1PINTORR	1.0

Table 8

MICHIGAN STATE UNIVERSITY
 POTATO BREEDING and GENETICS

**2020 SCAB DISEASE EARLY GENERATION TRIAL SUMMARY
 SCAB NURSERY, MONTCALM RESEARCH CENTER, MI**

LINE	2020 RATING	LINE	2020 RATING
<i>Sorted by ascending 2020 Rating:</i>			
MSFF338-01PP	1.0	MSFF145-2R	1.5
MSFF351-1RR	1.0	MSFF147-1RR	1.5
MSFF079-16	1.3	MSFF149-1	1.5
MSCC248-3	1.5	MSFF189-1Y	1.5
MSCC266-1	1.5	MSFF193-2	1.5
MSCC287-1	1.5	MSFF217-1	1.5
MSCC576-1	1.5	MSFF244-1PP	1.5
MSDD050-B	1.5	MSFF247-2Y	1.5
MSDD085-13	1.5	MSFF261-1	1.5
MSEE002-01	1.5	MSFF271-1	1.5
MSEE002-03	1.5	MSFF292-1	1.5
MSEE016-10	1.5	MSFF305-1RY	1.5
MSEE033-02	1.5	MSFF320-3	1.5
MSEE035-04	1.5	MSFF335-02RR	1.5
MSEE038-01	1.5	MSFF345-1R	1.5
MSEE052-05	1.5	MSFF050-1	1.8
MSEE115-01	1.5	MSCC058-1	2.0
MSEE130-01	1.5	MSCC081-1	2.0
MSEE151-02	1.5	MSCC084-1	2.0
MSEE182-03	1.5	MSCC246-07	2.0
MSEE190-01	1.5	MSCC282-2PP	2.0
MSEE247-6WP	1.5	MSCC302-1	2.0
MSFF011-1	1.5	MSCC314-1	2.0
MSFF013-1	1.5	MSCC515-2Y	2.0
MSFF022-2	1.5	MSCC724-014	2.0
MSFF025-1	1.5	MSEE010-03	2.0
MSFF030-1WR	1.5	MSEE131-01	2.0
MSFF031-03	1.5	MSEE137-03	2.0
MSFF031-16	1.5	MSEE141-02	2.0
MSFF034-07	1.5	MSEE142-02	2.0
MSFF035-2	1.5	MSEE149-02	2.0
MSFF035-4	1.5	MSEE151-03	2.0
MSFF055-01Y	1.5	MSEE154-01	2.0
MSFF058-1	1.5	MSEE171-02	2.0
MSFF069-1Y	1.5	MSEE180-3P	2.0
MSFF072-4	1.5	MSEE207-02	2.0
MSFF091-01	1.5	MSFF003-1	2.0
MSFF120-02Y	1.5	MSFF007-2	2.0
MSFF140-1WP	1.5	MSFF008-1	2.0
MSFF143-1PW	1.5	MSFF009-01	2.0
MSFF143-2PW	1.5	MSFF014-01	2.0

Table 8

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2020 SCAB DISEASE EARLY GENERATION TRIAL SUMMARY
SCAB NURSERY, MONTCALM RESEARCH CENTER, MI

