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IN COOPERATION WITH THE MICHIGAN POTATO INDUSTRY COMMISSION

# 2002

# Michigan Potato Research Report

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Only a few persons have the wisdom to understand state, regional and national needs in their fields. Dr. Richard Chase is one of them. No other single person has done so much for the potato industry. His vision and attention to detail have helped advance the industry's research and education programs not only in Michigan but nationwide. Our thanks for his lifetime of accomplishments, for the influence he has had on so many others during his life's journey, expresses itself in many forms. This publication offers a fitting opportunity to demonstrate our gratitude once more. I am pleased to dedicate the 2002 Michigan Potato Industry Commission Research Report to Dr. Richard Chase.

Don Sklarczyk  
Research Committee Chairman

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**2002 POTATO VARIETY EVALUATIONS**

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**INTRODUCTION**

Each year we conduct a series of variety trials to assess advanced potato selections from the Michigan State University and other potato breeding programs. The objectives of the evaluations are to identify superior varieties for fresh market or for processing and to develop recommendations for the growing of those varieties. The varieties were compared in groups according to the tuber type and 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 field, 42°F and 50°F storage), as well as susceptibilities to late blight (foliar and tuber), common scab, Fusarium dry rot, and blackspot bruising are determined.

**PROCEDURE**

Twelve field experiments were conducted at the Montcalm Research Farm in Entrican, MI. They were planted as randomized complete block designs with four replications. The plots were 23 feet long and spacing between plants was 12 inches. Inter-row spacing was 34 inches. Supplemental irrigation was applied as needed. This year the fields were fumigated in the fall prior to the field season.

The round white tuber types were divided into chip-processors and tablestock and were harvested at two dates (Date-of-Harvest trial: Early and Late). The other field experiments were the Long White and Russet, North Central Regional, Yellow Flesh, Adaptation (tablestock and chip-processors), Preliminary (tablestock and chip-processors) and Frito Lay trials. In each of these trials, the yield was graded into four size classes, incidence of external and internal defects in > 3.25 in. diameter or 10 oz. potatoes were recorded, and samples for specific gravity, chipping, disease tests, bruising, and cooking tests were taken. Chip quality was assessed on 25-tuber samples, taking two slices from each tuber. Chips were fried at 365°F. The color was measured visually with the SFA 1-5 color chart. Tuber samples were also stored at 42°F and 50°F for chip-processing out of storage in January and March. Advanced selections are also placed in the Commercial Demonstration Storage for monthly sampling. The scab nursery at the MSU Soils Farm and the late blight trial at the Muck Soils Research Farm are used for scab and foliar late blight assessment of lines in the agronomic trials.

## RESULTS

### A. Round White Varieties: Chip-processors (Tables 1 and 2)

There were 15 entries that were evaluated at two harvest dates. Atlantic, Snowden and Pike were used as checks. The plot yields were below average in the early harvest (97 days), and most lines increased between 60-200 cwt/a in yield for the second harvest date (144 days). The results are summarized in **Tables 1 and 2**. Tuber specific gravity readings were significantly below average for 2002. For example, Atlantic and Snowden had specific gravity readings of 1.079 and 1.075, respectively, in the late harvest. In the early harvest trial, MSI002-3 had the highest yield, while Atlantic, MSH095-4, B0766-3, MSF373-8 and W1201 were similar in yield behind MSI002-3. At the later harvest, many of the same lines were among the top yielding lines along with MSE018-1. These top yielding lines were also classified as blackspot bruise susceptible in the simulated bruise test. MSF099-3, W1201 and B0766-3 were also the top yielding lines in the on-farm processing trials. MSJ461-1 is a promising chip-processing line with strong foliar resistance to late blight. MSF373-8 continues to be a high yielding line with a significantly higher percentage of large tubers (62% oversize), and it chip-processes well out of the field. A Canadian group is interested in licensing MSF373-8 as a tablestock line. The scab level in the agronomic trial was high and scab ratings were collected in addition to the scab nursery. Liberator, Pike and MSG227-2 continue to be the lines with the highest scab resistance along with chip-processing ability. Chip-processing quality was high among all the entries in the out-of-the-field samples. Snowden, W1201, B0766-3, Liberator and MSF099-3 are in the 500 cwt bins of the Commercial Demonstration Storage. Incidence of internal defects was generally low, but Atlantic had a higher frequency of hollow heart in both early and late harvests.

### Variety Characteristics

LIBERATOR - a MSU selection for chip-processing with strong scab resistance. Yield and specific gravity over the past five years were comparable to Snowden. It has performed well in other states (Nebraska, Pennsylvania and California). It was in the national SFA and the North Central regional trials. Liberator was released in 2001 and is in the 2002 Commercial Demonstration Storage.

MSF099-3 – a MSU chip-processing selection. It has high specific gravity, smooth attractive tubers, and excellent chip quality and will chip-process from 45°F cold storage. In 2000 it was one of the best chip-processors in the 42°F MPIC demonstration storage. It yielded well on the on-farm trials, but the large tubers tended to elongate. It is also scab susceptible. MSF099-3 has been put in the 2001 and 2002 Commercial Demonstration Storage 500 cwt. bins.

MSG227-2 – a MSU chip-processing selection with strong scab resistance. It has a specific gravity acceptable for chip-processing, excellent chip quality and cold-chipping potential. The tubers are smooth-shaped with a flattened round appearance that is attractive. It has chip-processed well from the 42°F MPIC demonstration storage studies. This line will be considered for release in 2003.

MSH094-8 - a new chip-processing selection with cold-chipping potential from 42°F storage.

This line also has a low incidence of internal defects and mid-season maturity. It will in on-farm trials in 2002.

MSH095-4 - a mid-season maturing line with excellent chip quality and bruise susceptibility equal to Snowden. It was comparable to Atlantic for yield and solids at the Montcalm Research Farm. It was in the on-farm trials for 2001-2002.

MSF373-8 - a high yielding selection with acceptable specific gravity for chip-processing. It will chip out-of-the-field and from 50°F storage. Produces large tubers with a low incidence of internal defects. Scab tolerance is intermediate.

MSE018-1 - a very high yield potential, high specific gravity selection with moderate tolerance to scab. It has a late maturity, large vine and some reduced susceptibility to late blight. Tuber appearance is bright and smooth with a round-oval shape. It has chip-processed well in May and June from the Commercial Demonstration Storage the past two years.

MSJ461-1 – an exciting, new MSU chip-processing selection with strong foliar resistance to late blight, and maturity similar to Snowden. It has excellent chip-processing quality, smooth round shape and average yield, but an intermediate specific gravity.

MSI002-3 – a new MSU selection with high yield and high solids potential. It was in a few on-farm trials in 2002. It is a progeny of Liberator, but it does not have a high level of scab resistance.

B0766-3 – a selection from USDA-Beltsville. It has high yield potential and scab tolerance along with excellent chip-processing quality. It is in one of the 500 cwt 2002 Commercial Demonstration Storage bins.

