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2011 POTATO VARIETY EVALUATIONS

**D.S. Douches, J. Coombs, K. Zarka, G. Steere, M. Zuehlke,
C. Long, W. Kirk, and J. Hao**

**Departments of Crop and Soil Sciences
and Plant Pathology
Michigan State University
East Lansing, MI 48824**

INTRODUCTION

Each year, the MSU potato breeding and genetics team conducts a series of variety trials to assess advanced potato selections from the Michigan State University and other potato breeding programs at the Montcalm Research Center (MRC). In 2011, we tested 165 varieties and breeding lines in the replicated variety trials, plus single observational plots of 228 lines and 167 lines in the National Chip Processing Trial. The variety evaluation also includes disease testing in the scab nursery (MSU Soils Farm, E. Lansing and Montcalm Research Farm, Lakeview) and foliar and tuber late blight evaluation (Muck Soils Research Farm, Bath). The objectives of the evaluations are to identify superior varieties for fresh or processing markets. The varieties were compared in groups according to market class, tuber type, skin color, and to the advancement in selection. Each season, total and marketable yields, specific gravity, tuber appearance, incidence of external and internal defects, chip color (from the field, 45°F (7.2°C) and 50°F (10°C) storage), as well as susceptibilities to common scab, late blight (foliar and tuber), and blackspot bruising are determined.

We would like to acknowledge the collaborative effort of Bruce Sackett, Chris Long and the Potato Breeding Team for getting the research done.

PROCEDURE

Ten field variety trials were conducted at the Montcalm Research Center in Entrican, MI. They were planted as randomized complete block designs with two to four replications. The plots were 23 feet (7 m) long and spacing between plants was 10 inches (25.4 cm). Inter-row spacing was 34 inches (86.4 cm). Supplemental irrigation was applied as needed. The field experiments were conducted on a sandy loam soil on the Comden ground that was in corn the previous year and in potatoes four years previously. This year the north end of some of the trials incurred some flood damage.

The most advanced selections were tested in the Advanced trial, representing selections at a stage after the Adaptation Trial. The other field trials were the North Central, Russet, Adaptation (chip-processors and tablestock), Preliminary (chip-

processors and tablestock), the NCPT and the early and late observational trials. *The early observational trial is discussed in the breeding report.*

2011 was the second year of the National Chip Processing Breeder Trial (NCPT). The purpose of the trial is to evaluate early generation breeding lines from the US public breeding programs for their use in chip-processing. The NCPT has 8 sites (North: NY, MI, WI, ND and South: NC, FL, MO, CA) in addition to a scab trial in MN. A total of 167 lines were tested as 15-hill single observation plots. *The NCPT trial is discussed in the breeding report.*

In each of these trials, the yield was graded into four size classes, incidence of external and internal defects in >3.25 in. (8.25 cm) diameter (or 10 oz. (283.5 g) for Russet types) potatoes were recorded. Samples were taken for specific gravity, chipping, disease tests and bruising tests. Chip quality was assessed on 25-tuber composite sample from four replications, taking two slices from each tuber. Chips were fried at 365°F (185°C). The chip color was measured visually with the SFA 1-5 color chart. Tuber samples were also stored at 45°F (7.2°C) and 50°F (10°C) for chip-processing out of storage in January and March. Advanced selections are also placed in the MPIC B.F. Burt Cargill Commercial Demonstration Storage in Entrican, MI for monthly sampling. The lines in the agronomic trials were assessed for common scab resistance at the nursery at the Montcalm Research Farm. There was very strong scab disease pressure at the new Montcalm Scab Disease Nursery in both 2010 and 2011. The 2011 late blight trial was conducted at the Clarksville Research Center. Maturity ratings (1 early - 5 late) were taken for all variety trial plots in late August to differentiate early and late maturing lines. The simulated blackspot bruise results for average spots per tuber have also been incorporated into the summary sheets.

RESULTS

A. Advanced Trial (Table 1)

A summary of the 16 entries evaluated in the Advanced trial results is given in **Table 1**. Overall, the yields for the Advanced trial (140 days) were above average. The check varieties for this trial were Snowden and Atlantic. The highest yielding lines were Beacon Chipper, MSL292-A, Kalkaska, MSL007-B, MSQ086-3 and the three NY lines Lamoka, NY140 and NY148 (E106-4). Hollow heart and vascular discoloration were the predominant internal defects. Specific gravity was slightly below average with eight lines having a specific gravity equal to or higher than Snowden (1.080): Atlantic (1.085), MSJ147-1 (1.087), Kalkaska (1.080), MSR061-1 (1.081), MSQ070-1 (1.089), NY140 (1.082), Lamoka (1.086) and NY148 (1.093). All entries in the trial had excellent chip-processing quality out of the field, with an SFA score of 1.0. Many of the MSU breeding lines have moderate to strong scab resistance: MSJ126-9Y, MSH228-6, Kalkaska, MSL007-B, MSR061-1, MSR169-8Y and MSQ070-1. Beacon Chipper continues to be consistently high yielding line with good specific gravity, chip quality, and less susceptibility to scab. Two promising chip-processing lines are MSL292-A (chip quality,

high yield, good specific gravity, and shows potential as a long-term storage chipper) and MSQ086-3 (good yield and chip quality).

B. North Central Regional Trial Entries (Table 2)

The North Central Trial is conducted in a wide range of environments (6 regional locations) to provide adaptability data for the release of new varieties from Michigan, Minnesota, North Dakota, Wisconsin, and Canada. Twenty-two entries were tested in Michigan in 2011. The results are presented in **Table 2**. The MSU lines MSL211-3, MSL268-D, MSQ440-2, MSM182, MSR169-8Y and MSQ176-5 were the Michigan representatives included in the 2011 North Central Trial. MSL211-3 is an attractive, bright-skinned round to oval white tablestock with moderate late blight resistance and reduced susceptibility to scab. MSL268-D has dual-purpose characteristics; good chip-processing quality and an attractive freshmarket type, combined with late blight resistance, and some early bulking potential. MSM182-1 is a tablestock line with bright-skin, round type combining both late blight and PVY resistance. MSQ176-5 is a late blight resistant tablestock with very uniform, large, round-white tubers and smooth, bright skin. MSQ440-2 is a bright skinned round white tablestock line. MSR169-8Y is a scab resistance chip-processing selection good specific gravity, tuber shape and storability. Due to the field location, the yields were below average in 2011.

C. Russet Trial (Table 3)

We continue to increase our russet breeding efforts to reflect the growing interest in russet types in Michigan. In 2011, 24 lines evaluated after 134 days. The results are summarized in **Table 3**. Russet Burbank, Russet Norkotah, Silverton Russet and GoldRush were the reference varieties used in the trial. The yields were below average with a high percentage of B-sized tubers. The highest yielding lines were A01124-3 and AF3362-1 and A0008-1TE. Overall, the internal quality in the russet trial was above average. Specific gravity measurements were average to below average with Russet Norkotah at 1.064 and Russet Burbank at 1.068. Off type and cull tubers were found in nearly all lines tested, with the highest being Russet Burbank (33%). Canela and A01124-3 had few pickouts.

D. Adaptation Trials (Tables 4 and 5)

The Adaptation Trials are conducted as two separate trials based on market class: chip-processing and tablestock trials. The majority of the lines evaluated in the Adaptation Trial were tested in the Preliminary Trial the previous year. Three reference cultivars (Atlantic, Snowden, and Pike), and 14 advanced breeding lines are reported in the chip-processing trial. The trial was harvested after 134 days and the results are summarized in **Table 4**. All entries had good out-of-the-field chip scores. Specific gravity values were average for the Montcalm Research Farm (Atlantic was 1.085 and Snowden was 1.082). The highest specific gravity was MSS165-2Y, MSR159-02 and MSR127-1. The greatest hollow heart was noted in FL1879 (23%) and A01143-3C (38%) followed by Atlantic (15%). The overall plot yields for this trial were average in

2011 with too many B size. MSQ089-1 and MSQ035-3 were the highest yielding lines with MSR127-1 and MSS165-2Y combining yield potential and high specific gravity and scab resistance.

In the tablestock trial, 7 advanced breeding lines were evaluated with Onaway and Reba as check varieties. The trial was harvested after 120 days and the results are summarized in **Table 5**. In general, the yield was below average in this trial and internal defects were low. Promising and attractive yellow-fleshed table selections are MSM288-2Y and MSQ341-BY. MSS544-1R and MSR217-1R have attractive red color.

E. Preliminary Trials (Tables 6 and 7)

The Preliminary trial is the first replicated trial for evaluating new advanced selections from the MSU potato breeding program. The division of the trials was based upon pedigree assessment for chip-processing and tablestock utilization. The chip-processing Preliminary Trial (**Table 6**) had 34 advanced selections and three check varieties (Atlantic, Pike and Snowden). The chip-processing trial was harvested after 127 days. Most lines chip-processed well from the field. Specific gravity values were average with Atlantic at 1.086 and Snowden at 1.083. Fourteen advanced selections had 1.079 or higher specific gravities. The most promising MSU lines are MSV313-2, MSV403-3, MSV241-2, MSV505-2, MSV127-1 and V383-1 combining yield, specific gravity, chip quality and scab resistance. Internal quality was good across all the lines in the trial.

Table 7 summarizes the 30 tablestock lines evaluated in the Preliminary Trial (Onaway and Michigan Purple were the check varieties). This tablestock trial was harvested and evaluated after 120 days. MSU161-1, MSR214-2P, MST386-1P, Purple Heart and Michigan Purple Sport II were the highest yielding lines. On average, the table lines are not high in scab resistance, but we see a higher frequency of late blight resistance. This trial also had a low incidence of internal defects. In addition to traditional round white, red-skinned, and yellow flesh freshmarket categories, there are some unique specialty lines such as Purple Heart (red skin and purple flesh), Midnight II (purple skin with deep purple flesh, the Michigan Purple skin sports, purple skinned lines such as MSR214-2P and MST386-1P . Jingshu 2 was from the Chinese breeding program.

F. Potato Scab Evaluation (Table 8)

Each year, a replicated field trial is conducted to assess resistance to common scab. We have moved the scab testing to two ranges at the Montcalm Research Center where high common scab disease pressure was observed in previous years. This location is being used for the early generation observational scab trial (over 300 lines), the scab variety trial (170 lines) and the national scab trial sponsored by USDA/ARS. *Additionally, we added a replicated On-Farm scab trial (24 lines), which is summarized in the MPIC Research Report.* We use a rating scale of 0-5 based upon a combined score for scab coverage and lesion severity. Usually examining one year's data does not indicate which varieties are resistant but it should begin to identify ones that can be classified as susceptible to scab. Our goal is to evaluate important advanced selections

and varieties in the study at least three years to obtain a valid estimate of the level of resistance in each line. The 2011 scab ratings are based upon the Montcalm Research Farm site. **Table 8** categorizes many of the varieties and advanced selections tested in 2011 at the MSU over a three-year period. The varieties and breeding lines are placed into six categories based upon scab infection level and lesion severity. A rating of 0 indicates zero scab infection. A score of 1.0 indicates a trace amount of infection. A moderate resistance (1.2 – 1.8) correlates with <10% infection. Scores of 4.0 or greater are found on lines with >50% infection and severe pitted lesions.

The check varieties Russet Burbank, Russet Norkotah, GoldRush, Red Norland, Red Pontiac, Onaway, Pike, Atlantic, and Snowden can be used as references (bolded in **Table 8**). The table is sorted in ascending order by 2011 rating. This year's results continue to indicate that we have been able to breed numerous lines with resistance to scab. A total of 71 lines, of the 170 tested, had a scab rating of 1.6 (better than or equivalent to Pike) or lower in 2011. Most notable scab resistant MSU lines are MSH228-6, Kalkaska, MSJ126-9Y, MSL007-B, MSN215-2P, MSP270-1, MSR061-1, MSR127-2 and MSR169-8Y; as well as some earlier generation lines MSS297-3, MSS544-1R and MSV383-1, and MSV127-1. The greater number of MSU lines in the resistant and moderately resistant categories indicates we are making progress in breeding more scab resistant lines for the chip-processing and tablestock markets. There are also an increasing number of scab resistant lines that also have late blight resistance and PVY resistance. We also continue to conduct early generation scab screening on selections in the breeding program beginning after two years of selection. Of the 320 early generation selections that were evaluated, over 100 were had resistance ratings (scab rating of ≤ 1.5). Scab results from the disease nursery for the advanced selections are also found in the Trial Summaries (**Tables 1-7**).