LINE	2020 RATING	LINE	2020 RATING
<i>Sorted by ascending 2020 Rating:</i>			
MSFF015-01	2.0	MSDD530-01	2.5
MSFF017-2	2.0	MSEE055-1R	2.5
MSFF017-3	2.0	MSEE191-03	2.5
MSFF022-1	2.0	MSEE202-04	2.5
MSFF022-4	2.0	MSFF016-01	2.5
MSFF023-01	2.0	MSFF017-4	2.5
MSFF034-04P	2.0	MSFF022-1	2.5
MSFF036-01	2.0	MSFF022-3	2.5
MSFF037-06	2.0	MSFF029-10	2.5
MSFF037-07	2.0	MSFF038-4	2.5
MSFF038-3	2.0	MSFF075-1	2.5
MSFF054-1	2.0	MSFF098-04	2.5
MSFF072-1Y	2.0	MSFF106-1	2.5
MSFF075-2	2.0	MSFF114-1	2.5
MSFF077-4	2.0	MSFF163-2	2.5
MSFF094-4	2.0	MSFF200-04PYSPL	2.5
MSFF097-6	2.0	MSFF210-1	2.5
MSFF097-7	2.0	MSFF226-1RY	2.5
MSFF097-8	2.0	MSFF230-1	2.5
MSFF109-01	2.0	MSFF247-1	2.5
MSFF117-02	2.0	MSFF263-1PP	2.5
MSFF117-1	2.0	MSFF286-1	2.5
MSFF127-1WP	2.0	MSFF286-2	2.5
MSFF134-1PP	2.0	MSFF304-2R	2.5
MSFF138-1R	2.0	MSFF305-2RY	2.5
MSFF142-3SPL	2.0	MSFF305-4RY	2.5
MSFF143-3P	2.0	MSFF316-6Y	2.5
MSFF182-1R	2.0	MSFF322-1	2.5
MSFF206-1	2.0	MSFF331-1PP	2.5
MSFF206-2	2.0	MSFF335-1RR	2.5
MSFF223-01PY	2.0	MSFF346-1RY	2.5
MSFF230-01PY	2.0	MSFF007-01	3.0
MSFF267-1	2.0	MSFF034-01	3.0
MSFF267-2	2.0	MSFF086-2	3.0
MSFF271-02	2.0	MSFF168-1	3.0
MSFF274-1	2.0	MSFF203-1	3.0
MSFF321-2	2.0	MSFF219-1Y	3.0
MSFF335-3PINTO	2.0	MSFF243-1RR	3.0
MSFF351-2PP	2.0	MSFF321-03	3.0
MSFF354-1RR	2.0	MSFF336-1PP	3.5
MSCC512-1PP	2.5	MSFF138-2P	4.0

Table 9

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2020 BLACKSPOT BRUISE SUSCEPTIBILITY TEST
SIMULATED BRUISE SAMPLES*

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	
		0	1	2	3	4	5+	BRUISE FREE	AVERAGE SPOTS/TUBER
RUSSET TRIAL									
A09086-1LB	1.077	18	1	0	0	0	0	95	0.1
Russet Norkotah/Texas 112	1.064	23	2	0	0	0	0	92	0.1
A08433-4Sto	1.072	21	3	1	0	0	0	84	0.2
Goldrush Russet	1.061	19	4	1	1	0	0	76	0.4
Alverstone Russet (HZPC)	1.074	17	6	2	0	0	0	68	0.4
Vanguard Russet	1.058	19	1	3	0	1	0	79	0.5
AO06191-1	1.079	15	9	0	1	0	0	60	0.5
SunSet Russet (TX13590-9Rus)	1.077	13	7	4	1	0	0	52	0.7
Dakota Russet	1.081	11	7	7	0	0	0	44	0.8
Plover Russet	1.066	8	10	4	2	0	0	33	1.0
CO09205-2Rus	1.070	6	9	7	1	0	0	26	1.1
Umatilla Russet	1.084	7	6	5	6	1	0	28	1.5
ADAPTATION TRIAL, CHIP-PROCESSING LINES									
MSY156-2	1.084	15	5	0	0	0	0	75	0.3
MSBB614-10	1.078	7	2	1	0	0	0	70	0.4
MSAA232-4	1.081	14	3	3	0	0	0	70	0.5
Manistee	1.079	16	4	3	1	0	0	67	0.5
MSBB617-2	1.083	13	4	2	1	0	0	65	0.6
MSZ063-2	1.084	11	9	4	1	0	0	44	0.8
Huron Chipper	1.083	8	6	6	0	0	0	40	0.9
MSZ242-09	1.089	5	12	2	1	0	0	25	1.0
Petoskey	1.092	9	6	4	0	0	1	45	1.0
MSX245-2Y	1.081	7	8	4	0	1	0	35	1.0
Mackinaw	1.090	5	8	5	1	1	0	25	1.3
MSBB610-13	1.083	6	9	2	1	1	1	30	1.3
MSBB635-14	1.081	9	4	1	5	1	0	45	1.3
MSZ219-01	1.080	5	7	6	2	0	0	25	1.3
MSX526-1	1.083	4	6	9	1	0	0	20	1.4
MSZ242-07	1.098	7	5	2	4	0	1	37	1.4
Atlantic	1.085	3	5	6	2	3	0	16	1.8
MSAA260-3	1.080	4	3	4	5	3	0	21	2.0
Snowden	1.084	1	5	7	3	3	1	5	2.3
MSAA498-18	1.086	2	7	4	4	4	2	8	2.3
MSAA217-3	1.091	1	4	9	2	2	2	5	2.3
MSBB079-2	1.083	2	6	4	3	2	3	10	2.3
MSCC058-1	1.086	1	3	7	4	5	0	5	2.5
MSZ120-04	1.082	1	2	9	5	1	2	5	2.5
Lamoka	1.082	1	3	5	6	4	1	5	2.6
MSAA076-6	1.092	0	3	5	9	1	2	0	2.7
MSAA328-4	1.081	1	2	4	7	5	1	5	2.8
MSZ242-13	1.099	0	3	7	3	5	2	0	2.8
MSBB626-11	1.085	2	1	5	7	3	4	7	2.9
MSZ219-13	1.086	0	3	7	7	5	3	0	2.9
MSAA513-1	1.078	0	2	6	5	5	2	0	3.0
MSCC168-1	1.076	2	1	2	5	5	5	10	3.3
MSBB058-1	1.093	0	0	6	5	3	6	0	3.5
MSBB611-3	1.086	0	0	3	8	4	5	0	3.6
MSAA252-7	1.083	0	0	3	8	3	6	0	3.6