W1201 – a selection from Wisconsin that has high solids, chip-processing quality and high yield potential. The large tubers tend to sheep nose. It is in one of the 500 cwt 2002 Commercial Demonstration Storage bins.

## **B. Round White Varieties: Tablestock (Tables 3 and 4)**

There were 9 entries that were evaluated at two harvest dates. Onaway was used as a check. The plot yields were average in the early harvest (97 days), and a moderate yield increase was observed for the second harvest date (132 days). Tuber specific gravity readings were below average. The results are summarized in **Tables 3 and 4**. In the early harvest trial, Onaway, Michigan Purple, MSE221-1 and MSH031-5 were the top yielding lines. There was very little incidence of internal defects in the early harvest. In the later harvest, Onaway, MSH031-5, MSI152-A, and Michigan Purple were the top yielding lines. Overall, incidence of internal defects was low in comparison to previous years. MSE221-1 and Onaway were the only lines to classify as scab tolerant. MSE221-1 and Jacqueline Lee had above average bruising in the simulated bruise tests. Another strong performing line is Michigan Purple, which was released in 2001, that has a bright purple skin and excellent internal quality. Jacqueline Lee, a smooth, bright-skinned, yellow-flesh variety with strong resistance to foliar late blight and maturity equal to Snowden, was also released

in 2001. MSI152-A is a high yielding, round white line with foliar resistance to late blight, however, the maturity is full season.

### **Variety Characteristics**

JACQUELINE LEE – an MSU oval/oblong tablestock selection with a high tuber set. The tubers have the bright skinned, smooth and attractive appearance that is typical of many European cultivars. The tubers have very low incidence of internal defects and good baking quality. The strength of this selection is its strong foliar resistance to the US8 genotype of late blight. Vine maturity is similar to Snowden.

MICHIGAN PURPLE - a tablestock selection with an attractive purple skin. This selection has high yield potential and the tubers have a low incidence of internal defects. The vine maturity is mid-season to mid-early. We regard this as a variety that can compete in the red market.

MSH031-5 – a MSU tablestock/chip selection with high yield potential, attractive round shape and bright skin. It has also performed well in North Carolina. It is scab susceptible.

MSE221-1 - a MSU tablestock selection. It has high yield potential as seen in the MSU and on-farm trials. General appearance is good, but it has a netted appearance similar to Superior. It has strong resistance to scab. It is being considered for release in 2002.

MSG004-3 - a MSU tablestock selection. It has average yield potential and produces bright attractive tubers with good internal quality.

### **C. Long Whites and Russet Varieties (Table 5)**

The long white and russet trial had 14 lines evaluated in 2002. GoldRush, Russet Burbank and Russet Norkotah were the standard varieties in the trial and the results are summarized in **Table 5**. Scab resistance was prevalent among the lines tested. Internal quality was high except for A8893-1RUS and CO92077-2RUS. Specific gravity measurements were well below average with Russet Burbank having a 1.063 reading. The three standards were very low yielding in the trial. The yield of the overall trial was below average for 2002, however, Keystone Russet was the highest yielding line by over 170 cwt/A. All lines were chip-processed out of the field with NDC5372-1RUS and TC1675-1RUS having excellent color.

### **Variety Characteristics**

MSB106-7 - a MSU tablestock selection. It has high yield potential as seen in the on-farm trials, but performed poorly at MSU. Tubers are oblong-long with a light netting. Internal quality is excellent and it has a very white flesh.

MSE192-8RUS - a MSU tablestock selection. The tubers have an attractive russetting and shape. The vine is small which may make this line uncompetitive in small plot trials. The tuber type suggests that it be considered a replacement for Russet Norkotah. The tubers have a white flesh that

does not darken after cooking. It has performed well in taste tests.

MSE202-3RUS – a MSU dual-purpose russet selection. It has a late maturity and high yield potential. Its specific gravity is equivalent to Russet Burbank and the tubers are long with a lighter, but attractive russet skin. Scab resistance is also high. Frito Lay is testing MSE202-3RUS as a directional chipper.

#### **D. North Central Regional Trial (Table 6)**

The North Central Trial is conducted in a wide range of environments (11 locations) to provide adaptability data for the release of new varieties from North Dakota, Minnesota, Wisconsin, Michigan and Canada. Twenty-four breeding lines and seven varieties were tested in Michigan. The results are presented in **Table 6**. The range of yield was wide and specific gravities of the lines were very low in 2002. The MSU lines MSE018-1, MSE221-1, MSE202-3RUS and MSF313-3 were all included in the North Central Trial for the first time in 2002. ND2470-27 was the highest performing line and chip-processed out of the field. ND5822C-7 was also high yielding, but was susceptible to hollow heart. This line also has some Colorado potato beetle resistance. NY112 is a promising line that is being released by Cornell University, but has shown susceptibility to blackspot bruise. The top-rated red-skinned line was ND5084-3R when you consider yield, shape, red color and internal defects. MSE221-1, a scab resistant MSU tablestock selection, was also a promising selection in the trial. The top-rated russet line was W1836-3Rus, but in general, the russet varieties and lines performed below average.

#### **E. Yellow Flesh Trial (Table 7)**

Eleven varieties and advanced selections were tested in 2002. Yukon Gold and Saginaw Gold were used as checks. The results are summarized in **Table 7**. The trial was harvested after 145 days, and yields were below average and varied considerably. The best yielding lines in 2002 were MSJ033-10Y, MSI005-20Y, MSJ453-4Y, and MSE149-5Y. These results were similar to 2001. Internal defects and late vine maturity make MSJ453-4Y, a late blight resistant selection, undesirable at the commercial level. MSI005-20Y was a strong overall performing line with high yield, excellent internal quality, and medium-early maturity. Torridon and MSJ459-2Y also have foliar late blight resistance, but are scab susceptible, late maturing and suffer from internal defects. Some entries were evaluated for chip-processing quality out-of-the-field and MSE149-5Y, Saginaw Gold and MSJ453-4Y had acceptable chip color. The high incidence of internal brown spot in Torridon was observed in both 2001 and 2002.

#### **F. Adaptation Trial (Tables 8A and 8B)**

The Adaptation trial was divided into chip-processing and tablestock trials. Two cultivars (Snowden and Atlantic) and 26 advanced breeding lines are reported in the chip-processing trial. The trial was harvested after 146 days and the results are summarized in **Table 8A**. The high yielding lines identified in 2002 were W2062-1, B1240-1, MSJ167-1 and A91790-13, but these lines were also the later-maturing selections. In addition, these lines were classified as blackspot bruise susceptible in the simulated bruise test. As in all the 2002 trials, the specific gravity readings were below average, but W2062-1, MSJ167-1, MSH112-6 and W1980-4 had readings higher than

Atlantic. Other lines of interest were observed. MSH067-3 is a chip-processing selection with cold-chipping potential. It has mid-season maturity and intermediate scab tolerance. The tubers are flattened and round. MSJ456-4 and MSJ319-1 have strong foliar late blight resistance. Based upon two years of study, MSH228-6, MSJ126-9Y and MSH356-A showed some scab tolerance.