H. Late Blight Trial (Tables 9, 10 and 11)

In 2011, the late blight trial was planted at the Clarksville Research Center rather than the Muck Soils Research Farm. Over 300 entries were planted in early June for late blight evaluation. These include lines tested in a replicated manner from the agronomic variety trial (160 lines) and entries in the National Late Blight Variety Trial (35 lines) and about 200 entries in the early generation observation plots. The trials were inoculated in early August with a US-22 genotype of *P. infestans*. Late blight infection was identified in the plots within 2 weeks after inoculation. The plots were evaluated 2 times per week over a 50 day period following inoculation. We need to note that the disease reaction in the plots was not as aggressive as previous years. All disease lesions tested were identified as US-22, which would explain the higher disease ratings (susceptibility) on lines with late blight resistance to US-8 (Tollocan-based resistance lines Jacqueline Lee, Missaukee, etc.). In 2011 there were 15 lines from the national late blight trial that had moderate to strong late blight resistance to US-22. For the replicated variety trial 42 lines had moderate to strong late blight resistance, while 67 lines in the early generation observation plots had moderate to strong late blight resistance. These were from various late blight resistance sources (LBR9, Malinche, Kenya Baraka, Monserrat, Torridon,

Stirling, NY121, B0718-3, etc.). **Tables 9, 10 and 11** list lines in the foliar resistance and susceptibility categories.

I. Blackspot Bruise Susceptibility (Table 12)

Evaluations of advanced seedlings and new varieties for their susceptibility to blackspot bruising are also important in the variety evaluation program. Based upon the results collected over the past years, the non-bruised check sample has been removed from our bruise assessment. A composite bruise sample of each line in the trials consisted of 25 tubers (a composite of 4 replications) from each line, collected at the time of grading. The 25 tuber sample was held in 50°F (10°C) storage overnight and then was placed in a hexagon plywood drum and tumbled 10 times to provide a simulated bruise. The samples were peeled in an abrasive peeler in October and individual tubers were assessed for the number of blackspot bruises on each potato. These data are shown in **Table 12**. The bruise data are represented in two ways: percentage of bruise free potatoes and average number of bruises per tuber. A high percentage of bruise-free potatoes is the desired goal; however, the numbers of blackspot bruises per potato is also important. Cultivars which show blackspot incidence greater than Atlantic are approaching the bruise-susceptible rating. In addition, the data is grouped by trial, since the bruise levels can vary between trials.

In 2011, the bruise levels were comparable to previous years. The most bruise resistant MSU breeding lines this year from the Advanced trial were MSH228-6, MSQ086-3, MSJ126-9Y, MSR061-1, and MSL292-A. This group is similar to 2010. The most susceptible lines from the Advanced trial were Lamoka, NY148 (E106-4) and Atlantic. The Adaptation Trial MSU lines (Chip and Table) with the least bruising were MSR159-02, MSQ089-1, MSR128-4Y, MSQ279-1 and MSR148-4, MSM288-2Y, MSS544-1R, MSM182-1 and MSR217-1R. MSQ035-3 and MSR127-2 were the most bruise susceptible. Of the earlier generation breeding lines (Preliminary Trials), the most of the lines had little blackspot bruising, while only MSR093-4 showed significant blackspot bruising. The most bruise resistant russet entries were A02062-1TE, Silverton Russet, AF3362-1, GoldRush, CO03187-1RUS, AC00395-2RUS; the most susceptible were Dakota Trailblazer and ND8068-5RUS. The most bruise resistant entries in the US Potato Board/Snack Food Association Trial were MSJ126-9Y, CO00188-4W, W2978-3 and MSR061-1, while NYE106-4 (NY148) was the only entry with more bruising than Atlantic.

Table 1

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICSADVANCED TRIAL
MONTCALM RESEARCH FARM
May 9 to September 20, 2011 (134 days)

LINE	CWT/A		PERCENT OF TOTAL ¹						SP	GR	CHIP SCORE ²	PERCENT (%)					MAT ⁵	BRUISE ⁶	3-YR AVG
	US#1	TOTAL	US#1	Bs	As	OV	PO	TUBER QUALITY ³				HH	VD	IBS	BC	SCAB ⁴			US#1
																			CWT/A
Lamoka	371	417	89	10	84	5	1	1.086	1.0	0	20	0	0	1.4	2.0	1.7	-		
NY148 ^{LBR}	363	444	82	18	80	2	0	1.093	1.5	0	0	0	0	1.4	3.3	2.7	-		
NY140 ^{LBR}	345	422	82	18	77	5	0	1.082	1.0	0	50	0	0	2.5	2.5	1.2	-		
MSQ086-3	319	438	73	27	72	1	0	1.076	1.0	0	15	0	0	2.0	3.0	0.2	346*		
MSL292-A	307	367	84	16	78	6	0	1.082	1.0	3	28	0	0	2.5	1.8	0.4	287		
Kalkaska	294	374	79	21	77	2	0	1.080	1.0	3	13	0	0	1.4	3.0	1.4	325		
Beacon Chipper	280	313	89	10	71	18	1	1.078	1.5	5	45	3	0	1.8	3.0	1.3	298		
Atlantic	279	337	83	17	77	5	0	1.085	1.5	13	18	3	0	3.0	2.3	1.5	318*		
MSL007-B	273	338	81	19	80	0	0	1.078	1.0	0	5	0	0	1.1	2.8	0.8	234		
MSH228-6	258	293	88	10	84	4	2	1.077	1.5	15	53	3	0	1.3	3.0	0.2	284		
MSQ070-1	249	315	79	21	76	2	0	1.089	1.5	5	23	5	0	1.8	3.3	1.1	272		
Snowden	248	309	80	19	79	1	1	1.080	1.5	3	38	0	0	2.4	2.5	0.8	285		
MSJ126-9Y	196	246	80	20	77	2	0	1.074	1.0	0	10	0	0	0.8	2.5	0.1	213		
MSR061-1 ^{LBR}	175	261	67	33	66	0	0	1.081	1.0	0	10	0	0	0.9	3.0	0.7	203		
MSR169-8Y	169	241	70	30	70	0	0	1.079	1.0	0	10	0	0	0.6	2.5	0.7	-		
MSJ147-1	145	227	64	35	62	2	1	1.087	1.0	5	5	0	0	1.4	2.8	1.1	155		
MEAN	267	334						1.082						1.6	2.7	1.0			
HSD _{0.05}	132	135						0.005						1.5	1.3		* Two-Year Average		

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Clarksville Horticulture Research Center.

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

²CHIP SCORE: Snack Food Association Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.

³QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.

⁴SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.

⁵MATURITY RATING: August 24, 2011; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

⁶BRUISE: Simulated blackspot bruise test average number of spots per tuber.

Table 2

**NORTH CENTRAL REGIONAL TRIAL
 MONTCALM RESEARCH FARM
 May 9 to September 7, 2011 (121 days)**

LINE	CWT/A		PERCENT OF TOTAL ¹						CHIP SCORE ²	PERCENT (%) TUBER QUALITY ³						3-YR AVG		
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP		GR	HH	VD	IBS	BC	SCAB ⁴	MAT ⁵	BRUISE ⁶	US#1
																		CWT/A
Snowden	295	418	71	29	70	0	1	1.085	1.5	1	10	1	0	2.4	2.3	0.6	330	
NorValley	280	369	76	19	71	5	5	1.071	1.5	2	6	0	0	2.3	1.8	0.5	316*	
MN19298RY	279	370	75	24	75	0	0	1.066	2.5	0	0	0	0	-	2.0	0.3	210*	
MSQ176-5 ^{LBMK}	277	329	84	16	68	16	0	1.063	2.0	6	1	0	0	2.4	1.8	0.1	287	
MN02616R	259	369	70	27	69	1	3	1.064	2.0	0	8	0	0	-	1.0	1.0	256*	
Atlantic	259	313	83	15	78	5	2	1.085	1.5	5	6	1	0	3.0	2.0	0.6	310	
Red Pontiac	240	320	75	16	72	3	9	1.050	3.5	0	10	0	0	3.4	2.5	0.2	303*	
D Red Norland	233	293	80	18	79	1	2	1.054	3.0	0	10	0	0	1.3	1.0	0.2	251	
W2717-5	232	309	75	24	74	1	1	1.085	2.0	1	12	0	0	1.8	1.5	0.6	232*	
MSL268-D ^{LBR}	211	326	65	32	65	0	3	1.076	1.5	0	12	0	0	2.1	2.0	0.5	262	
W2310-3	211	274	77	20	77	0	3	1.084	3.5	0	9	1	0	2.6	2.3	0.8	219*	
W2978-3	201	295	68	30	67	1	2	1.067	1.0	0	9	0	0	2.3	1.0	0.2	230	
W6002-1R	199	298	67	33	67	0	0	1.055	3.5	0	13	0	0	1.9	1.5	0.1	-	
MSQ440-2	187	244	77	23	74	3	0	1.052	3.0	0	10	0	0	1.3	2.3	0.3	251*	
AND00272-1R	186	337	55	43	55	0	2	1.064	1.0	0	0	0	0	-	2.5	0.1	-	
MSL211-3	185	254	73	26	69	4	2	1.061	3.0	0	2	0	0	1.8	1.3	0.2	295*	
MN02586	181	308	59	40	58	1	1	1.070	2.5	0	8	0	0	3.3	1.8	0.3	-	
MSM182-1 ^{LBR}	175	281	62	37	62	0	1	1.068	2.5	0	4	0	0	2.3	2.3	0.6	248*	
ND8555-8R	163	309	53	47	53	0	1	1.062	2.0	0	9	0	0	-	1.0	0.3	277*	
MSR169-8Y	158	229	69	29	67	2	2	1.080	1.5	1	6	0	0	0.6	2.5	1.0	-	
W6511-1R	109	317	34	60	34	0	5	1.076	2.5	0	10	0	0	2.5	2.0	0.6	-	
MN02588	55	141	39	60	39	0	1	1.070	2.5	3	9	0	0	-	3.3	0.5	-	
MEAN	208	305						1.069	2.3					2.2	1.9	0.4		
HSD _{0.05}	102	109						0.006						1.5	1.6		* Two-Year Average	

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Clarksville Horticulture Research Center.

All the lines in the Round White Trial in 2008 were North Central Regional Trial entries.

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

²CHIP SCORE: Snack Food Association Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.

³QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.

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⁶BRUISE: Simulated blackspot bruise test average number of spots per tuber.

Table 3

RUSSET TRIAL
MONTCALM RESEARCH FARM
May 9 to September 7, 2011 (121 days)

LINE	PERCENT (%)																3-YR AVG
	CWT/A		PERCENT OF TOTAL ¹						TUBER QUALITY ²						US#1		
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS	BC	SCAB ³	MAT ⁴	BRUISE ⁵	CWT/A	
A01124-3	323	386	84	15	73	11	1	1.075	5	3	1	0	1.5	2.3	0.5	-	
AF3362-1	263	328	80	17	65	15	3	1.064	0	4	0	0	1.1	2.0	0.2	-	
A0008-1TE	240	306	79	20	70	8	2	1.064	0	4	0	0	0.9	1.0	0.5	-	
CO03202-1Rus	220	322	68	30	62	6	2	1.074	8	1	0	0	1.5	3.0	0.9	-	
A02062-1TE	207	281	74	23	61	12	3	1.063	0	7	0	0	0.8	2.0	0.2	263*	
Canela	206	268	77	22	72	5	1	1.074	0	4	1	0	1.9	2.0	1.2	204*	
ND8229-3Rus	200	255	78	18	62	16	3	1.072	0	1	0	0	ND	2.0	1.5	237*	
CO99053-3Rus ^{LBR}	198	271	73	24	62	12	3	1.074	6	3	0	0	1.9	2.3	0.9	221	
GoldRush Russet	197	296	66	27	61	6	6	1.059	0	4	0	0	0.5	2.0	0.3	222	
AF3317-15 ^{LBR}	193	311	62	31	62	0	6	1.085	0	0	0	0	1.5	2.8	0.8	-	
Dakota Trailblazer ^{LBR}	189	269	70	22	59	11	8	1.084	9	5	0	0	ND	2.8	1.8	-	
Russet Norkotah	186	278	67	27	63	4	6	1.064	0	3	0	0	2.5	1.0	0.6	162	
Silverton Russet	184	260	71	28	64	6	2	1.065	0	3	0	0	0.5	3.0	0.3	256	
CV00047-3RUS	168	238	70	27	63	8	2	1.067	0	1	0	0	1.3	2.0	0.7	-	
AC00395-2Rus	166	291	57	39	52	5	4	1.083	6	3	0	0	1	2.3	0.3	228*	
CO03276-5Rus	161	285	56	36	52	5	8	1.068	2	4	0	0	1.1	2.0	0.7	-	
CO03308-3Rus	142	219	65	30	62	3	6	1.067	1	5	0	0	0.8	2.8	0.5	-	
WV4993-1RUS	135	232	58	39	57	1	3	1.071	1	2	0	0	1.9	1.8	0.4	-	
CO03187-1RUS	131	247	53	44	53	0	3	1.065	0	0	0	0	0.1	2.0	0.3	-	
Clearwater Russet	121	230	52	43	52	0	5	1.078	1	7	2	0	1.4	3.0	2.2	-	
ND8068-5Rus	114	230	50	41	50	0	9	1.070	0	0	0	0	ND	1.5	1.8	-	
CO03276-4Rus	98	231	42	57	40	2	0	1.072	2	3	2	0	1.5	1.8	0.4	-	
Russet Burbank	78	221	35	39	35	0	26	1.068	3	1	0	0	2.4	2.5	0.8	101*	
W6360-1Rus ^{LBR}	63	153	41	48	41	0	11	1.074	1	1	0	0	1.9	3.3	0.6	-	
MEAN	174	267						1.071					1.3	2.2	0.8		
HSD _{0.05}	201	208						0.013					1.5	2.5		* Two-Year Average	

**Not Russet lines

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Clarksville Horticulture Research Center.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 24, 2011; 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.