SIMULATED BRUISE SAMPLES*

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	
		0	1	2	3	4	5+	BRUISE FREE	AVERAGE SPOTS/TUBER
ADAPTATION TRIAL, TABLESTOCK LINES									
Blackberry	1.066	20	0	0	0	0	0	100	0.0
Queen Anne	1.061	19	1	0	0	0	0	95	0.1
MSZ436-2SPL	1.054	19	1	0	0	0	0	95	0.1
MSCC515-2Y	1.066	18	1	0	0	0	0	95	0.1
MSAA174-1	1.056	17	3	0	0	0	0	85	0.2
MSV443-1PP	1.062	17	3	0	0	0	0	85	0.2
MSX293-1Y	1.066	17	3	0	0	0	0	85	0.2
MSBB351-1	1.059	14	5	0	0	0	0	74	0.3
MSZ109-8PP	1.063	14	5	0	0	0	0	74	0.3
MSX137-6	1.075	18	2	2	0	0	0	82	0.3
MSAA196-1	1.063	14	6	0	0	0	0	70	0.3
MSX193-1Y	1.073	14	6	0	0	0	0	70	0.3
MSV093-1Y	1.067	14	5	1	0	0	0	70	0.4
MSZ268-1Y	1.072	14	5	1	0	0	0	70	0.4
MSZ427-3R	1.055	14	5	1	0	0	0	70	0.4
MSV179-1	1.069	15	3	1	1	0	0	75	0.4
MSX324-1P	1.076	14	4	1	1	0	0	70	0.5
MSCC300-1	1.073	13	4	3	0	0	0	65	0.5
Superior	1.056	12	6	2	0	0	0	60	0.5
Yukon Gold	1.064	13	5	2	1	0	0	63	0.5
MSZ615-2	1.066	14	4	3	0	1	0	68	0.5
MST252-1Y	1.066	12	5	2	1	0	0	60	0.6
MSX324-2R	1.066	12	5	2	1	0	0	60	0.6
MSY1111-1	1.089	12	4	4	0	0	0	60	0.6
MSW038-4Y	1.069	15	0	3	1	1	0	75	0.7
MSZ416-8RY	1.056	11	5	2	2	0	0	55	0.8
MSW476-4R	1.073	10	3	5	1	0	0	53	0.8
MSBB213-1SPL	1.078	11	5	1	2	1	0	55	0.9
MSZ590-1	1.061	7	9	1	2	0	1	35	1.1
MSAA120-1	1.071	7	6	4	3	0	0	35	1.2
MSX156-1Y	1.068	5	6	3	3	2	1	25	1.7
MSY507-2	1.076	5	8	2	1	1	3	25	1.7
MSCC302-1	1.076	4	3	8	3	1	1	20	1.9
MSZ551-1	1.075	4	3	6	5	2	0	20	1.9
PRELIMINARY TRIAL, CHIP-PROCESSING LINES									
MSEE022-8	1.077	20	0	0	0	0	0	100	0.0
MSEE052-5	1.070	25	0	0	0	0	0	100	0.0
MSDD497-B	1.056	20	1	0	0	0	0	95	0.0
MSBB107-1	1.068	19	1	0	0	0	0	95	0.1
MSBB634-8	1.071	18	2	0	0	0	0	90	0.1
MSCC725-232	1.068	18	2	0	0	0	0	90	0.1
MSEE038-1	1.057	17	3	0	0	0	0	85	0.2
MSDD530-1	1.065	17	1	1	0	0	0	89	0.2
MSEE137-3	1.077	22	2	1	0	0	0	88	0.2
MSAA085-1	1.071	16	4	0	0	0	0	80	0.2
MSEE063-6	1.076	16	4	0	0	0	0	80	0.2
MSEE154-1	1.059	20	5	0	0	0	0	80	0.2
MSEE180-3P	1.076	16	4	0	0	0	0	80	0.2
MSEE010-3	1.070	16	3	1	0	0	0	80	0.3
Pike	1.075	15	5	0	0	0	0	75	0.3
MSEE151-3	1.078	16	2	0	1	0	0	84	0.3