In the tablestock trial Onaway and Superior were the check varieties and 17 advanced breeding lines and new varieties were evaluated. The trial was harvested after 139 days and the results are summarized in **Table 8B**. Eight red-skinned entries were compared. Mazama was the top yielding line, but the red skin color was not strong. Durango Red and NDTX4271-5R had the best combination of shape and red skin color. Among the red lines, internal defects were low except for the vascular discoloration in Mazama and CO89097-2RED. ATX85404-8W was the highest yielding line, but has some hollow heart susceptibility. MSJ317-1 is a round white selection with a bright skin that has strong foliar resistance to late blight, but the vine maturity is very late. MSJ319-7 and MSJ307-2 also have late blight resistance, but the tuber type is not as desirable. Scab tolerance was limited to Superior, Onaway, Cal Red and Mazama. Interestingly, no entries were classified as blackspot bruise susceptible.

#### **H. Preliminary Trial (Tables 9A and 9B)**

The Preliminary trial is the first replicated trial for evaluating new advanced selections from the MSU potato breeding program. Twenty-nine advanced selections and three check varieties were tested and reported in two separate Preliminary trials. The division of the trials was based upon chip-processing or tablestock utilization. The chip-processing trial is summarized in **Table 9A**. The top yielding line was MSJ316-A and was also classified as scab resistant. Another promising line is MSK061-4 which has a high percentage of uniformed A-sized tubers. Other scab tolerant lines identified in this trial are MSK498-1Y, MSK476-1, NY120, MSH015-2, and MSG301-9. Internal defects were generally low in the trial with Atlantic showing the greatest susceptibility to hollow heart. Blackspot bruise susceptibility was also low in this trial.

**Table 9B** summarizes the results from the Preliminary tablestock trial. Harvest was completed after 134 days. No late blight resistant lines were among the chip processors, but 5 entries in the tablestock trial had strong foliar resistance to late blight. Of those, MSL757-1 shows the most promise. It has above average yield potential, an attractive blocky oval shape and above average solids. MSK125-3 is from has a late blight pedigree, but is not highly resistant. However, it has high yield and attractive smooth tubers. Silvertop Russet was an attractive, scab resistant russet variety that had nice russet type among the A-sized tubers. Other scab resistant lines are MSK217-3P, MSJ036-A, MSK247-9Y and MSK004-AY.

#### **I. Frito Lay Trial (Table 10)**

A separate trial was conducted with the three major Frito Lay varieties because of the late arrival of the seed. It was planted about two weeks later than our other agronomic trials. For comparison Snowden, Atlantic and Liberator were included in the trial. Chip-processing out of the field was acceptable for all varieties. For US#1 yield, no differences existed among the varieties. FL1867 and Liberator had the highest total yields, while Atlantic and Liberator had the highest specific gravity readings. Atlantic and FL1833 were most susceptible to hollow heart in the oversize tubers.

Liberator and FL1833 had little scab incidence compared to the other varieties. Blackspot bruise was low in this trial.

## **J. Potato Scab Evaluation (Table 11)**

Each year a replicated field trial at the MSU Soils Farm is conducted to assess resistance to common and pitted scab. For the second year, we are using a modified scale of a 0-5 ranking 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. **Table 11** categorizes many of the varieties and advanced selections tested in 2002 at the MSU Soils Farm Scab Nursery. This disease trial is a severe test. The varieties and lines are placed into six arbitrary categories based upon scab infection level and lesion severity. A rating of 0 indicates zero 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. In 2002 the scab disease incidence at the nursery was typical compared to other years, and the data were separated into three categories (Resistant = 0.0-1.2; Moderately Resistant = 1.3 – 1.70; and Susceptible = 2 or higher). The check varieties Russet Burbank, GoldRush, Superior, Onaway, Pike, Red Pontiac, Yukon Gold, Atlantic and Snowden can be used as references (bolded in **Table 11**). This year's results indicate that we have been able to breed numerous lines for the chip-processing and tablestock markets with resistance to scab. Most notable scab resistant lines are Liberator, MSG227-2, MSE192-8RUS, MSE202-3RUS, MSE221-1, MSG301-9, MSH228-6, MSJ126-9Y, MSH015-2, MSJ316-A and MSJ036-A. Scab results from the disease nursery are also found in the Trial Summaries (**Tables 2, 4-10**).

## **K. Late Blight Trial (Table 12)**

In 2002, a late blight trial was conducted at the Muck Soils Research Farm. Over 160 entries were evaluated in replicated plots. The field was planted on 7 June and inoculated 26 July with isolates 94-3, 95-7, 98-2, and 00-1, and ratings were taken throughout August. Most lines were highly susceptible to the US-8 genotype of late blight. Included in this trial are the varieties and lines from the MSU trials at the Montcalm Research Farm and lines from the National Late Blight Variety Trial. The results are summarized in **Table 12**. Lines with the least infection from multi-year testing have been LBR8, LBR9, A90586-11, Jacqueline Lee, MSJ461-1, B0767-2, B0692-4, B0718-3, AWN86514-2 and Torridon (a Scottish variety). Jacqueline Lee has demonstrated strong late blight resistance over the past six years. In addition, many new MSU selections were in this top tier. Included in this group are MSJ453-4Y, MSJ456-4, MSJ456-2 and MSJ457-2 which all are progeny of Tollocan; MSJ307-2, MSJ319-1, MSJ317-2, MSJ152-A and MSJ319-7 which are progeny of B0718-3. We also have progeny of Jacqueline Lee with strong late blight resistance: MSK106-A, MSK106-B, MSK101-2 and MSK128-2. These resistant progeny indicate that we can continue to breed for resistance using Jacqueline Lee as a parent. Some of the promising new selections for resistance are MSL766-1, MSL757-1, MSL211-3, MSK027-C, MSK034-1 and MSK136-2. We find these late blight resistant lines valuable because many of them also have marketable maturity. Many of these lines also have other desirable traits such as scab tolerance resistance and/or chip-processing quality. Tuber late blight resistance is being evaluated on many of



the selections with foliar late blight resistance.

#### L. Blackspot Susceptibility (Table 13)

Increased evaluations of advanced seedlings and new varieties for their susceptibility to blackspot bruising have been implemented in the variety evaluation program over the past decade. Based upon the results collected over the past three years we decided to eliminate the check sample from our bruise assessment. Therefore a composite bruise sample of each line in the trials was collected. The sample consisted of 25 tubers (a composite of 4 reps) from each line at the time of grading. The 25 tuber sample was held in 50°F 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 13**. 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. Conducting the simulated bruise on 50°F tubers is helping to standardize the bruise testing. We are observing less variation between trials since we standardized the handling of the bruise sample. However, these results become more meaningful when evaluated over 3 years that reflects different growing seasons and harvest conditions. In 2002 the bruise levels were lower than other years. This may be attributed to the lower solids observed in the tubers. The most bruise resistant lines this year were MSF099-3, MSG227-2, MSH031-5, MSF313-3, MSE202-3RUS, MSE192-8RUS, MSJ033-6Y, MSI005-20Y, AC87340-2W, A90490-1, MSH228-6, Cherry Red, MSI049-A, Durango Red, NDTX4271-5R, MSK061-4, MSK125-3 and most of the russet lines. The most susceptible lines were MSH095-4, MSE018-1, Torridon, W2062-1, NDTX4930-5W and NY120.