Table 4

ADAPTATION TRIAL, CHIP-PROCESSING LINES
MONTCALM RESEARCH FARM
May 9 to September 20, 2011 (134 days)

LINE	CWT/A		PERCENT OF TOTAL ¹						SP GR	CHIP SCORE ²	PERCENT (%) TUBER QUALITY ³						SCAB ⁴	MAT ⁵	BRUISE ⁶
	US#1	TOTAL	US#1	Bs	As	OV	PO	HH			VD	IBS	BC						
MSQ089-1	341	396	86	13	84	2	0	1.074	1.0	0	25	0	0	2.1	3.0	0.3			
MSQ035-3	329	388	85	15	79	6	0	1.077	1.0	0	10	0	0	1.8	2.8	2.0			
FL1879	323	348	93	7	76	17	0	1.076	1.5	23	15	0	0	2.4	2.8	0.9			
MSQ279-1	315	352	89	10	81	9	0	1.074	1.0	8	15	0	0	1.0	3.3	0.6			
MSR127-2	288	348	83	17	77	6	0	1.087	1.0	0	20	0	0	2.0	3.8	2.1			
MSS165-2Y	286	431	66	33	66	1	0	1.090	1.0	3	18	0	0	1.6	2.3	1.1			
Snowden	284	385	74	26	73	1	0	1.082	1.0	0	30	3	0	2.4	2.5	1.0			
CO03243-3W	284	336	84	16	81	4	0	1.079	1.0	5	18	0	0	2.8	3.0	0.5			
MSR148-4 ^{LBR}	283	430	66	34	65	1	0	1.071	1.0	0	30	0	0	1.8	3.0	0.7			
Atlantic	281	331	85	15	78	7	0	1.085	1.0	15	10	0	0	3.0	2.7	1.2			
AC03433-1W	279	325	86	13	82	4	2	1.077	1.0	38	30	0	0	2.9	4.0	0.3			
MSR159-02	252	326	77	23	74	4	0	1.089	1.5	0	18	0	0	1.6	3.8	0.3			
A01143-3C	235	354	66	24	66	0	10	1.076	1.5	0	13	0	0	1.8	4.3	ND			
MSR036-5 ^{LBR}	188	245	76	22	73	3	1	1.079	1.0	3	3	0	0	1.1	3.5	0.9			
Pike	167	219	76	24	76	0	0	1.083	1.5	0	13	0	0	1.5	3.0	0.6			
CO00188-4W	159	258	62	38	62	0	0	1.071	1.0	0	0	0	0	1.4	2.3	0.3			
MSR128-4Y	132	216	61	37	60	1	2	1.079	1.0	0	0	0	0	0.0	1.4	0.6			
MEAN	260	335						1.079						1.8	3.0	0.8			
HSD _{0.05}	103	113						0.006						1.5	2.0				

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Clarksville Horticulture Research Center.

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

²CHIP SCORE: Snack Food Association Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.

³QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 40 Oversize and/or A-size tubers cut.

⁴SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.

⁵MATURITY RATING: August 24, 2011; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

⁶BRUISE: Simulated blackspot bruise test average number of spots per tuber.

Table 5

ADAPTATION TRIAL, TABLESTOCK LINES
MONTCALM RESEARCH FARM
May 9 to September 6, 2011 (120 days)

LINE	PERCENT (%)														
	CWT/A		PERCENT OF TOTAL ¹					TUBER QUALITY ²							
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS	BC	SCAB ³	MAT ⁴	BRUISE ⁵
Reba	315	360	88	12	84	4	0	1.075	10	5	0	0	1.6	2.0	0.4
Onaway	309	362	85	12	79	6	3	1.062	3	13	0	0	2.0	1.5	0.5
MSM288-2Y	307	401	77	23	75	2	0	1.068	0	5	0	0	3.0	1.3	0.1
AF2291-10	296	362	82	18	80	1	0	1.088	0	23	0	0	2.0	3.0	0.8
MSQ341-BY	260	301	87	13	82	5	0	1.073	3	8	0	3	1.3	1.8	0.3
MSR157-1Y	199	252	79	19	75	4	2	1.083	10	10	0	0	2.6	2.0	0.6
MSS544-1R	180	294	61	38	60	2	1	1.060	0	8	0	3	1.9	1.3	0.2
MSM182-1 ^{LBR}	168	278	61	38	61	0	2	1.071	0	8	10	0	2.3	2.3	0.3
MSR217-1R	164	208	79	19	77	2	2	1.054	0	5	0	0	2.8	1.5	0.3
MEAN	244	313						1.070					2.2	1.9	0.4
HSD _{0.05}	80	85						0.004					1.5	1.0	

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Clarksville Horticulture Research Center.

^{NCR} North Central Regional Entry

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 24, 2011; 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.

Table 6

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICSPRELIMINARY TRIAL, CHIP-PROCESSING LINES
MONTCALM RESEARCH FARM
May 9 to September 13, 2011 (127 days)

LINE	PERCENT (%)															
	CWT/A		PERCENT OF TOTAL ¹						CHIP SCORE ²	TUBER QUALITY ³						
	US#1	TOTAL	US#1	B _s	A _s	OV	PO	SP GR		HH	VD	IBS	BC	SCAB ⁴	MAT ⁵	BRUISE ⁶
Boulder	435	448	97	3	63	34	0	1.086	2.0	0	0	0	0	1.9	3.5	1.0
MSQ461-2PP	392	444	88	10	85	3	2	1.075	1.0	0	0	0	0	2.5	2.0	0.2
FL1879	382	414	92	8	78	14	0	1.077	1.5	3	7	1	0	2.4	2.5	0.5
MSR109-1	382	416	92	7	62	30	1	1.076	1.5	8	3	0	0	2.1	3.5	0.6
MSV313-2	376	412	91	6	60	31	2	1.085	1.0	1	4	0	0	1.5	3.0	0.7
Missaukee	339	443	77	23	76	0	0	1.081	1.5	0	1	0	0	2.1	3.5	0.2
MSV403-3	338	416	81	18	78	3	1	1.084	1.0	0	2	1	0	0.9	3.0	0.7
MSS483-1 ^{LBM}	313	414	76	24	76	0	0	1.071	2.5	0	0	0	0	3.1	2.5	0.6
Atlantic	304	359	85	15	83	1	0	1.086	1.5	0	3	1	0	3.0	2.0	0.5
MSV434-1Y	300	338	89	11	80	9	0	1.067	1.0	0	3	0	0	1.8	2.0	0.2
MSV434-4	293	327	90	10	79	11	0	1.066	1.0	0	0	0	0	1.3	1.5	0.1
MSV241-2	284	322	88	12	86	3	0	1.087	1.0	3	5	0	0	1.5	3.5	0.7
MSV238-1 ^{LBR}	279	304	92	8	69	23	0	1.070	2.0	2	1	1	0	1.4	3.0	0.2
MSV505-2	276	320	86	14	83	3	0	1.078	1.0	0	5	3	0	-	2.0	0.8
MSR021-2	276	339	81	18	75	7	0	1.062	1.0	0	0	0	0	2.3	2.0	0.2
MSV430-1	275	329	84	16	84	0	0	1.077	1.0	1	0	0	0	2.3	3.0	0.4
Snowden	268	360	74	26	73	1	0	1.081	1.0	0	8	1	0	2.4	2.5	0.4
MSV127-1	265	303	88	11	84	4	1	1.080	1.0	0	4	0	0	1.0	2.5	0.4
MSV383-1	258	299	86	13	83	3	0	1.083	1.5	1	2	0	0	0.9	2.0	0.2
MSN190-2	258	370	70	30	70	0	1	1.089	1.0	0	2	0	0	1.9	1.5	0.5
MSV092-2	258	305	84	16	82	3	0	1.080	2.0	0	1	0	0	1.3	3.0	0.1
MSV153-2Y	245	315	78	21	73	5	1	1.078	1.5	0	1	0	0	2.5	3.0	0.3
MSS927-1 ^{LBR}	241	308	78	21	75	3	1	1.075	2.0	0	4	0	0	1.6	2.0	0.2
MSM108-A	241	325	74	25	73	1	1	1.084	1.0	3	4	2	1	2.5	2.5	0.6
MSV307-2	239	274	87	13	82	5	0	1.077	1.5	0	4	0	0	1.5	2.0	0.1
MSV397-2	236	270	87	11	81	6	1	1.071	1.5	0	6	1	0	1.0	2.5	0.4
MSV358-3	233	287	81	18	75	6	0	1.079	1.0	0	3	0	0	1.0	2.0	0.2
MSV498-1	231	306	75	25	74	1	0	1.076	1.5	0	6	0	0	1.5	2.5	0.6
MSS297-1	224	313	72	28	70	2	1	1.075	1.0	0	1	0	0	0.9	1.5	0.2
MSS514-1PP	224	343	65	35	65	0	0	1.063	2.5	0	0	0	0	1.8	2.0	0.2
MSV292-1Y	218	251	87	13	68	19	0	1.061	2.0	0	1	0	0	2.5	2.5	0.2

Table 6

PRELIMINARY TRIAL, CHIP-PROCESSING LINES
MONTCALM RESEARCH FARM
May 9 to September 13, 2011 (127 days)

LINE	CWT/A		PERCENT OF TOTAL ¹						CHIP SCORE ²	PERCENT (%) TUBER QUALITY ³							
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP		GR	HH	VD	IBS	BC	SCAB ⁴	MAT ⁵	BRUISE ⁶
MSV393-1	207	254	82	18	81	1	0	1.080	1.5	0	2	0	0	1.4	3.5	0.4	
MSV331-3	207	232	89	11	75	14	0	1.069	1.0	1	2	0	0	0.8	2.0	0.8	
MSR058-1 ^{LBR}	203	301	68	32	68	0	0	1.078	1.5	0	3	0	0	1.0	2.0	0.8	
MSR093-4	197	261	75	23	72	4	1	1.076	1.5	0	1	0	1	1.8	3.0	1.5	
MSP270-1	194	242	80	20	78	2	0	1.068	1.5	0	3	0	0	0.6	3.0	0.1	
MSV344-2	192	232	82	11	78	4	6	1.067	1.5	2	0	1	0	2.1	2.5	0.3	
Pike	185	248	75	25	74	1	0	1.081	1.0	0	4	0	0	1.5	2.5	0.3	
MSV143-1Y	179	262	68	31	64	5	1	1.075	1.5	0	2	0	0	1.4	2.0	0.0	
MSV117-1	177	252	70	29	69	1	1	1.079	2.0	1	1	1	0	1.4	2.5	0.3	
MSV125-4	173	228	76	24	75	1	0	1.088	1.0	3	1	0	0	0.8	2.5	0.2	
MSV355-2	151	186	81	17	77	4	2	1.074		0	3	1	0	1.9	1.0	0.2	
MSV396-4Y	123	198	62	38	62	0	0	1.082	1.5	0	3	0	0	1.6	4.0	0.2	
MSM102-A	103	145	71	27	70	1	2	1.077	1.0	0	1	0	0	1.4	2.0	0.4	
MEAN	254	312						1.077						1.7	2.5	0.4	
HSD _{0.05}	205	208						0.010						1.5	2.3		

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Clarksville Horticulture Research Center.

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

²CHIP SCORE: Snack Food Association Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.

³QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 20 Oversize and/or A-size tubers cut.

⁴SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.

⁵MATURITY RATING: August 24, 2011; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

⁶BRUISE: Simulated blackspot bruise test average number of spots per tuber.