SIMULATED BRUISE SAMPLES*

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	
		0	1	2	3	4	5+	BRUISE FREE	AVERAGE SPOTS/TUBER
MSBB623-12	1.070	15	3	2	0	0	0	75	0.4
MSEE074-2	1.073	15	3	2	0	0	0	75	0.4
MSEE131-1	1.077	14	5	1	0	0	0	70	0.4
MSBB190-1	1.068	13	5	1	0	0	0	68	0.4
MSEE157-1	1.077	12	8	0	0	0	0	60	0.4
MSBB651-4	1.071	18	5	0	2	0	0	72	0.4
MSZ219-46	1.074	13	3	3	0	0	0	68	0.5
MSEE033-2	1.071	13	6	2	0	0	0	62	0.5
MSEE190-1	1.073	14	2	3	1	0	0	70	0.6
MSEE141-2	1.079	11	5	3	0	0	0	58	0.6
MSEE031-3	1.078	12	5	2	1	0	0	60	0.6
MSX042-3	1.079	10	7	1	1	0	0	53	0.6
MSEE025-1	1.076	10	8	0	1	1	0	50	0.8
MSEE207-02	1.075	9	7	4	0	0	0	45	0.8
MSAA241-1	1.077	10	7	1	1	0	1	50	0.9
MSBB020-8	1.076	8	7	5	0	0	0	40	0.9
MSEE136-1	1.072	11	8	5	0	1	0	44	0.9
MSBB621-3	1.069	6	12	1	0	1	0	30	0.9
MSBB625-2	1.089	7	9	5	1	0	0	32	1.0
MSBB166-1	1.071	9	6	4	3	0	0	41	1.0
MSBB179-1	1.072	9	4	3	4	0	0	45	1.1
MSBB017-1	1.079	6	7	5	2	0	0	30	1.2
Atlantic	1.082	5	10	2	2	1	0	25	1.2
MSEE149-2	1.084	10	4	2	2	2	1	49	1.3
MSEE101-2	1.083	4	9	5	1	0	1	20	1.4
MSEE151-2	1.075	7	2	7	4	0	0	35	1.4
Snowden	1.077	5	5	6	4	0	0	25	1.5
MSEE149-1	1.075	9	3	1	3	3	1	45	1.6
MSEE018-2	1.092	4	4	3	6	2	1	20	2.1
MSEE171-2	1.082	1	1	7	5	3	3	5	2.9