#### M. Post-harvest Disease Evaluation: Fusarium Dry Rot

As part of the post harvest evaluation, resistance to *Fusarium sambucinum* (Fusarium dry rot) was assessed by inoculating 3 whole tubers post-harvest from selected lines and varieties in the 2002 MRF variety trials. The tubers were held at 20°C (room temperature) for approximately three weeks post inoculation with *Fusarium* mycelial plugs and then scored for dry rot infection depth and width. A total of 104 breeding lines and varieties were tested. Overall the mean infection depth of the lesion ranged from 0.6-15.9 mm with an  $LSD_{0.05} = 6.2$  mm. The 2002 infection level was about 50% of the 2001 infection level. In the previous two years we classified Superior, GoldRush, NorValley, Liberator and Michigan Purple in the tolerant group. In 2001, MSH067-3 also had a low infection level. The 2002 results concur. **Table 14** lists many additional lines in the 2002 are classified as having low infection level. Also consistent with the 2001 data, the varieties classified as susceptible in the 2002 evaluation were Atlantic and Pike. At this time, complete resistance to Fusarium dry rot has not been found in the cultivated germplasm, but genetic variation for tolerance to dry rot does exist.

## **N. Seed Availability of MSU New Varieties and Advanced Selections**

The MSU Potato Breeding program has entered a new stage of development as we have released the first three potato varieties and have numerous lines with commercial potential. These lines are in tissue culture and have greenhouse tuber production and in many cases there is field generation seed available. **Table 15** summarizes the current seed available of the new MSU varieties and advanced selections.

Table 1

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICS

**ROUND WHITE CHIP POTATOES: EARLY HARVEST  
MONTCALM RESEARCH FARM  
AUGUST 6, 2002 (97 DAYS)**

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL CUT	3-YR AVG
	US#1	TOTAL	US#1	Bs	As	OV	PO			HH	VD	IBS	BC		US#1 CWT/A
MSI002-3	311	347	89	10	86	4	0	1.078	1.0	5	0	0	0	40	-
<b>ATLANTIC</b>	<b>264</b>	<b>295</b>	<b>90</b>	<b>8</b>	<b>85</b>	<b>5</b>	<b>3</b>	<b>1.079</b>	<b>1.5</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>342</b>
MSH095-4	257	281	91	6	80	11	3	1.076	1.0	1	0	0	0	40	300*
B0766-3	251	267	94	6	91	3	0	1.073	1.0	3	0	0	0	40	-
MSF373-8	241	249	97	1	66	32	2	1.068	1.5	0	0	0	0	40	344
W1201	238	261	91	7	88	3	1	1.076	1.0	3	0	0	0	40	-
LIBERATOR	216	243	89	10	86	3	2	1.076	1.0	1	0	0	0	40	276
MSE018-1	215	246	87	12	81	6	0	1.074	1.0	4	0	0	0	40	309
MSF099-3	211	246	85	13	83	2	1	1.077	1.0	1	0	0	0	40	254
MSJ461-1 <sup>LBR</sup>	196	252	78	22	77	0	0	1.065	1.5	0	0	0	0	40	200*
<b>SNOWDEN</b>	<b>195</b>	<b>234</b>	<b>83</b>	<b>16</b>	<b>83</b>	<b>1</b>	<b>1</b>	<b>1.075</b>	<b>1.0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>252</b>
MSH094-8	193	216	89	11	88	1	0	1.074	1.0	1	0	0	0	40	291
MSG227-2	176	222	79	19	79	0	2	1.070	1.5	3	0	0	0	40	282
<b>PIKE</b>	<b>169</b>	<b>207</b>	<b>81</b>	<b>19</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>1.073</b>	<b>1.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>232</b>
MSI083-5	159	190	84	15	83	1	1	1.069	1.0	0	0	0	0	40	-
MEAN	219	250						1.074							
LSD <sub>0.05</sub>	32	33						0.002							* Two-Year Average

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.

Planted May 1, 2002

Table 2

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICS

**ROUND WHITE CHIP POTATOES: LATE HARVEST  
MONTCALM RESEARCH FARM  
SEPTEMBER 23, 2002 (144 DAYS)**

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL CUT	NURSERY SCAB <sup>4</sup>	TRIAL SCAB <sup>4</sup>	MAT <sup>5</sup>	BRUISE <sup>6</sup>	3-YR AVG
	US#1	TOTAL	US#1	Bs	As	OV	PO			HH	VD	IBS	BC						US#1
MSE018-1	438	470	93	5	74	19	1	1.079	1.5	8	2	0	0	40	3.6	1.6	3.9	SUSC.	438
MSF373-8	392	401	98	1	36	62	1	1.072	1.5	4	0	0	0	40	2.5	1.1	3.0	SUSC.	457
B0766-3	390	407	96	4	77	19	0	1.072	1.0	4	3	0	0	40	1.5	0.1	2.8	SUSC.	-
MSI002-3	376	420	90	10	84	5	0	1.077	1.5	2	0	1	0	40	4.0	1.9	1.9		-
W1201	364	391	93	5	84	9	2	1.081	1.5	0	5	0	0	40	1.3	0.5	3.3	SUSC.	-
<b>ATLANTIC</b>	<b>328</b>	<b>352</b>	<b>93</b>	<b>5</b>	<b>81</b>	<b>12</b>	<b>1</b>	<b>1.078</b>	<b>1.5</b>	<b>11</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>40</b>	<b>2.7</b>	<b>0.9</b>	<b>2.5</b>	<b>SUSC.</b>	<b>398</b>
MSH095-4	326	351	93	5	77	16	2	1.076	1.0	1	2	0	2	40	2.0	0.4	2.5	SUSC.	385*
MSF099-3	323	348	93	6	83	10	1	1.076	1.5	2	0	0	0	40	3.7	1.1	2.4		329
MSH094-8	299	324	92	7	88	4	1	1.075	1.5	0	0	0	0	40	2.3	0.9	2.3		366
MSJ461-1 <sup>LBR</sup>	279	330	84	15	84	0	0	1.069	1.0	0	0	0	0	40	2.7	2.0	3.0		289*
LIBERATOR	276	309	89	7	80	9	4	1.074	1.5	1	0	0	1	40	0.0	0.0	2.5		358
<b>PIKE</b>	<b>262</b>	<b>302</b>	<b>87</b>	<b>13</b>	<b>86</b>	<b>1</b>	<b>0</b>	<b>1.077</b>	<b>1.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>1.1</b>	<b>0.6</b>	<b>2.5</b>		<b>317</b>
<b>SNOWDEN</b>	<b>262</b>	<b>304</b>	<b>86</b>	<b>13</b>	<b>81</b>	<b>5</b>	<b>0</b>	<b>1.073</b>	<b>1.0</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>40</b>	<b>2.0</b>	<b>1.1</b>	<b>2.5</b>		<b>343</b>
MSG227-2	256	326	78	12	74	4	10	1.072	1.0	0	1	0	0	40	0.5	0.0	2.9		366
MSI083-5	255	288	89	10	85	3	1	1.072	2.0	0	0	0	0	40	3.3	2.8	2.8		-
MEAN	322	355						1.075											
LSD <sub>0.05</sub>	53	50						0.002											