Table 7

PRELIMINARY TRIAL, TABLESTOCK LINES
MONTCALM RESEARCH FARM
May 9 to September 6, 2011 (120 days)

LINE	PERCENT (%)														
	CWT/A		PERCENT OF TOTAL ¹					TUBER QUALITY ³							
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS	BC	SCAB ⁴	MAT ⁵	BRUISE ⁶
MI Purple Sport II	378	409	93	7	79	13	0	1.073	0	10	0	0	2.3	1.5	0.2
Purple Heart	323	392	82	17	78	4	0	1.058	0	0	5	0	2.1	2.0	0.3
MSR605-11 ^{LBR}	314	411	76	22	72	5	2	1.066	5	0	0	0	2.1	4.0	0.2
MSR214-2P ^{LBR}	300	410	73	27	73	0	0	1.068	0	0	0	0	1.6	3.0	0.0
MST386-1P	299	382	78	11	73	5	11	1.076	0	20	0	0	0.8	3.0	0.4
MSU161-1 ^{LBR}	293	381	77	23	74	3	0	1.072	0	0	0	0	2.1	3.5	0.2
MI Purple Sport I	288	366	79	18	78	1	4	1.070	0	15	0	0	2.3	2.5	0.3
MSU379-1	267	321	83	15	74	9	2	1.064	0	0	0	0	1.8	2.5	0.1
MI Purple Red Sport	261	301	87	12	73	14	1	1.068	5	5	0	0	2.5	1.0	0.3
MI Purple	247	301	82	14	77	5	4	1.064	0	15	0	0	2.8	1.5	0.3
MSU016-2 ^{LBR}	244	320	76	24	74	2	0	1.092	5	0	0	0	2.3	3.0	0.6
Onaway	241	313	77	19	76	2	4	1.059	0	15	0	0	2.0	1.0	0.6
MSR606-02	238	339	70	25	64	7	5	1.058	0	5	0	0	2.6	1.0	0.4
MI Purple Sport III	215	261	82	12	74	9	5	1.066	5	15	0	0	1.5	1.0	0.3
MSS108-1	212	295	72	28	72	0	0	1.076	0	0	5	0	1.5	3.0	0.2
MSV307-1	206	258	80	19	79	1	2	1.062	0	10	0	0	1.9	1.5	0.3
MSV282-4Y ^{LBR}	182	265	69	31	69	0	1	1.076	0	5	0	0	2.1	1.7	0.6
MSN215-2P	169	243	70	27	67	2	4	1.070	0	10	0	0	0.9	2.0	0.3
MSR605-10 ^{LBR}	166	301	55	35	55	0	9	1.074	0	0	0	0	2.8	3.5	0.1
MSV177-4	163	246	66	33	64	2	1	1.068	0	5	0	0	1.8	1.0	0.2
MSR297-A	162	219	74	26	74	0	0	1.062	0	0	0	0	1.5	2.0	0.3
Jingshu 2	161	296	54	44	54	0	1	1.093	0	0	0	0	2.6	4.0	1.0
Jacqueline Lee^{LBR}	144	359	40	46	40	0	14	1.074	0	5	0	0	2.6	3.0	0.6
Spartan Splash	138	256	54	46	54	0	0	1.063	0	0	0	0	2.3	1.5	0.2
MSV205-4	128	174	74	26	74	0	0	1.077	0	5	0	0	1.1	1.0	0.3
MSR218-AR	119	157	76	24	71	5	0	1.051	0	10	0	0	3.0	1.0	0.2
MSV429-1	110	190	58	40	58	0	2	1.070	0	5	0	0	1.3	1.5	0.2

Table 7

**PRELIMINARY TRIAL, TABLESTOCK LINES
MONTCALM RESEARCH FARM
May 9 to September 6, 2011 (120 days)**

LINE	CWT/A		PERCENT OF TOTAL ¹					PERCENT (%) TUBER QUALITY ³							
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP GR	HH	VD	IBS	BC	SCAB ⁴	MAT ⁵	BRUISE ⁶
Blackberry	101	181	56	41	56	0	3	1.042	0	0	0	0	3.3	1.5	0.2
Midnight II	82	251	33	64	33	0	3	1.077	0	0	0	0	2.6	2.0	0.1
MSR241-4RY	53	171	31	68	31	0	1	1.069	0	5	5	0	2.5	1.0	0.1
MEAN	207	292						1.069					2.1	2.1	0.3
HSD _{0.05}	175	201						0.012					1.5	1.7	

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Clarksville Horticulture Research Center.

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

²CHIP SCORE: Snack Food Association Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.

³QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot. Percent of 20 Oversize and/or A-size tubers cut.

⁴SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.

⁵MATURITY RATING: August 24, 2011; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

⁶BRUISE: Simulated blackspot bruise test average number of spots per tuber.

Table 8

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2009-2011 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, EAST LANSING, MI

LINE	3-YR* AVG.	2011 RATING	2011 WORST	2011 N	2010 RATING	2010 WORST	2010 N	2009 RATING	2009 WORST	2009 N
<i>Sorted by ascending 2011 Rating;</i>										
CO03187-1Rus	-	0.1	1	4	-	-	-	-	-	-
Goldrush Russet	0.8	0.5	1	4	1.0	1	2	1.0	1	4
Silverton Russet	0.9	0.5	1	4	1.0	1	2	1.3	2	4
MSP270-1	1.0	0.6	1	4	1.0	1	2	1.5	2	4
MSR169-8Y	0.9	0.6	1	4	1.0	1	2	1.0	1	4
A02062-1TE	-	0.6	1	4	-	-	-	-	-	-
MSJ126-9Y	1.0	0.8	2	4	1.0	1	2	1.3	2	4
MST386-1P	0.9*	0.8	1	4	1.0	1	2	-	-	-
CO03308-3Rus	-	0.8	1	4	-	-	-	-	-	-
Liberator	-	0.8	1	4	-	-	-	-	-	-
MSV125-4	-	0.8	1	2	-	-	-	-	-	-
MSV331-3	-	0.8	1	4	-	-	-	-	-	-
MSN215-2P	0.9	0.9	1	4	1.0	1	2	0.8	1	4
MSR061-1	1.1	0.9	2	4	1.3	2	2	1.1	2	4
MSS297-3	0.9	0.9	1	4	0.9	1	4	1.0	1	4
AO008-ITE	-	0.9	1	4	-	-	-	-	-	-
MSV383-1	-	0.9	1	4	-	-	-	-	-	-
MSV403-3	-	0.9	2	4	-	-	-	-	-	-
MSR058-1	1.3	1.0	2	4	1.5	2	2	1.3	2	4
MSQ279-1	1.1*	1.0	2	4	1.3	2	2	-	-	-
MSP239-1	-	1.0	2	4	-	-	-	-	-	-
MSV127-1	-	1.0	2	4	-	-	-	-	-	-
MSV358-3	-	1.0	2	4	-	-	-	-	-	-
MSV397-2	-	1.0	1	4	-	-	-	-	-	-
MSL007-B	1.0	1.1	2	4	1.0	1	2	1.0	1	3
MSR036-5	1.1	1.1	2	4	1.0	1	2	1.3	2	4
AC00395-2Rus	1.1*	1.1	2	4	1.0	1	2	-	-	-
AF3362-1	-	1.1	2	4	-	-	-	-	-	-
CO03276-5Rus	-	1.1	2	4	-	-	-	-	-	-
MSV205-4	-	1.1	2	4	-	-	-	-	-	-
MSV502-2	-	1.1	2	4	-	-	-	-	-	-
MSH228-6	1.2	1.3	2	4	1.0	1	2	1.3	2	4
MSQ440-2	1.3	1.3	2	8	1.8	2	2	1.0	2	4
A01124-3RUS	1.4*	1.3	2	4	1.5	2	2	-	-	-
MSQ341-BY	1.4*	1.3	2	4	1.5	2	2	-	-	-
Dark Red Norland	1.6*	1.3	2	4	2.0	2	2	-	-	-
CV00047-3	-	1.3	2	4	-	-	-	-	-	-
MSV092-2	-	1.3	2	4	-	-	-	-	-	-
MSV429-1	-	1.3	2	4	-	-	-	-	-	-
MSV434-4	-	1.3	2	4	-	-	-	-	-	-
Kalkaska (MSJ036-A)	1.4	1.4	2	4	1.5	2	2	1.3	2	4
MSJ147-1	1.4	1.4	2	4	1.3	2	2	1.7	2	3
NY139	1.7*	1.4	2	4	2.0	2	2	-	-	-

Table 8

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2009-2011 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, EAST LANSING, MI

LINE	3-YR* AVG.	2011 RATING	2011 WORST	2011 N	2010 RATING	2010 WORST	2010 N	2009 RATING	2009 WORST	2009 N
<i>Sorted by ascending 2011 Rating;</i>										
Clearwater Russet	-	1.4	2	4	-	-	-	-	-	-
Dakota Diamond	-	1.4	2	4	-	-	-	-	-	-
German Butterball	-	1.4	2	4	-	-	-	-	-	-
MSM102-A	-	1.4	2	4	-	-	-	-	-	-
MSR128-4Y	-	1.4	2	4	-	-	-	-	-	-
MSR161-2	-	1.4	2	4	-	-	-	-	-	-
MSV117-1	-	1.4	2	4	-	-	-	-	-	-
MSV143-1Y	-	1.4	2	4	-	-	-	-	-	-
MSV238-1	-	1.4	3	4	-	-	-	-	-	-
MSV393-1	-	1.4	2	4	-	-	-	-	-	-
NYE106-4	-	1.4	2	4	-	-	-	-	-	-
CO00188-4W	1.7	1.5	2	4	1.5	2	2	2.0	2	4
MSR297-A	1.4	1.5	2	1	1.0	1	2	1.7	2	3
Pike	1.4	1.5	3	4	1.1	2	8	1.5	2	8
MSS108-1	1.5*	1.5	2	4	1.5	2	2	-	-	-
AF3317-15	-	1.5	2	4	-	-	-	-	-	-
CO03202-1Rus	-	1.5	2	4	-	-	-	-	-	-
CO03276-4Rus	-	1.5	3	4	-	-	-	-	-	-
MSV241-2	-	1.5	2	4	-	-	-	-	-	-
MSV307-2	-	1.5	3	4	-	-	-	-	-	-
MSV313-2	-	1.5	2	4	-	-	-	-	-	-
MSV498-1	-	1.5	2	2	-	-	-	-	-	-
Reba	2.0	1.6	2	4	2.5	3	2	2.0	3	8
MSR214-2P	2.1*	1.6	3	4	2.5	3	2	-	-	-
MSS165-2Y	-	1.6	2	4	-	-	-	-	-	-
MSS927-1	-	1.6	3	4	-	-	-	-	-	-
MSV396-4Y	-	1.6	3	4	-	-	-	-	-	-
MSL308-A	-	1.7	2	3	-	-	-	-	-	-
MSR159-02	1.7	1.7	3	8	2.0	2	2	1.5	2	4
A01143-3C	1.6	1.8	2	4	1.8	2	2	1.3	2	4
Beacon Chipper	1.7	1.8	2	4	2.0	2	2	1.3	2	4
MSL211-3	2.1	1.8	2	4	2.2	3	6	2.4	3	4
MSQ035-3	1.6	1.8	3	4	1.0	1	2	2.0	2	4
MSQ070-1	1.4	1.8	2	4	1.3	2	2	1.3	2	3
MSQ405-1PP	1.5	1.8	3	4	2.0	2	2	0.8	1	4
MSS514-1PP	1.8	1.8	2	4	2.0	2	2	1.5	3	4
MSR148-4	2.1*	1.8	2	4	2.5	3	2	-	-	-
MSU379-1	1.6*	1.8	2	4	1.5	2	2	-	-	-
W2717-5	2.4*	1.8	3	4	3.0	3	2	-	-	-
MI Purple Red Sport III	-	1.8	3	4	-	-	-	-	-	-
MSR093-4	-	1.8	3	4	-	-	-	-	-	-
MSV177-4	-	1.8	2	4	-	-	-	-	-	-
MSV434-1Y	-	1.8	2	4	-	-	-	-	-	-

Table 8

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS

2009-2011 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, EAST LANSING, MI