PRELIMINARY TRIAL, TABLESTOCK LINES

Paroli	1.054	20	0	0	0	0	0	100	0.0
MSAA342-2	1.065	19	1	0	0	0	0	95	0.1
MSCC314-1	1.065	19	1	0	0	0	0	95	0.1
Nixie	1.065	18	2	0	0	0	0	90	0.1
Golden Globe	1.060	18	2	1	0	0	0	86	0.2
MSCC724-14	1.066	15	5	0	0	0	0	75	0.3
MSBB305-2SPL	1.060	15	4	1	0	0	0	75	0.3
Allora	1.064	17	4	4	0	0	0	68	0.5
Reba	1.063	14	3	2	1	0	0	70	0.5
MSBB371-1YSPL	1.070	9	10	0	0	0	0	47	0.5
Constance	1.060	8	11	1	0	0	0	40	0.7
MSEE085-1	1.075	10	8	1	1	0	0	50	0.7
Melody	1.067	8	9	3	0	0	0	40	0.8
MSEE199-1	1.073	9	5	5	1	0	0	45	0.9
MSEE255-1	1.073	9	4	2	2	2	1	45	1.4
Jacqueline Lee	1.081	2	6	8	3	0	1	10	1.8

PRELIMINARY TRIAL, PIGMENTED LINES

Dark Red Norland	1.052	19	1	0	0	0	0	95	0.1
MSZ427-1R mini	1.057	19	1	0	0	0	0	95	0.1
MSBB308-2P	1.056	18	2	0	0	0	0	90	0.1
MSEE247-6WP	1.060	18	2	0	0	0	0	90	0.1

SIMULATED BRUISE SAMPLES*

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	
		0	1	2	3	4	5+	BRUISE FREE	AVERAGE SPOTS/TUBER
MSX443-3P mini	1.074	18	2	0	0	0	0	90	0.1
MSCC542-1P	1.054	17	2	0	0	0	0	89	0.1
Vicki (HZPC)	1.065	18	1	0	0	0	0	95	0.1
MSAA101-1RR	1.081	17	3	0	0	0	0	85	0.2
MSBB250-1PP	1.078	17	3	0	0	0	0	85	0.2
MSCC614-1RYSPL	1.079	18	1	1	0	0	0	90	0.2
MSZ107-6PP	1.075	14	4	0	0	0	0	78	0.2
MSAA157-2PY	1.067	16	3	1	0	0	0	80	0.3
MSAA706-7PP	1.065	16	3	1	0	0	0	80	0.3
MSAA127-7PP	1.053	12	8	0	0	0	0	60	0.4
Fenway Red	1.072	14	3	2	1	0	0	70	0.5
CO99076-6R	1.067	10	6	4	0	0	0	50	0.7

USPB/SFA TRIAL CHECK SAMPLES (Not bruised)

MSZ063-2	1.080	21	3	1	0	0	0	84	0.2
Lamoka	1.082	14	10	1	0	0	0	56	0.5
CO11023-9W	1.066	15	7	2	1	0	0	60	0.6
Petoskey	1.090	13	7	5	0	0	0	52	0.7
Snowden	1.081	10	12	2	1	0	0	40	0.8
CO11023-2W	1.088	10	10	3	2	0	0	40	0.9
MSZ242-13	1.096	10	7	7	1	0	0	40	1.0
B2869-29	1.083	8	11	4	2	0	0	32	1.0
ND7519-1	1.085	6	13	6	0	0	0	24	1.0
MSW474-1	1.083	10	5	6	4	0	0	40	1.2
NY163	1.081	7	5	10	2	1	0	28	1.4

USPB/SFA TRIAL BRUISE SAMPLES

MSZ063-2	1.080	5	11	8	1	0	0	20	1.2
ND7519-1	1.085	3	13	6	3	0	0	12	1.4
Lamoka	1.082	3	8	6	8	0	0	12	1.8
NY163	1.081	3	4	8	6	4	0	12	2.2
CO11023-9W	1.066	5	1	8	4	4	3	20	2.4
CO11023-2W	1.088	0	5	8	6	5	1	0	2.6
B2869-29	1.083	2	3	7	3	4	6	8	2.9
Snowden	1.081	0	1	5	9	6	4	0	3.3
Petoskey	1.090	0	4	4	3	8	6	0	3.3
MSW474-1	1.083	0	0	3	9	7	6	0	3.6
MSZ242-13	1.096	0	0	5	5	7	8	0	3.7

* Selected A-size tuber samples were collected at harvest, held at 50 F at least 12 hours, and placed in a six-sided plywood drum and rotated ten times to produce simulated bruising.

Samples were abrasive-peeled and scored 11/11 & 12/2020.

The table is presented in ascending order of average number of spots per tuber.