\* Two-Year Average

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field, 9/25/02); Ratings: 1-5; 1: Excellent, 5: Poor.<sup>4</sup>SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.<sup>5</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)<sup>6</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

Planted May 2, 2002

Table 3

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICS

ROUND WHITE TABLESTOCK POTATOES: EARLY HARVEST  
MONTCALM RESEARCH FARM  
AUGUST 6, 2002 (97 DAYS)

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	TUBER QUALITY <sup>2</sup>				TOTAL	3-YR AVG
	US#1	TOTAL	US#1	Bs	As	OV	PO		HH	VD	IBS	BC	CUT	US#1 CWT/A
MSE221-1	360	381	94	3	82	13	3	1.063	0	0	0	0	40	397
MSH031-5	286	324	88	12	88	0	0	1.074	0	0	0	0	40	346
MICHIGAN PURPLE	283	311	91	5	83	8	4	1.063	1	1	0	0	40	341*
<b>ONAWAY</b>	<b>256</b>	<b>291</b>	<b>88</b>	<b>9</b>	<b>79</b>	<b>9</b>	<b>3</b>	<b>1.059</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>388</b>
MSE080-4	247	260	95	5	89	6	0	1.067	0	0	0	0	40	-
MSF313-3	183	239	76	23	76	1	1	1.070	0	0	0	0	40	226
MSG004-3	181	192	95	4	90	4	1	1.057	1	0	0	0	40	238
JACQUELINE LEE <sup>LBR</sup>	179	307	58	39	58	0	3	1.069	0	0	0	0	40	187
MSI152-A <sup>LBR</sup>	135	170	80	19	80	0	2	1.058	1	0	0	0	40	-
MEAN	234	275						1.064						
LSD <sub>0.05</sub>	41	48						0.003						* Two-Year Average

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

Planted May 1, 2002

Table 4

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICS

**ROUND WHITE TABLESTOCK POTATOES: LATE HARVEST  
MONTCALM RESEARCH FARM  
SEPTEMBER 11, 2002 (132 DAYS)**

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					TUBER QUALITY <sup>2</sup>				TOTAL CUT	NURSERY SCAB <sup>3</sup>	TRIAL SCAB <sup>3</sup>	MAT <sup>4</sup>	BRUISE <sup>5</sup>	3-YR AVG	
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP	GR	HH	VD						IBS	BC
MSE221-1	397	418	95	3	84	11	2	1.063	3	1	0	0	40	1.3	1.0	1.3	SUSC.	412
MICHIGAN PURPLE	341	355	96	3	81	16	1	1.066	2	0	0	0	40	2.7	2.5	1.6		331*
MSH031-5	334	365	91	9	91	1	0	1.074	0	0	0	0	40	2.3	2.8	2.0		363
MSI152-A <sup>LBR</sup>	309	345	90	9	84	6	2	1.061	4	0	0	0	40	2.0	2.0	3.1		-
<b>ONAWAY</b>	<b>294</b>	<b>321</b>	<b>92</b>	<b>6</b>	<b>83</b>	<b>9</b>	<b>2</b>	<b>1.060</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>1.7</b>	<b>1.3</b>	<b>1.3</b>		<b>412</b>
MSF313-3	249	293	85	14	84	1	1	1.070	0	0	0	0	40	2.3	2.8	3.0		282
MSE080-4	239	256	93	6	85	8	0	1.067	0	0	0	0	40	1.7	2.0	1.5		-
MSG004-3	225	241	93	5	83	11	2	1.058	0	0	0	0	40	1.5	1.8	2.5		275
JACQUELINE LEE <sup>LBR</sup>	220	360	61	38	61	0	1	1.075	0	0	0	0	40	2.7	2.0	2.6	SUSC.	276
MEAN	290	328						1.066										
LSD <sub>0.05</sub>	47	48						0.002										

\* Two-Year Average

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

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

<sup>4</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)

<sup>5</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

Planted May 2, 2002

Table 5

**LONG WHITE and RUSSET TRIAL  
MONTCALM RESEARCH FARM  
SEPTEMBER 9, 2002 (132 DAYS)**

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					CHIP		TUBER QUALITY <sup>2</sup>				TOTAL			3-YR AVG	
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP	GR	SCORE <sup>3</sup>	HH	VD	IBS	BC	CUT	SCAB <sup>4</sup>	MAT <sup>5</sup>	BRUISE <sup>6</sup>
KEYSTONE RUSSET	488	549	89	9	56	33	2	1.057	2.0	0	6	0	0	40	0.5	3.5		-
A8893-1RUS	310	404	77	19	63	14	4	1.067	2.0	15	6	0	0	40	0.0	2.6		356
AC92009-4R	287	345	83	10	63	20	7	1.077	2.0	1	1	0	0	40	0.0	3.3		-
MSE202-3RUS	265	344	77	17	67	10	6	1.071	2.5	4	0	0	0	40	0.0	3.4		371
AC89536-5RUS	256	362	71	28	65	6	1	1.076	2.0	5	1	1	0	40	0.0	3.3		265*
NDC5372-1RUS	231	353	65	33	64	2	2	1.077	1.0	4	0	0	0	40	1.0	3.9	SUSC.	-
CO92077-2RUS	224	291	77	21	66	11	2	1.058	2.0	0	0	5	4	40	1.5	3.0		-
MSB106-7	217	308	70	19	61	10	11	1.055	-	0	2	0	0	40	1.0	1.3		294
CO85026-4	214	271	79	15	62	17	6	1.074	1.5	1	0	0	0	40	0.7	3.5		224*
MSE192-8RUS	212	326	65	33	59	6	2	1.064	2.0	0	4	0	0	40	0.3	1.6		252
<b>GOLDRUSH</b>	<b>201</b>	<b>299</b>	<b>67</b>	<b>27</b>	<b>61</b>	<b>6</b>	<b>6</b>	<b>1.056</b>	<b>2.5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>0.3</b>	<b>1.8</b>		<b>228*</b>
<b>RUSSET BURBANK</b>	<b>181</b>	<b>291</b>	<b>62</b>	<b>27</b>	<b>54</b>	<b>8</b>	<b>10</b>	<b>1.063</b>	<b>2.0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>40</b>	<b>1.0</b>	<b>1.9</b>		<b>242</b>
TC1675-1RUS	172	297	58	40	55	3	2	1.075	1.0	1	3	0	0	40	0.7	3.1	SUSC.	-
<b>RUSSET NORKOTAH</b>	<b>106</b>	<b>231</b>	<b>46</b>	<b>54</b>	<b>43</b>	<b>3</b>	<b>1</b>	<b>1.058</b>	<b>2.0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>1.2</b>	<b>1.3</b>		<b>214</b>
MEAN	240	334						1.066										
LSD <sub>0.05</sub>	52	55						0.005										

\* Two-Year Average

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

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field, 9/13/02); Ratings: 1-5; 1: Excellent, 5: Poor.