LINE	3-YR* AVG.	2011 RATING	2011 WORST	2011 N	2010 RATING	2010 WORST	2010 N	2009 RATING	2009 WORST	2009 N
<i>Sorted by ascending 2011 Rating;</i>										
CO99053-3Rus	1.8	1.9	3	4	2.0	2	2	1.5	3	4
MSS544-1R	1.2	1.9	2	4	1.0	1	2	0.8	1	4
Boulder	-	1.9	2	4	-	-	-	-	-	-
Canela	-	1.9	2	4	-	-	-	-	-	-
MSN190-2	-	1.9	3	4	-	-	-	-	-	-
MSV307-1	-	1.9	2	4	-	-	-	-	-	-
MSV355-2	-	1.9	3	4	-	-	-	-	-	-
Purple Haze	-	1.9	2	4	-	-	-	-	-	-
W6002-IR	-	1.9	3	4	-	-	-	-	-	-
W6360-1Rus	-	1.9	3	4	-	-	-	-	-	-
WV4993-1	-	1.9	3	4	-	-	-	-	-	-
MSQ086-3	2.3	2.0	3	4	2.3	3	4	2.5	4	4
MSR127-2	1.3	2.0	3	4	1.0	1	2	1.0	1	4
MSS582-1SPL	1.9	2.0	3	4	2.0	2	2	1.6	3	4
Onaway	1.9	2.0	3	8	2.1	3	6	1.6	2	8
AF2291-10	2.0*	2.0	3	4	2.0	2	2	-	-	-
MSQ131-A	-	2.0	2	4	-	-	-	-	-	-
MSR247-A	-	2.0	2	1	-	-	-	-	-	-
MSR292-A	-	2.0	2	2	-	-	-	-	-	-
MSL268-D	2.5	2.1	3	8	3.0	3	2	2.5	4	4
Missaukee (MSJ164-1)	2.3*	2.1	3	4	2.5	3	2	-	-	-
MSR605-11	1.8*	2.1	3	4	1.5	2	2	-	-	-
MSU161-1	2.1*	2.1	3	4	2.0	2	2	-	-	-
German Yellow	-	2.1	3	4	-	-	-	-	-	-
MSQ089-1	-	2.1	3	4	-	-	-	-	-	-
MSR109-1	-	2.1	3	4	-	-	-	-	-	-
MSV282-4Y	-	2.1	3	4	-	-	-	-	-	-
MSV344-2	-	2.1	3	4	-	-	-	-	-	-
Purple Heart	-	2.1	3	4	-	-	-	-	-	-
MSQ425-4YSPL	2.3	2.3	3	4	2.5	3	4	2.3	4	4
NorValley	2.3*	2.3	3	4	2.3	3	2	-	-	-
W2978-3	2.9*	2.3	3	4	3.5	4	2	-	-	-
Kufri Jeevan	-	2.3	3	4	-	-	-	-	-	-
LBR8	-	2.3	3	4	-	-	-	-	-	-
MI Purple Sport I	-	2.3	3	4	-	-	-	-	-	-
MI Purple Sport II	-	2.3	3	4	-	-	-	-	-	-
MSR021-2	-	2.3	3	4	-	-	-	-	-	-
MSV430-1	-	2.3	3	4	-	-	-	-	-	-
MSM182-1	2.7	2.3	3	8	3.0	3	2	2.9	4	4
MSN191-2Y	-	2.3	3	3	-	-	-	-	-	-
MSU016-2	-	2.3	4	3	-	-	-	-	-	-
FL1879	2.6	2.4	3	4	3.5	4	2	2.0	3	7
MSQ176-5	2.4	2.4	3	4	3.0	3	2	1.8	3	4

Table 8

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS2009-2011 SCAB DISEASE TRIAL SUMMARY
SCAB NURSERY, EAST LANSING, MI

LINE	3-YR* AVG.	2011 RATING	2011 WORST	2011 N	2010 RATING	2010 WORST	2010 N	2009 RATING	2009 WORST	2009 N
<i>Sorted by ascending 2011 Rating;</i>										
Snowden	2.5	2.4	3	4	2.9	4	10	2.3	3	12
Russet Burbank	2.2*	2.4	3	4	2.0	2	2	-	-	-
Purple Surprise	-	2.4	3	4	-	-	-	-	-	-
MSQ461-2PP	1.8	2.5	3	4	2.0	2	2	0.8	1	4
MSR241-4RY	2.6	2.5	3	2	3.5	4	2	1.8	3	4
Russet Norkotah	2.3	2.5	3	4	2.3	3	4	2.0	3	4
MSL306-A	-	2.5	3	1	-	-	-	-	-	-
MSM108-A	-	2.5	3	4	-	-	-	-	-	-
MSV153-2	-	2.5	3	4	-	-	-	-	-	-
MSV292-1Y	-	2.5	3	4	-	-	-	-	-	-
NY140	-	2.5	3	4	-	-	-	-	-	-
W6511-1R	-	2.5	3	4	-	-	-	-	-	-
MSR157-1Y	1.8	2.6	4	8	1.3	2	2	1.5	2	4
Jingshu 2	2.8*	2.6	3	4	3.0	4	2	-	-	-
W2310-3	2.3*	2.6	3	4	2.0	2	2	-	-	-
Cowhorn	-	2.6	3	4	-	-	-	-	-	-
MI Purple Red Sport	-	2.6	3	4	-	-	-	-	-	-
Midnight II	-	2.6	4	4	-	-	-	-	-	-
MSN111-4PP	-	2.6	3	4	-	-	-	-	-	-
MSL292-A	2.5	2.8	4	4	2.5	3	2	2.3	3	4
MSR217-1R	2.2	2.8	3	4	2.0	2	1	1.8	3	4
MSR226-1RR	2.3	2.8	3	4	3.0	3	2	1.0	2	4
CO03243-3W	-	2.8	3	4	-	-	-	-	-	-
Russet Norkotah - CORN #8	-	2.8	3	4	-	-	-	-	-	-
Michigan Purple	-	2.8	3	4	-	-	-	-	-	-
MSL316-EY	-	2.8	3	4	-	-	-	-	-	-
MSR605-10	-	2.8	3	4	-	-	-	-	-	-
Trailblazer	-	2.8	3	4	-	-	-	-	-	-
Jacqueline Lee	2.9	2.9	4	4	3.3	4	2	2.5	3	4
MSQ558-2RR	2.1	2.9	3	4	2.3	3	2	1.3	2	4
Zongshu 3	3.2*	2.9	4	4	3.5	4	2	-	-	-
AC03433-1	-	2.9	3	4	-	-	-	-	-	-
MSR606-2	-	2.9	4	4	-	-	-	-	-	-
MSR241-2RY	-	2.9	4	6	-	-	-	-	-	-
Atlantic	2.8	3.0	4	11	2.9	3	10	2.7	3	8
MSR219-2R	2.7	3.0	4	3	2.5	3	2	2.5	3	2
MSM288-2Y	3.0*	3.0	3	4	3.0	3	2	-	-	-
MSM191-2Y	-	3.0	3	1	-	-	-	-	-	-
MSR218-AR	-	3.0	3	2	-	-	-	-	-	-
Yukon Gold	-	3.0	4	4	-	-	-	-	-	-
MSR705-2	-	3.1	4	4	-	-	-	-	-	-
MSS483-1	-	3.1	4	4	-	-	-	-	-	-
Belle de Fontenay	-	3.3	4	4	-	-	-	-	-	-

Table 8

**2009-2011 SCAB DISEASE TRIAL SUMMARY
 SCAB NURSERY, EAST LANSING, MI**

LINE	3-YR* AVG.	2011 RATING	2011 WORST	2011 N	2010 RATING	2010 WORST	2010 N	2009 RATING	2009 WORST	2009 N
<i>Sorted by ascending 2011 Rating;</i>										
Blackberry	-	3.3	4	4	-	-	-	-	-	-
MN02586	-	3.3	4	2	-	-	-	-	-	-
MSM183-1	3.7*	3.4	4	4	4.0	4	2	-	-	-
Red Pontiac	3.9*	3.4	4	4	4.5	5	2	-	-	-
Stirling	-	3.5	4	3	-	-	-	-	-	-
H/LSD_{0.05} =		1.5			2.3			1.1		

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.

^{LBR} Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials at the MSU Muck Soils Research Farm.

N = Number of replications.

*2-Year Average. Note 2011 and 2010 Significant difference is Tukey's HSD, 2009 was Fisher's LSD.

Note the 2011-10 Scab Nursery data are from the new scab trial site at the Montcalm Research Farm. 2009 data is from the MSU campus site.

Table 9

2011 MSU LATE BLIGHT VARIETY TRIAL
CLARKSVILLE HORTICULTURAL EXPERIMENT STATION

<i>Line Sort:</i>			<i>RAUDPC Sort:</i>				
LINE	N	RAUDPC ¹ MEAN	LINE	N	RAUDPC ¹ MEAN	Female	Male
1989-86061	3	6.8	Chaposa	3	0.3		
A0008-1TE	3	32.7	Muruta	2	0.4		
A01124-3	3	32.1	Iris	1	0.5		
A01143-3C	3	25.5	Stirling	6	0.6		
A02062-1TE	3	29.5	MSV234-1	3	0.8	Malinche	MSN105-1
AC00395-2RUS	3	18.4	MSS927-1	3	1.0	ND4350-3	ND7799C-1
AC03433-1	3	27.6	MSV282-4Y	3	1.3	Monserat	MSN105-1
AF2291-10	3	30.2	MSV198-2Y	2	1.6	MSM051-3	Malinche
AF3317-15	3	7.2	MSR061-1	3	1.9	MegaChip	NY121
AF3362-1	3	37.7	NY148	3	1.9		
Atlantic	12	35.0	Kufri Jeevan	3	1.9		
Blackberry	3	39.6	W6360-1RUS	3	1.9		
C00188-4W	3	22.9	MSV371-2	3	2.0	MSP459-5	MSG227-2
C003187-1RUS	3	32.9	MSL268-D	6	2.3	NY 103	Jacqueline Lee
C003202-1RUS	3	29.0	MSW206-2P	3	2.8	LBR9	Colonial Purple
C003243-3W	3	27.4	MSV289-2P	3	2.8	Montanosa	Colonial Purple
C003276-4RUS	3	38.8	MSR058-1	3	3.2	MegaChip	MSJ319-1
C003276-5RUS	3	31.2	MSR214-2P	3	3.2	ND5084-3R	MSJ317-1
C003308-3RUS	3	25.9	MSM182-1	6	3.2	Stirling	NY121
C099053-3RUS	3	7.8	MSV165-1	3	4.3	Kufri Jeevan	MSL211-3
Canela Russet	3	19.5	MSQ176-5	3	4.4	MSI152-A	Missaukee
Chaposa	3	0.3	MSV020-2	2	4.6	Atlantic	MSQ244-1
Clearwater Russet	2	22.9	MSV283-2P	3	4.7	Monserat	Colonial Purple
Colonial Purple	2	36.2	NY140	3	4.9		
CORN#8	3	16.6	MSV179-6	2	5.3	LBR8	MSL211-3
CV00047-3	3	34.4	MSR036-5	3	5.4	MSL766-1	Liberator
Dark Red Norland	3	30.5	NY121	3	5.7		
Enfula	1	6.4	MSR605-10	3	6.0	Spunta G2	Missaukee
FL1879	3	22.3	MSR605-11	3	6.2	Spunta G2	Missaukee
German Butterball	3	10.5	MSV521-3	2	6.3	MSE69.6	MSI152-A
German Yellow	3	34.6	Enfula	1	6.4		
Goldrush Russet	3	24.8	1989-86061	3	6.8		
Iris	1	0.5	MSU016-2	3	7.0	Boulder	MSN105-1
Jacqueline Lee	3	9.5	MSV342-2	3	7.1	Montanosa	OP
Jingshu 2	3	20.3	AF3317-15	3	7.2		
Kufri Jeevan	3	1.9	MSS483-1	3	7.2	MSM171-A	Missaukee
Lamoka	3	21.2	Trailblazer Russet	3	7.4		
Michigan Purple	3	40.3	MSU161-1	3	7.7	MSM182-1	MSL211-3
Midnight II	3	21.7	C099053-3RUS	3	7.8		
Missaukee	6	12.0	MSR159-2	3	8.2	MSL766-1	MSJ126-9Y
Montanosa	3	10.9	MSR148-4	3	8.9	MSI152-A	Dakota Pearl
MSL211-3	1	36.9	Jacqueline Lee	3	9.5	Tollocan	Chaleur
MSL268-D	6	2.3	German Butterball	3	10.5		
MSM171-A	3	11.5	MSR606-02	3	10.8	Spunta G2	Jacqueline Lee
MSM182-1	6	3.2	Montanosa	3	10.9		
MSP270-1	3	11.8	MSR093-4	3	11.1	Torridon	OP

Line Sort:

LINE	N	RAUDPC ¹
		MEAN
MSQ035-3	3	35.6
MSQ070-1	3	19.5
MSQ086-3	3	34.0
MSQ089-1	3	17.0
MSQ131-A	3	30.5
MSQ176-5	3	4.4
MSQ279-1	3	26.1
MSQ440-2	3	37.8
MSQ461-2PP	3	13.7
MSR021-2	3	34.7
MSR036-5	3	5.4
MSR058-1	3	3.2
MSR061-1	3	1.9
MSR093-4	3	11.1
MSR109-1	2	32.9
MSR128-4Y	3	23.3
MSR148-4	3	8.9
MSR157-1Y	3	33.2
MSR159-02	3	16.1
MSR159-2	3	8.2
MSR161-2	3	13.7
MSR169-8Y	3	28.0
MSR214-2P	3	3.2
MSR217-1R	4	30.3
MSR218-8R	3	29.9
MSR219-2R	1	31.4
MSR241-2RY	3	39.7
MSR297-A	3	14.9
MSR605-10	3	6.0
MSR605-11	3	6.2
MSR606-02	3	10.8
MSS108-1	3	16.5
MSS165-2Y	3	13.1
MSS483-1	3	7.2
MSS582-1SPL	2	32.3
MSS927-1	3	1.0
MST386-1P	3	28.0
MSU016-2	3	7.0
MSU161-1	3	7.7
MSU177-4	3	39.5
MSU278-1Y	3	28.7
MSU379-1	3	19.7
MSV005-2	3	11.7
MSV020-2	2	4.6
MSV092-2	3	26.7
MSV117-1	2	16.0
MSV146-1	3	38.3
MSV153-2	3	18.5
MSV158-2	2	14.2
MSV165-1	3	4.3
MSV179-6	2	5.3