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

<sup>5</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

<sup>6</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

Planted May 1, 2002

Table 6

NORTH CENTRAL REGIONAL TRIAL  
MONTCALM RESEARCH FARM  
SEPTEMBER 9, 2002 (131 DAYS)

ENTRY	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL				
	US#1	TOTAL	US#1	Bs	As	OV	PO			HH	VD	IBS	BC	CUT	SCAB <sup>4</sup>	MAT <sup>5</sup>	BRUISE <sup>6</sup>	MERIT <sup>7</sup>
ND2470-27	524	567	92	7	87	5	1	1.068	1.0	0	1	0	0	40	3.0	2.8		1W
ND5822C-7	509	548	93	7	85	7	1	1.080	1.5	17	0	0	0	40	2.7	3.1	SUSC.	
NY112	463	479	97	3	88	8	0	1.070	1.0	0	2	0	0	40	1.3	2.6	SUSC.	2W
ND5084-3R	406	427	95	3	67	28	1	1.055	2.5	0	0	0	0	40	2.0	3.1		1RD
MSE018-1	400	428	94	5	73	20	1	1.076	1.5	2	2	0	0	40	3.6	3.6	SUSC.	4W
MSE221-1	398	414	96	3	84	12	1	1.061	1.5	3	2	0	0	40	1.3	1.3		3W
W1386	381	403	94	5	84	10	1	1.074	1.0	4	0	0	0	40	2.3	2.3	SUSC.	
MN18710Rus	376	407	92	7	67	25	1	1.068	2.5	0	0	0	0	40	0.0	3.4		
<b>D.R. NORLAND</b>	<b>373</b>	<b>410</b>	<b>91</b>	<b>9</b>	<b>91</b>	<b>0</b>	<b>0</b>	<b>1.052</b>	<b>2.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>2.7</b>	<b>1.3</b>		<b>2RD</b>
<b>ATLANTIC</b>	<b>365</b>	<b>393</b>	<b>93</b>	<b>7</b>	<b>91</b>	<b>2</b>	<b>1</b>	<b>1.077</b>	<b>1.5</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>40</b>	<b>1.3</b>	<b>1.9</b>		
W1201	347	369	94	5	84	10	1	1.081	1.0	1	4	0	0	40	2.8	3.3		
W1431	340	364	93	5	81	12	1	1.078	1.0	24	0	0	0	40	1.5	2.9	SUSC.	
B0766-3	339	360	94	6	90	5	0	1.072	1.0	1	0	0	0	40	2.0	2.8		5W
<b>SNOWDEN</b>	<b>320</b>	<b>394</b>	<b>81</b>	<b>19</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>1.074</b>	<b>1.0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>2.0</b>	<b>2.1</b>	<b>SUSC.</b>	
MN19525R	318	353	90	9	80	10	0	1.061	3.0	0	1	0	0	40	1.0	2.4		4RD
W1836-3Rus	314	394	80	16	73	7	4	1.071	2.0	6	0	0	0	40	0.0	2.9		1RUS
CV89023-2R	291	350	83	16	83	0	1	1.063	2.5	0	0	0	0	40	2.0	1.0		3RD
MSE202-3Rus	287	363	79	16	74	5	4	1.071	2.5	12	0	0	2	40	0.0	2.5		2RUS
<b>NORVALLEY</b>	<b>279</b>	<b>324</b>	<b>86</b>	<b>11</b>	<b>85</b>	<b>1</b>	<b>3</b>	<b>1.067</b>	<b>1.0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>2.0</b>	<b>1.9</b>	<b>SUSC.</b>	
<b>RED PONTIAC</b>	<b>263</b>	<b>314</b>	<b>84</b>	<b>7</b>	<b>74</b>	<b>10</b>	<b>9</b>	<b>1.055</b>	<b>3.0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>3.0</b>	<b>3.6</b>		
A9014-2Rus	263	308	85	13	52	33	1	1.072	1.0	15	0	0	0	40	0.3	3.6		3RUS
MSF313-3	247	299	83	17	82	0	0	1.070	1.5	0	0	0	0	40	2.3	2.9		
MN18747Rus	235	266	88	11	84	5	1	1.056	1.0	0	1	0	0	40	-	1.1		
A90586-11Rus <sup>LBR</sup>	224	320	70	27	69	2	3	1.073	2.0	0	0	0	0	40	3.5	2.4		

continued on following page:



**NORTH CENTRAL REGIONAL TRIAL  
MONTCALM RESEARCH FARM  
SEPTEMBER 9, 2002 (131 DAYS)**

ENTRY	CWT/A		PERCENT OF TOTAL <sup>1</sup>					CHIP		TUBER QUALITY <sup>2</sup>				TOTAL			MERIT <sup>7</sup>		
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP	GR	SCORE <sup>3</sup>	HH	VD	IBS	BC	CUT	SCAB <sup>4</sup>		MAT <sup>5</sup>	BRUISE <sup>6</sup>
continued:																			
ND3196-1R	218	239	91	7	82	9	2	1.055	3.0	0	0	0	1	40	0.7	1.0			5RD
MN15620LR	206	266	77	19	73	4	4	1.069	1.0	1	5	0	0	40	2.0	3.6			
<b>RUSSET BURBANK</b>	<b>202</b>	<b>285</b>	<b>71</b>	<b>17</b>	<b>66</b>	<b>5</b>	<b>12</b>	<b>1.064</b>	<b>2.5</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>1.0</b>	<b>2.6</b>			<b>5RUS</b>
<b>RUSSET NORKOTAH</b>	<b>162</b>	<b>245</b>	<b>66</b>	<b>33</b>	<b>64</b>	<b>2</b>	<b>1</b>	<b>1.060</b>	<b>2.0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>1.2</b>	<b>1.1</b>			<b>4RUS</b>
V04981-1R	141	172	82	10	82	0	8	1.045	3.5	0	0	0	0	10	-	1.0			
V0498-9R	137	160	86	4	77	9	10	1.049	1.5	0	0	0	0	40	2.0	1.5			
V0497-1	134	157	85	13	80	5	2	1.064	1.0	1	0	0	0	40	3.5	1.6			
MEAN	171	218						1.058											
LSD <sub>0.05</sub>	70	69						0.003											

<sup>1</sup>LBR Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field); Ratings: 1-5; 1: Excellent, 5: Poor.

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

<sup>5</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering).

<sup>6</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

<sup>7</sup>MERIT: A Merit rating was given for the best 5 entries in each market class (rank order, 1 = best).