RAUDPC Sort:

LINE	N	RAUDPC ¹	Female	Male
		MEAN		
MSM171-A	3	11.5	Stirling	MSE221-1
MSV005-2	3	11.7	A93157-6LS	MSI152-A
MSP270-1	3	11.8	MSNT-1	MSG227-2
Missaukee	6	12.0		
MSV238-1	3	12.3	Marcy	Missaukee
MSS165-2Y	3	13.1	MSM188-1	MSL159-AY
MSV406-6	3	13.6	MSQ070-1	OP
MSR161-2	3	13.7	Stirling	MSJ126-9Y
MSQ461-2PP	3	13.7	NY120	POROOPG2-16
MSV158-2	2	14.2	King Harry	Missaukee
MSR297-A	3	14.9	MSG004-3	Missaukee
MSV393-1	3	14.9	MSQ070-1	MSG227-2
MSV396-4Y	3	15.5	MSQ070-1	MSJ126-9Y
MSV117-1	2	16.0	Missaukee	MSH228-6
MSR159-02	3	16.1	MSL766-1	MSJ126-9Y
MSS108-1	3	16.5	MSJ126-9Y	Stirling
CORN#8	3	16.6		
MSQ089-1	3	17.0	A91790-13	Missaukee
Red Pontiac	3	17.3		
Silverton Russet	3	17.6		
AC00395-2RUS	3	18.4		
MSV153-2	3	18.5	King Harry	MSG227-2
MSQ070-1	3	19.5	MSK061-4	Missaukee
Canela Russet	3	19.5		
Snowden	6	19.6		
MSU379-1	3	19.7	MSP238-1	Missaukee
Jingshu 2	3	20.3		
Lamoka	3	21.2		
MSV397-2	2	21.6	MSQ070-1	MSJ147-1
Midnight II	3	21.7		
FL1879	3	22.3		
MSV403-3	3	22.7	MSQ070-1	MSN099-B
Clearwater Russet	2	22.9		
C00188-4W	3	22.9		
Russet Burbank	3	23.1		
QSMSU03-01R	2	23.3	Jacqueline Lee	NDTX4034-1R
MSR128-4Y	3	23.3	MSJ167-1	MSJ126-9Y
Tundra	3	23.3		
Goldrush Russet	3	24.8		
A01143-3C	3	25.5		
C003308-3RUS	3	25.9		
MSQ279-1	3	26.1	MSF373-8	Pike
MSV092-2	3	26.7	MSJ126-9Y	MSP239-1
C003243-3W	3	27.4		
W6511-1R	3	27.5		
AC03433-1	3	27.6		
MSR169-8Y	3	28.0	Pike	MSJ126-9Y
MST386-1P	3	28.0	Michigan Purple	Liberator
MSU278-1Y	3	28.7	Torridon	MSL211-3
C003202-1RUS	3	29.0		
A02062-1TE	3	29.5		

Line Sort:

LINE	N	RAUDPC ¹
		MEAN
MSV198-2Y	2	1.6
MSV234-1	3	0.8
MSV238-1	3	12.3
MSV282-4Y	3	1.3
MSV283-2P	3	4.7
MSV289-2P	3	2.8
MSV331-3	3	35.1
MSV342-2	3	7.1
MSV355-2	3	38.7
MSV371-2	3	2.0
MSV393-1	3	14.9
MSV396-4Y	3	15.5
MSV397-2	2	21.6
MSV403-3	3	22.7
MSV406-6	3	13.6
MSV430-1	3	31.2
MSV434-4	3	34.1
MSV498-1	3	36.1
MSV502-2	3	37.7
MSV521-3	2	6.3
MSW206-2P	3	2.8
Muruta	2	0.4
NorValley	3	35.3
NY121	3	5.7
NY140	3	4.9
NY148	3	1.9
Onaway	3	37.0
Pike	2	32.3
Purple Heart	3	30.7
QSMSU03-01R	2	23.3
QSMSU03-08R	2	42.6
QSMSU03-1R	3	36.5
QSMSU10-2	1	31.1
QSMSU10-9	2	35.6
Red Norland	4	33.7
Red Pontiac	3	17.3
Russet Burbank	3	23.1
Russet Norkotah	2	37.4
Silverton Russet	3	17.6
Snowden	6	19.6
Stirling	6	0.6
Trailblazer Russet	3	7.4
Tundra	3	23.3
W2717-5	3	35.0
W2978-3	3	34.8
W6002-1R	2	30.4
W6360-1RUS	3	1.9
W6511-1R	3	27.5
WV4993-1	3	37.6

RAUDPC Sort:

LINE	N	RAUDPC ¹	Female	Male
		MEAN		
MSR218-8R	3	29.9	NDTX4271-5R	MSK101-2
AF2291-10	3	30.2		
MSR217-1R	4	30.3	NDTX4271-5R	Missaukee
W6002-1R	2	30.4		
Dark Red Norland	3	30.5		
MSQ131-A	3	30.5	Boulder	Missaukee
Purple Heart	3	30.7		
QSMSU10-2	1	31.1	MSN106-2	MSL211-3
MSV430-1	3	31.2	MSQ279-7	MSQ086-3
C003276-5RUS	3	31.2		
MSR219-2R	1	31.4	ND5084-3R	MSJ317-1
A01124-3	3	32.1		
MSS582-1SPL	2	32.3	Purple Haze	MSL211-3
Pike	2	32.3		
A0008-1TE	3	32.7		
MSR109-1	2	32.9	Boulder	MSI111-A
C003187-1RUS	3	32.9		
MSR157-1Y	3	33.2	Jacqueline Lee	MSJ316-A
Red Norland	4	33.7		
MSQ086-3	3	34.0	Onaway	Missaukee
MSV434-4	3	34.1	MSQ283-2	MSJ126-9Y
CV00047-3	3	34.4		
German Yellow	3	34.6		
MSR021-2	3	34.7	MSJ316-A	Missaukee
W2978-3	3	34.8		
Atlantic	12	35.0		
W2717-5	3	35.0		
MSV331-3	3	35.1	NY137	MegaChip
NorValley	3	35.3		
MSQ035-3	3	35.6	MSG227-2	Missaukee
QSMSU10-9	2	35.6	MSN106-2	MSL211-3
MSV498-1	3	36.1	Snowden	Q283-2
Colonial Purple	2	36.2	Michigan Purple	Norland
QSMSU03-1R	3	36.5	Jacqueline Lee	NDTX4034-1R
MSL211-3	1	36.9	MSG301-9	Jacqueline Lee
Onaway	3	37.0		
Russet Norkotah	2	37.4		
WV4993-1	3	37.6		
MSV502-2	3	37.7	Tundra	MSJ126-9Y
AF3362-1	3	37.7		
MSQ440-2	3	37.8	MSK412-1R	Missaukee
MSV146-1	3	38.3	Keuka Gold	Malinche
MSV355-2	3	38.7	Marcy	OP
C003276-4RUS	3	38.8		
MSU177-4	3	39.5	Monticello	L603-319Y
Blackberry	3	39.6		
MSR241-2RY	3	39.7	PoorpG9-3	MN96013-RY
Michigan Purple	3	40.3		
QSMSU03-08R	2	42.6	Jacqueline Lee	NDTX4034-1R

¹ Ratings indicate the average plot RAUDPC (Relative Area Under the Disease Progress Curve).

Table 10

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS

2011 NATIONAL LATE BLIGHT VARIETY TRIAL
CLARKSVILLE HORTICULTURAL EXPERIMENT STATION

<i>Line Sort:</i>			<i>RAUDPC Sort:</i>		
LINE	N	RAUDPC ¹ MEAN	LINE	N	RAUDPC ¹ MEAN
A00286-3Y	3	8.4	B0718-3	3	0.6
A00293-2Y	3	19.2	B0692-4	3	0.8
A01010-1	3	44.3	AWN86514-2	3	0.9
A01025-4	3	36.2	LBR1R2R3R4	3	2.5
A01143-3C	3	34.7	AF4122-3	3	2.8
A02060-3TE	3	26.7	MSR061-1	3	3.0
A99326-1PY	3	32.3	AF3317-15	3	3.8
A99331-2RY	3	42.1	LBR7	3	4.6
A99433-5Y	3	7.6	B1992-106	3	4.7
AC99375-1RU	3	8.5	AF2574-1	3	4.9
AF2574-1	3	4.9	AF4191-2	3	7.5
AF3317-15	3	3.8	A99433-5Y	3	7.6
AF4122-3	3	2.8	A00286-3Y	3	8.4
AF4191-2	3	7.5	AC99375-1RU	3	8.5
AF4303-1	3	15.7	MSQ176-5	3	8.6
AF4329-7	3	11.4	AF4329-7	3	11.4
Alpine Russet	3	33.2	ATC00293-1W/Y	3	13.9
ATC00293-1W/Y	3	13.9	BNC202-3	3	15.4
AWN86514-2	3	0.9	AF4303-1	3	15.7
B0692-4	3	0.8	A00293-2Y	3	19.2
B0718-3	3	0.6	LBR5	3	24.5
B1992-106	3	4.7	A02060-3TE	3	26.7
B2676-2	3	46.8	A99326-1PY	3	32.3
B2756-7	3	42.3	Alpine Russet	3	33.2
BNC201-1	3	50.7	LBR9	3	33.4
BNC202-3	3	15.4	Clearwater Russet	3	33.4
Clearwater Russet	3	33.4	A01143-3C	3	34.7
CO00405-1RF	3	57.0	A01025-4	3	36.2
CO01399-10P/Y	3	39.8	CO01399-10P/Y	3	39.8
LBR1R2R3R4	3	2.5	A99331-2RY	3	42.1
LBR5	3	24.5	B2756-7	3	42.3
LBR7	3	4.6	A01010-1	3	44.3
LBR9	3	33.4	B2676-2	3	46.8
MSQ176-5	3	8.6	BNC201-1	3	50.7
MSR061-1	3	3.0	CO00405-1RF	3	57.0

¹ Ratings indicate the average plot RAUDPC (Relative Area Under the Disease Progress Curve).

Table 11

2011 LATE BLIGHT EARLY GENERATION TRIALS
CLARKSVILLE HORTICULTURAL EXPERIMENT STATION

<i>Line Sort:</i>			<i>RAUDPC Sort:</i>				
LINE	N	RAUDPC ¹ MEAN	LINE	N	RAUDPC ¹ MEAN	Female	Male
Chaposa	1	0.1	Muruta	1	0.0		
Enfula	1	0.1	Chaposa	1	0.1		
Montanosa	1	0.6	Enfula	1	0.1		
MSS070-B	1	23.8	MSW236-3	1	0.1	Montanosa	MSR036-5
MSU016-2	1	4.5	MSV186-1	1	0.2	LBR9	Colonial Purple
MSU128-2	1	35.0	MSV482-6	1	0.2	Rosilin Eburu	MSP239-1
MSU161-1	1	9.6	MSW097-5Y	1	0.2	LBR9	MSM288-2Y
MSU202-1P	1	33.8	MSV198-2Y	1	0.3	MSM051-3	Malinche
MSV005-2	1	0.4	MSV283-2P	1	0.3	Montserrat	Colonial Purple
MSV081-1Y	1	13.0	MSW100-1	1	0.4	LBR9	MSP292-7
MSV089-2	1	4.9	MSW206-2P	1	0.4	LBR9	Colonial Purple
MSV146-1	1	37.5	MSV005-2	1	0.4	A93157-6LS	MSI152-A
MSV179-6	1	2.6	MSW385-2Y	1	0.4	Torridon	MSN105-1
MSV186-1	1	0.2	MSW092-1	1	0.5	MSL106-AY	Montserrat
MSV198-2Y	1	0.3	MSW453-1P	1	0.5	Kenya Baraka	Colonial Purple
MSV234-1	1	2.6	MSW237-4Y	1	0.6	Montserrat	MSN191-2Y
MSV238-1	1	3.0	Montanosa	1	0.6		
MSV282-4Y	1	1.2	MSW078-1	1	0.7	MSK409-1	Malinche
MSV283-2P	1	0.3	MSW151-9	1	0.8	Montanosa	MSL211-3
MSV284-1	1	11.9	MSW418-1	1	0.8	RB G227-2	MSJ319-1
MSV289-2P	1	2.3	MSW360-18	1	1.1	MSR061-1	MSN238-A
MSV301-2	1	28.0	MSW199-3	1	1.2	Kenya Baraka	MSN105-1
MSV342-2	1	1.8	MSW399-2	1	1.2	W2133-1	MSR036-5
MSV371-2	1	2.2	MSV282-4Y	1	1.2	Montserrat	MSN105-1
MSV393-1	1	13.3	MSW464-3	1	1.3	MSM246-B	MSR102-3
MSV394-2	1	13.1	MSV396-4Y	1	1.3	MSQ070-1	MSJ126-9Y
MSV396-4Y	1	1.3	MSW288-2	1	1.6	MSP102-5	MSQ086-3
MSV397-2	1	17.4	MSW263-5	1	1.6	MSN105-1	Picasso
MSV406-6	1	8.0	MSV342-2	1	1.8	Montanosa	OP
MSV407-2	1	18.5	MSW133-5Y	1	1.8	Malinche	MSP292-7
MSV430-1	1	14.4	MSV371-2	1	2.2	MSP459-5	MSG227-2
MSV482-6	1	0.2	MSV289-2P	1	2.3	Montanosa	Colonial Purple
MSW007-1	1	29.8	MSW410-12Y	1	2.4	E69.6	MSN105-1
MSW019-1	1	21.5	MSV234-1	1	2.6	Malinche	MSN105-1
MSW078-1	1	0.7	MSV179-6	1	2.6	LBR8	MSL211-3
MSW088-2	1	11.1	MSW418-2	1	2.6	RB G227-2	MSJ319-1
MSW092-1	1	0.5	MSW484-1	1	2.7	MSQ070-1	MSR127-2
MSW095-2Y	1	6.8	MSW470-1	1	2.8	Montserrat	MSL766-1
MSW097-5Y	1	0.2	MSV238-1	1	3.0	Marcy	Missaukee
MSW100-1	1	0.4	MSW242-5Y	1	3.7	NY121	Malinche
MSW119-2	1	16.9	MSW449-5	1	4.0	Missaukee	MSM288-2Y
MSW119-4	1	39.3	MSW198-1Y	1	4.3	MSK498-1	Malinche
MSW121-5R	1	18.7	MSW242-1	1	4.3	NY121	Malinche
MSW121-8	1	6.6	MSU016-2	1	4.5	Boulder	MSN105-2
MSW122-3	1	7.2	MSV089-2	1	4.9	MSJ126-9Y	MSI152-A
MSW122-9	1	33.5	MSW275-3	1	4.9	MSR036-5	OP