Planted May 1, 2002

Table 7

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICSYELLOW FLESH and EUROPEAN TRIAL  
MONTCALM RESEARCH FARM  
SEPTEMBER 23, 2002 (145 DAYS)

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL CUT	NURSERY SCAB <sup>4</sup>	TRIAL SCAB <sup>4</sup>	MAT <sup>5</sup>	BRUISE <sup>6</sup>
	US#1	TOTAL	US#1	Bs	As	OV	PO			HH	VD	IBS	BC					
MSI005-20Y	377	438	86	10	76	11	4	1.066	-	0	2	0	0	40	2.0	1.9	3.5	
MSE149-5Y	350	373	94	5	77	17	1	1.061	1.0	2	0	1	0	40	1.3	1.3	2.5	
MSJ033-10Y	325	390	83	11	82	2	6	1.060	-	0	3	0	0	40	1.0	0.6	2.8	
MSJ453-4Y <sup>LBR</sup>	318	402	79	14	77	2	6	1.079	1.0	5	2	13	1	40	2.7	2.3	4.1	SUSC.
<b>SAGINAW GOLD</b>	<b>277</b>	<b>331</b>	<b>84</b>	<b>12</b>	<b>82</b>	<b>2</b>	<b>4</b>	<b>1.063</b>	<b>1.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>1.0</b>	<b>1.4</b>	<b>1.1</b>	
MSE048-2Y	261	277	94	3	79	15	2	1.067	-	1	0	5	4	40	1.5	1.8	3.4	SUSC.
MSJ033-6Y	260	305	85	7	75	10	7	1.060	-	0	9	0	0	40	2.0	1.6	2.9	
TORRIDON <sup>LBR</sup>	250	392	64	24	59	5	12	1.079	-	0	1	23	0	40	4.3	5.1	3.6	SUSC.
<b>YUKON GOLD</b>	<b>234</b>	<b>262</b>	<b>89</b>	<b>5</b>	<b>79</b>	<b>11</b>	<b>6</b>	<b>1.066</b>	<b>-</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>4.0</b>	<b>2.8</b>	<b>1.0</b>	
MSJ459-2Y	185	206	90	5	64	25	5	1.076	1.0	3	6	3	1	40	2.5	2.1	4.6	
MSJ472-4P	164	253	65	33	65	0	2	1.074	2.0	1	0	0	0	40	2.0	1.8	2.3	
MEAN	273	330						1.068										
LSD <sub>0.05</sub>	92	87						0.005										

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field, 9/25/02); Ratings: 1-5; 1: Excellent, 5: Poor.

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

<sup>5</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)

<sup>6</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

Planted May 1, 2002

Table 8A

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICSADAPTATION TRIAL, CHIP-PROCESSING LINES  
MONTCALM RESEARCH FARM  
SEPTEMBER 24, 2002 (146 DAYS)

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL CUT	NURSERY SCAB <sup>4</sup>	TRIAL SCAB <sup>4</sup>	MAT <sup>5</sup>	BRUISE <sup>6</sup>
	US#1	TOTAL	US#1	Bs	As	OV	PO			HH	VD	IBS	BC					
W2062-1	476	540	88	11	85	3	1	1.086	1.5	4	0	0	0	40	2.3	1.0	3.0	SUSC.
B1240-1	460	471	98	2	80	18	0	1.076	2.0	6	6	0	0	40	2.0	0.8	3.8	SUSC.
MSJ167-1	441	476	93	6	91	2	1	1.086	1.5	0	0	0	0	40	2.0	0.8	4.1	SUSC.
A91790-13	422	455	93	5	73	20	2	1.074	1.5	3	4	0	0	40	3.5	0.8	3.6	SUSC.
MSH228-6	377	398	95	5	81	13	1	1.066	1.0	5	3	3	0	40	1.3	0.5	2.9	
MSH067-3	375	389	96	2	78	19	1	1.077	1.5	4	0	1	0	40	3.0	1.0	2.3	
W1773-7	370	403	92	7	82	10	1	1.075	1.5	0	0	0	0	40	2.7	1.1	3.0	
MSJ080-1	368	393	94	6	79	15	0	1.064	1.5	0	3	0	0	40	2.5	0.5	2.4	
MSH112-6	347	428	81	18	79	2	0	1.080	1.0	0	1	0	0	40	-	1.0	2.6	SUSC.
MSJ147-1	343	382	90	10	88	2	1	1.073	1.0	0	0	0	0	40	2.0	0.9	3.0	
W1980-4	342	379	90	6	77	13	3	1.081	1.5	7	3	0	0	40	2.0	1.2	2.4	
<b>ATLANTIC</b>	<b>336</b>	<b>357</b>	<b>94</b>	<b>4</b>	<b>78</b>	<b>16</b>	<b>2</b>	<b>1.077</b>	<b>1.5</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>2.7</b>	<b>1.4</b>	<b>2.5</b>	
AC87340-2W	331	402	83	17	81	2	0	1.065	1.0	0	0	0	0	40	2.3	1.3	2.4	
DAKOTA PEARL	325	356	91	8	87	4	1	1.064	1.5	1	7	0	2	40	-	0.3	1.4	
MSJ197-1	318	342	93	6	80	13	1	1.069	2.0	0	3	0	0	40	2.7	0.5	3.1	
MSH098-2	318	330	96	3	82	14	0	1.073	1.0	0	1	0	0	40	2.7	1.4	2.6	
A90490-1	318	332	96	4	71	25	1	1.065	1.5	8	0	1	2	40	2.3	0.7	3.6	
MSJ456-4 <sup>LBR</sup>	316	384	82	17	82	1	1	1.077	1.5	0	2	0	0	40	2.0	1.0	3.5	SUSC.
MSJ319-1 <sup>LBR</sup>	309	345	90	9	83	7	1	1.075	1.0	8	1	0	0	40	2.0	1.3	3.0	
MSH360-1	301	327	92	7	88	4	1	1.074	2.0	2	4	1	0	40	2.0	0.5	3.1	SUSC.
MSJ126-9Y	284	318	89	11	85	4	0	1.063	1.0	0	1	1	0	40	0.3	0.1	2.5	
MSJ080-8	275	299	92	7	86	6	1	1.073	1.0	7	1	0	0	40	2.0	0.5	1.9	
BC0894-2W	266	300	89	10	88	0	1	1.059	1.5	1	0	0	0	40	2.3	0.6	1.1	

continued on following page:

**ADAPTATION TRIAL, CHIP-PROCESSING LINES  
MONTCALM RESEARCH FARM  
SEPTEMBER 24, 2002 (146 DAYS)**

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL NURSERY TRIAL					
	US#1	TOTAL	US#1	Bs	As	OV	PO		SP	GR	HH	VD	IBS	BC	CUT	SCAB <sup>4</sup>	SCAB <sup>4</sup>	MAT <sup>5</sup>
continued:																		
<b>SNOWDEN</b>	<b>265</b>	<b>311</b>	<b>85</b>	<b>15</b>	<b>83</b>	<b>2</b>	<b>0</b>	<b>1.072</b>	<b>1.0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>2.0</b>	<b>1.3</b>	<b>2.6</b>	
W2033-8	263	319	82	16	82	1	1	1.071	1.0	0	0	0	0	40	1.3	0.5	1.9	
MSH356-A	255	278	92	7	85	7	1	1.070	2.0	10	0	0	0	40	1.0	0.3	2.5	SUSC.
W1782-5	245	270	91	9	88	3	0	1.072	1.0	0	0	0	0	40	1.5	1.4	2.1	SUSC.
MSJ170-4	217	270	81	18	80	1	1	1.077	2.0	0	0	0	0	40	2.0	0.9	2.6	
MEAN	249	290						1.072										
LSD <sub>0.05</sub>	56	54						0.003										

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field, 9/25/02); Ratings: 1-5; 1: Excellent, 5: Poor.