Line Sort:

LINE	N	RAUDPC ¹
		MEAN
MSW123-3	1	20.2
MSW125-3	1	21.8
MSW126-1	1	12.9
MSW128-2	1	23.1
MSW133-5Y	1	1.8
MSW140-3	1	10.4
MSW145-3P	1	39.1
MSW148-1P	1	40.1
MSW150-2R	1	34.7
MSW151-5	1	6.5
MSW151-9	1	0.8
MSW152-1	1	25.7
MSW153-1	1	7.8
MSW154-4	1	21.4
MSW155-6	1	38.4
MSW168-2	1	22.0
MSW183-2	1	10.2
MSW189-1Y	1	33.5
MSW197-1	1	8.3
MSW198-1Y	1	4.3
MSW199-3	1	1.2
MSW206-2P	1	0.4
MSW229-1P	1	18.0
MSW236-3	1	0.1
MSW237-4Y	1	0.6
MSW242-1	1	4.3
MSW242-5Y	1	3.7
MSW259-5	1	13.5
MSW259-6	1	5.8
MSW263-5	1	1.6
MSW273-3R	1	40.2
MSW275-3	1	4.9
MSW288-2	1	1.6
MSW296-5	1	11.5
MSW296-8	1	32.0
MSW298-4Y	1	37.1
MSW301-1Y	1	9.6
MSW315-1Y	1	14.3
MSW317-5PP	1	40.1
MSW319-1	1	26.5
MSW323-10	1	15.7
MSW324-1	1	5.1
MSW328-1Y	1	16.8
MSW328-2Y	1	15.1
MSW328-4	1	39.7
MSW331-1	1	17.0
MSW336-2	1	7.6
MSW338-3	1	38.1
MSW338-6	1	37.9
MSW343-2R	1	33.8
MSW344-1Y	1	40.4
MSW353-3	1	12.5

RAUDPC Sort:

LINE	N	RAUDPC ¹	Female	Male
		MEAN		
MSW408-1Y	1	5.1	E69.6	Malinche
MSW324-1	1	5.1	MSQ070-1	Marcy
MSW259-6	1	5.8	N073-2	MSR159-2
MSW407-1Y	1	6.1	E69.6	MSL766-1
MSW394-1	1	6.5	W2133-1	MSJ319-1
MSW151-5	1	6.5	Montanosa	MSL211-3
MSW121-8	1	6.6	MSM182-1	NDTX4271-5R
MSW095-2Y	1	6.8	LBR9	MSJ126-9Y
MSW356-3	1	7.0	MSR036-5	White Pearl
MSW122-3	1	7.2	MSM185-1	MSP085-2
MSW336-2	1	7.6	MSQ070-1	W2324-1
MSW366-5	1	7.7	MSR156-7	MSR036-5
MSW153-1	1	7.8	1989-86061	MSI152-A
MSV406-6	1	8.0	MSQ070-1	OP
MSW197-1	1	8.3	MSK409-1	MSR102-3
MSW485-2	1	8.3	MSQ070-1	MSR156-7
QSMSU03-01R	1	9.4	Jacqueline Lee	NDTX4034-1R
MSW301-1Y	1	9.6	Picasso	MSL268-D
MSU161-1	1	9.6	MSM182-1	MSL211-3
MSW432-12	1	9.8	Boulder	MSI152-A
MSW536-2Y	1	9.8	MI Purple Red Sport	MSN105-1
MSW183-2	1	10.2	MSI049-A	MSN105-1
MSW140-3	1	10.4	MegaChip	Missaukee
MSW088-2	1	11.1	Kufri Jeevan	MSM137-2
MSW360-7	1	11.3	MSR061-1	MSN238-A
MSW417-1	1	11.4	MCR150	Pike
MSW296-5	1	11.5	MSP292-7	MSP516-A
MSV284-1	1	11.9	Monserat	MSP239-1
MSW353-3	1	12.5	MSR036-5	Marcy
MSW126-1	1	12.9	MSM171-A	MSL268-D
MSV081-1Y	1	13.0	MSI152-A	MSJ126-9Y
MSV394-2	1	13.1	MSQ070-1	MSH228-6
MSV393-1	1	13.3	MSQ070-1	MSG227-2
MSW476-4R	1	13.5	MSN230-6RY	NDTX4271-5R
MSW259-5	1	13.5	MSN073-2	MSR159-2
MSW355-3	1	13.6	MSR036-5	W2133-1
MSW315-1Y	1	14.3	POR04PG6-3	MSL211-3
MSV430-1	1	14.4	MSQ279-7	MSQ086-3
MSW328-2Y	1	15.1	MSQ070-1	Lamoka
MSW323-10	1	15.7	MSQ070-1	MSM246-B
MSW328-1Y	1	16.8	MSQ070-1	Lamoka
MSW119-2	1	16.9	MSM171-A	MSR036-5
MSW331-1	1	17.0	MSQ070-1	MSP292-7
MSW537-3	1	17.2	MSM070-1	MSP516-A
MSV397-2	1	17.4	MSQ070-1	MSJ147-1
MSW461-1P	1	18.0	MSM182-1	Colonial Purple
MSW229-1P	1	18.0	Michigan Purple	MSN105-1
MSV407-2	1	18.5	MSQ070-1	MSP239-1
MSW474-1	1	18.5	MSN190-2	MSP516-A
MSW121-5R	1	18.7	MSM182-1	NDTX4271-5R
MSW508-10	1	19.2	MSI152-A	MSN105-2
MSW123-3	1	20.2	MSM171-A	Dakota Diamond

Line Sort:

LINE	N	RAUDPC ¹
		MEAN
MSW355-3	1	13.6
MSW356-3	1	7.0
MSW360-18	1	1.1
MSW360-4	1	20.4
MSW360-6	1	37.5
MSW360-7	1	11.3
MSW366-5	1	7.7
MSW385-2Y	1	0.4
MSW389-4Y	1	39.7
MSW394-1	1	6.5
MSW399-2	1	1.2
MSW407-1Y	1	6.1
MSW408-1Y	1	5.1
MSW410-12Y	1	2.4
MSW417-1	1	11.4
MSW418-1	1	0.8
MSW418-2	1	2.6
MSW425-2Y	1	34.4
MSW432-12	1	9.8
MSW434-3	1	37.1
MSW449-5	1	4.0
MSW449-7Y	1	32.2
MSW449-8Y	1	23.8
MSW453-1P	1	0.5
MSW455-3	1	20.9
MSW461-1P	1	18.0
MSW464-3	1	1.3
MSW470-1	1	2.8
MSW474-1	1	18.5
MSW476-3R	1	21.2
MSW476-4R	1	13.5
MSW484-1	1	2.7
MSW485-2	1	8.3
MSW500-10	1	30.9
MSW508-10	1	19.2
MSW536-2Y	1	9.8
MSW537-3	1	17.2
MSW537-6	1	20.9
MSW539-7	1	25.6
Muruta	1	0.0
QSMSU03-01R	1	9.4
QSMSU03-08R	1	29.1
QNDSU07-04R	1	32.7

RAUDPC Sort:

LINE	N	RAUDPC ¹	Female	Male
		MEAN		
MSW360-4	1	20.4	MSR061-1	MSN238-A
MSW455-3	1	20.9	MSL183-AY	MSP516-A
MSW537-6	1	20.9	MSM070-1	MSP516-A
MSW476-3R	1	21.2	MSN230-6RY	NDTX4271-5R
MSW154-4	1	21.4	1989-86061	MSL211-3
MSW019-1	1	21.5	Defender Russet	Stampede Russet
MSW125-3	1	21.8	MSM171-A	MSL211-3
MSW168-2	1	22.0	Beacon Chipper	MSR159-2
MSW128-2	1	23.1	MSM171-A	MSQ176-5
MSW449-8Y	1	23.8	Missaukee	MSM288-2Y
MSS070-B	1	23.8	MN-E65	MSL211-3
MSW539-7	1	25.6	MSM137-2	MSR061-1
MSW152-1	1	25.7	Montserrat	MSL211-3
MSW319-1	1	26.5	MSQ070-1	Eva
MSV301-2	1	28.0	MSN105-1	MSP197-1
QSMSU03-08R	1	29.1	Jacqueline Lee	NDTX4034-1R
MSW007-1	1	29.8	Beacon Chipper	MSR041-5
MSW500-10	1	30.9	Boulder	MSP516-A
MSW296-8	1	32.0	MSP292-7	MSP516-A
MSW449-7Y	1	32.2	Missaukee	MSM288-2Y
QNDSU07-04R	1	32.7	ND 5781-9R	ND 0390878BV-1R
MSW122-9	1	33.5	MSM185-1	MSP085-2
MSW189-1Y	1	33.5	Missaukee	Yukon Gold
MSU202-1P	1	33.8	Colonial Purple	MSL211-3
MSW343-2R	1	33.8	MSQ440-2	NDTX4271-5R
MSW425-2Y	1	34.4	RH	MSS827-13
MSW150-2R	1	34.7	MI Purple Red Sport	MSN230-6RY
MSU128-2	1	35.0	LBR9	MSL211-3
MSW298-4Y	1	37.1	P408-10Y	MSL211-3
MSW434-3	1	37.1	Boulder	Montserrat
MSV146-1	1	37.5	Keuka Gold	Malinche
MSW360-6	1	37.5	MSR061-1	MSN238-A
MSW338-6	1	37.9	MSQ086-3	MSN105-1
MSW338-3	1	38.1	MSQ086-3	MSN105-1
MSW155-6	1	38.4	391046.22	MSL211-3
MSW145-3P	1	39.1	Michigan Purple	MSL211-3
MSW119-4	1	39.3	MSM171-1	MSR036-5
MSW328-4	1	39.7	MSQ070-1	Lamoka
MSW389-4Y	1	39.7	VC1002-3W/Y	MSL211-3
MSW148-1P	1	40.1	Michigan Purple	P516-A
MSW317-5PP	1	40.1	POR04PG6-3	MSL211-3
MSW273-3R	1	40.2	NDTX4271-5R	MSN105-1
MSW344-1Y	1	40.4	Q425-4Y Red Splash	MSL211-3

¹ Ratings indicate the average plot RAUDPC (Relative Area Under the Disease Progress Curve).

Table 12

MICHIGAN STATE UNIVERSITY
POTATO BREEDING and GENETICS

**2011 BLACKSPOT BRUISE SUSCEPTIBILITY TEST
SIMULATED BRUISE SAMPLES***

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	AVERAGE
		0	1	2	3	4	5+	BRUISE FREE	SPOTS per TUBER
ADVANCED TRIAL									
MSJ126-9Y (26)	1.080	24	2					92	0.1
MSH228-6	1.077	21	4					84	0.2
MSQ086-3	1.076	20	4	1				80	0.2
MSL292-A	1.082	16	8	1				64	0.4
MSR061-1	1.081	12	10	2	1			48	0.7
MSR169-8Y	1.079	13	7	4	1			52	0.7
MSL007-B	1.078	13	7	3	1	1		52	0.8
Snowden	1.080	11	7	5	1			46	0.8
MSQ070-1	1.089	9	9	4	2	1		36	1.1
MSJ147-1	1.087	8	6	9	1			33	1.1
NY140	1.082	6	9	3	1		1	30	1.2
Beacon Chipper	1.078	6	8	9	2			24	1.3
Kalkaska	1.080	7	5	9	4			28	1.4
Atlantic	1.085	6	5	9	5			24	1.5
Lamoka	1.086	2	6	15	2			8	1.7
NY148	1.093	2	5	7	1	4	6	8	2.7
RUSSET TRIAL									
A02062-1TE	1.063	20	5					80	0.2
AF3362-1	1.064	19	6					76	0.2
Goldrush Russet	1.059	19	7					73	0.3
Silverton Russet	1.065	19	5	1				76	0.3
CO03187-1RUS	1.065	18	7					72	0.3
AC00395-2Rus	1.083	19	4	2				76	0.3
WV4993-1RUS	1.071	15	10					60	0.4
CO03276-4Rus	1.068	18	4	2	1			72	0.4
A01124-3	1.075	17	7	1	1			65	0.5
A0008-1TE	1.064	14	9	2				56	0.5
CO03308-3Rus	1.067	14	9	2				56	0.5
W6360-1Rus	1.074	14	8	3				56	0.6
Russet Norkotah	1.064	13	9	3				52	0.6
CO03276-5Rus	1.068	13	10	2	1			50	0.7
CV00047-3RUS	1.067	11	10	3				46	0.7

**2011 BLACKSPOT BRUISE SUSCEPTIBILITY TEST
SIMULATED BRUISE SAMPLES***

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	AVERAGE
		0	1	2	3	4	5+	BRUISE FREE	SPOTS per TUBER
Russet Burbank	1.068	10	11	1	2			42	0.8
AF3317-15	1.085	10	10	5				40	0.8
CO99053-3Rus	1.074	12	6	5	2			48	0.9
CO03202-1Rus	1.074	12	8	1	3	1		48	0.9
Canela Russet	1.074	7	7	6	3			30	1.2
ND8229-3Rus	1.072	3	13	5	1	1	1	13	1.5
Dakota Trailblazer	1.084	4	9	5	3	4		16	1.8
ND8068-5Rus	1.070	4	5	11	3	2		16	1.8
Clearwater Russet	1.078		8	8	5	3	1	0	2.2

NORTH CENTRAL REGIONAL TRIAL

MSQ176-5	1.063	22	3					88	0.1
W6002-1R	1.055	22	3					88	0.1
AND00272-1R	1.064	21	3					88	0.1
Dark Red Norland	1.054	20	4					83	0.2
MSL211-3	1.061	21	5					81	0.2
Red Pontiac	1.050	20	5					80	0.2
W2978-3	1.067	19	5					79	0.2
MN02586	1.070	15	3	1				79	0.3
W2310-3	1.084	19	7					73	0.3
ND8555-8R	1.062	18	7					72	0.3
MN19298RY	1.066	21	6	1				75	0.3
MSQ440-2	1.052	18	6	1				72	0.3
MN02588	1.070	13	3	3				68	0.5
NorValley	1.071	13	12					52	0.5
MSL268-D	1.076	14	9	2				56	0.5
MSM182-1	1.068	14	9	1	1			56	0.6
W2717-5	1.085	12	11	2				48	0.6
W6511-1R	1.076	12	12	2				46	0.6
Atlantic	1.085	13	7	4				54	0.6
Snowden	1.085	13	8	4				52	0.6
MN02616R	1.064	11	7	4	3			44	1.0
MSR169-8Y	1.080	8	8	8				33	1.0

ADAPTATION TRIAL, CHIP-PROCESSING LINES

MSR159-2	1.089	19	5	1				76	0.3
CO00188-4W	1.071	18	7					72	0.3
AC03433-1W	1.077	17	8					68	0.3

**2011 BLACKSPOT BRUISE SUSCEPTIBILITY TEST
SIMULATED BRUISE SAMPLES***

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	AVERAGE
		0	1	2	3	4	5+	BRUISE FREE	SPOTS per TUBER
MSQ089-1	1.074	18	4	2				75	0.3
CO03243-3W	1.079	16	9	3				57	0.5
Pike	1.083	14	9	1	1			56	0.6
MSR128-4Y	1.079	13	10	2				52	0.6
MSQ279-1	1.074	14	6	4				58	0.6
MSR148-4	1.071	13	8	2	2			52	0.7
MSR036-5	1.079	12	5	7	1			48	0.9
FL1879	1.076	10	9	5	1			40	0.9
Snowden	1.082	11	6	5	3			44	1.0
MSS165-2Y	1.090	6	14	3	1		1	24	1.1
Atlantic	1.085	10	5	7	2	1		40	1.2
MSQ035-3	1.077	6	7	2	3	3	3	25	2.0
MSR127-2	1.087	1	7	4	4		2	6	2.1

ADAPTATION TRIAL, TABLESTOCK LINES

MSM288-2Y	1.068	22	3					88	0.1
MSS544-1R	1.060	20	5					80	0.2
MSM182-1	1.071	13	6					68	0.3
MSQ341-BY	1.073	19	4	2				76	0.3
MSR217-1R	1.054	18	6	1				72	0.3
Reba	1.075	15	9	1				60	0.4
Onaway	1.062	14	9	2				56	0.5
MSR157-1Y	1.083	15	6	4				60	0.6
AF2291-10	1.088	7	9	3				37	0.8

PRELIMINARY TRIAL, CHIP-PROCESSING LINES

MSV143-1Y	1.075	22	1					96	0.0
MSP270-1	1.068	22	3					88	0.1
MSV307-2	1.077	22	3					88	0.1
MSV434-4	1.066	22	3					88	0.1
MSV092-2	1.080	21	3					88	0.1
MSV355-2	1.074	22	4					85	0.2
MSQ461-2PP	1.075	21	4					84	0.2
MSR021-2	1.062	21	4					84	0.2
MSS514-1PP	1.063	21	4					84	0.2
MSS927-1	1.075	21	4					84	0.2
MSV238-1	1.070	21	4					84	0.2
MSV292-1Y	1.061	21	4					84	0.2

**2011 BLACKSPOT BRUISE SUSCEPTIBILITY TEST
SIMULATED BRUISE SAMPLES***

ENTRY	SP GR	<u>NUMBER OF SPOTS PER TUBER</u>						PERCENT (%)	AVERAGE
		0	1	2	3	4	5+	BRUISE FREE	SPOTS per TUBER
MSV358-3	1.079	22	3	1				85	0.2
MSV125-4	1.088	21	3	1				84	0.2
Missaukee	1.081	20	5					80	0.2
MSV434-1Y	1.067	20	5					80	0.2
MSV383-1	1.083	20	6					77	0.2
MSS297-1	1.075	19	6					76	0.2
Pike	1.081	20	3	2				80	0.3
MSV153-2Y	1.078	19	4		1			79	0.3
MSV117-1	1.079	18	6	1				72	0.3
MSV344-2	1.067	18	6	1				72	0.3
MSM102-A	1.077	9	5					64	0.4
MSV393-1	1.080	18	6		1			72	0.4
MSV397-2	1.071	17	7	1				68	0.4
MSV127-1	1.080	15	7	1				65	0.4
Snowden	1.081	16	7	2				64	0.4
MSV430-1	1.077	16	7	2				64	0.4
MSN190-2	1.089	14	9	2				56	0.5
Atlantic	1.086	12	10	1				52	0.5
FL1879	1.077	15	8	3				58	0.5
MSM108-A	1.084	13	7	3				57	0.6
MSV498-1	1.076	14	9	3				54	0.6
MSR109-1	1.076	13	8	2	1			54	0.6
MSS483-1	1.071	14	7	3	1			56	0.6
MSV313-2	1.085	12	10	1		1		50	0.7
MSV241-2	1.087	14	6	4	1			56	0.7
MSV403-3	1.084	12	10	1	2			48	0.7
MSV505-2	1.078	9	11	4				38	0.8
MSV331-3	1.069	10	12	1	2			40	0.8
MSR058-1	1.078	10	10	4	1			40	0.8
Boulder	1.086	7	12	4	2			28	1.0
MSR093-4	1.076	2	11	9	3			8	1.5
PRELIMINARY TRIAL, TABLESTOCK LINES									
MSR214-2P	1.068	25						100	0.0
MSR241-4RY	1.069	23	2					92	0.1
MSU379-1	1.064	23	2					92	0.1
Midnight II	1.077	22	2					92	0.1

**2011 BLACKSPOT BRUISE SUSCEPTIBILITY TEST
SIMULATED BRUISE SAMPLES***

ENTRY	SP GR	NUMBER OF SPOTS PER TUBER						PERCENT (%)	AVERAGE
		0	1	2	3	4	5+	BRUISE FREE	SPOTS per TUBER
MSR605-10	1.074	20	3					87	0.1
Blackberry	1.042	21	4					84	0.2
Spartan Splash	1.063	21	4					84	0.2
MSR218-AR	1.051	20	4					83	0.2
MSR605-11	1.066	21	3	1				84	0.2
MSU161-1	1.072	20	5					80	0.2
MSV177-4	1.068	20	5					80	0.2
MSS108-1	1.076	20	3	1				83	0.2
MSV429-1	1.070	19	5					79	0.2
MI Purple Sport II	1.073	20	4	1				80	0.2
MSR297-A	1.062	17	6					74	0.3
MI Purple Red Sport	1.068	19	7					73	0.3
MI Purple Sport I	1.070	19	5	1				76	0.3
MSV205-4	1.077	19	5	1				76	0.3
Colonial Purple	1.070	17	5	1				74	0.3
MI Purple Sport III	1.066	18	6	1				72	0.3
Purple Heart	1.058	18	6	1				72	0.3
MSV307-1	1.062	18	6	1				72	0.3
Michigan Purple	1.064	17	8					68	0.3
MST386-1P	1.076	17	7	1				68	0.4
MSR606-02	1.058	15	9	1				60	0.4
Jacqueline Lee	1.074	13	10	2				52	0.6
MSV282-4Y	1.076	13	8		2			57	0.6
MSU016-2	1.092	18	2	3	1		1	72	0.6
Onaway	1.059	11	12	2				44	0.6
Jingshu 2	1.093	10	8	4	3			40	1.0

USPB/SFA TRIAL CHECK SAMPLES (Not bruised)

MSJ126-9Y	1.068	24	1					96	0.0
W2978-3	1.065	23	2					92	0.1
CO00188-4W	1.068	20	5					80	0.2
ND8331C5-2	1.081	18	5					78	0.2
CO00197-3W	1.071	20	6					77	0.2
MSL292-A	1.074	19	6					76	0.2
Snowden	1.075	17	9					65	0.3
MSR061-1	1.078	13	7					65	0.4
NY140	1.079	17	7	1				68	0.4

**2011 BLACKSPOT BRUISE SUSCEPTIBILITY TEST
SIMULATED BRUISE SAMPLES***

ENTRY	SP GR	<u>NUMBER OF SPOTS PER TUBER</u>						PERCENT (%)	AVERAGE
		0	1	2	3	4	5+	BRUISE FREE	SPOTS per TUBER
ND8305-1	1.085	15	10					60	0.4
W4980-1	1.073	16	8	1				64	0.4
W5015-12	1.085	15	9	1				60	0.4
ND7519-1	1.078	13	12					52	0.5
NY148	1.087	12	12	1				48	0.6
Atlantic	1.087	9	12	4				36	0.8
Tundra	1.083	11	9	4	1			44	0.8

USPB/SFA TRIAL BRUISE SAMPLES

CO00188-4W	1.068	21	4					84	0.2
MSJ126-9Y	1.068	20	5					80	0.2
W2978-3	1.065	19	6					76	0.2
MSR061-1	1.078	17	8					68	0.3
CO00197-3W	1.071	15	10					60	0.4
ND7519-1	1.078	15	9	1				60	0.4
ND8331C5-2	1.081	15	5	3	1			63	0.6
Snowden	1.075	13	10	1	1			52	0.6
NY140	1.079	12	9	4				48	0.7
MSL292-A	1.074	12	6	5	1			50	0.8
W4980-1	1.073	11	8	6				44	0.8
Tundra	1.083	9	13	4				35	0.8
W5015-12	1.085	6	12	5				26	1.0
ND8305-1	1.085	5	16	3	1			20	1.0
Atlantic	1.087	11	5	3	4	1		46	1.1
NY148	1.087	5	9	7	2	2		20	1.5

* Twenty or twenty-five 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 10/26/2011.

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