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

<sup>5</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)

<sup>6</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

Planted May 1, 2002

Table 8B

ADAPTATION TRIAL, TABLESTOCK LINES  
MONTCALM RESEARCH FARM  
SEPTEMBER 18, 2002 (139 DAYS)

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					TUBER QUALITY <sup>2</sup>				TOTAL CUT	NURSERY SCAB <sup>3</sup>	TRIAL SCAB <sup>3</sup>	MAT <sup>4</sup>	BRUISE <sup>5</sup>
	US#1	TOTAL	US#1	Bs	As	OV	PO	SP	GR	HH	VD					
MAZAMA	442	480	92	8	85	7	0	1.063	0	28	1	0	40	1.3	0.9	2.4
ATX85404-8W	409	443	92	6	83	9	2	1.072	10	0	0	0	40	1.7	1.1	3.0
NDTX4930-5W	401	429	94	4	83	10	2	1.067	3	4	0	0	40	3.3	1.3	1.6
NDTX4304-1R	396	430	92	6	89	3	1	1.044	0	3	0	1	40	2.7	0.8	1.1
DURANGO RED	387	422	92	8	86	6	1	1.063	2	3	0	0	40	-	0.5	3.4
CAL RED	380	439	86	13	86	1	0	1.062	0	0	3	0	40	1.3	0.5	3.0
MSI077-4	372	389	96	3	69	27	1	1.069	1	8	0	0	40	2.3	2.4	3.6
CO89097-2RED	362	399	91	7	81	9	3	1.063	0	12	0	2	40	3.0	1.0	1.9
MSI049-A <sup>MLBR</sup>	359	397	90	6	69	21	4	1.060	2	2	2	3	40	2.5	1.7	2.9
MSJ317-1 <sup>LBR</sup>	332	357	93	7	89	4	0	1.070	1	6	1	0	40	2.5	1.8	4.6
NDTX4271-5R	326	355	92	8	87	5	0	1.057	0	1	0	0	40	2.0	0.9	1.1
NDC5281-2R	320	371	86	11	84	2	3	1.060	0	1	0	0	40	3.3	1.4	1.5
<b>ONAWAY</b>	<b>313</b>	<b>353</b>	<b>88</b>	<b>6</b>	<b>81</b>	<b>8</b>	<b>6</b>	<b>1.058</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>1.7</b>	<b>0.1</b>	<b>1.4</b>
MSJ319-7 <sup>LBR</sup>	309	347	89	11	82	7	0	1.067	0	3	0	0	40	3.0	1.9	2.6
MSJ307-2 <sup>LBR</sup>	301	344	87	7	79	8	6	1.056	0	2	0	0	40	2.3	1.3	3.5
<b>SUPERIOR</b>	<b>275</b>	<b>292</b>	<b>94</b>	<b>4</b>	<b>90</b>	<b>5</b>	<b>2</b>	<b>1.060</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>0.3</b>	<b>0.0</b>	<b>1.0</b>
MSJ204-3	272	291	93	5	81	12	2	1.059	0	1	0	0	40	2.0	0.4	3.1
CHERRY RED	257	327	79	17	78	1	4	1.064	4	1	0	0	40	2.0	0.9	1.0
MSI032-6	239	279	86	13	85	0	1	1.071	0	1	0	0	40	2.7	0.9	2.8
MEAN	339	376						1.062								
LSD <sub>0.05</sub>	43	49						0.004								

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

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

<sup>4</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)

<sup>5</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002. *No lines in this trial were bruise susceptible in 2002.*

Planted May 2, 2002

Table 9A

PRELIMINARY TRIAL, CHIP-PROCESSING LINES  
MONTCALM RESEARCH FARM  
SEPTEMBER 23, 2002 (139 DAYS)

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL CUT	NURSERY SCAB <sup>4</sup>	TRIAL SCAB <sup>4</sup>	MAT <sup>5</sup>	BRUISE <sup>6</sup>	PEDIGREE	
	US#1	TOTAL	US#1	Bs	As	OV	PO			HH	VD	IBS	BC						FEMALE	MALE
MSJ316-A	485	501	97	3	81	16	0	1.073	1.5	4	0	1	0	20	1.0	0.5	4.0		Pike	B0718-3
MSK498-1Y	421	452	93	7	91	2	0	1.071	2.0	0	0	8	0	20	1.3	0.8	2.8		Saginaw Gold	Brodick
<b>ATLANTIC</b>	<b>314</b>	<b>345</b>	<b>91</b>	<b>7</b>	<b>80</b>	<b>11</b>	<b>2</b>	<b>1.074</b>	<b>1.0</b>	<b>12</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>20</b>	<b>2.7</b>	<b>2.0</b>	<b>3.0</b>			
MSK061-4	306	354	86	13	84	3	1	1.076	1.5	0	3	0	0	20	2.0	0.8	3.3		C148-A	ND2676-10
MSK188-AY	304	311	98	2	78	20	0	1.068	1.5	1	0	0	0	20	2.0	1.5	3.5	SUSC.	NY101	H142-2
MSK476-1	280	329	85	14	85	0	0	1.082	1.5	0	0	0	0	20	1.0	1.0	3.5		H361-1	H228-6
NY120	271	322	84	16	84	0	0	1.064	2.0	0	1	0	0	20	1.0	1.5	2.3			
MSK469-1	263	309	85	15	83	2	0	1.074	1.5	1	0	1	0	20	2.7	1.8	3.5		H216-1	H228-6
MSH015-2	256	285	90	7	87	3	3	1.076	1.5	2	0	2	0	20	1.0	0.8	1.8		Atlantic	OP
<b>SNOWDEN</b>	<b>254</b>	<b>302</b>	<b>84</b>	<b>16</b>	<b>82</b>	<b>2</b>	<b>0</b>	<b>1.072</b>	<b>1.0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>			
R3-105	237	253	94	5	80	14	1	1.085	1.0	7	0	0	0	20	3.7	2.0	2.8			
MSK409-1	228	265	86	13	84	2	1	1.074	1.5	1	0	0	0	20	2.0	1.5	2.5		C148-A	A091-1
MSG301-9	207	242	85	14	84	1	1	1.064	1.5	1	2	0	0	20	1.0	0.3	2.0		Spartan Pearl	S440
MSI061-B	186	214	87	11	83	4	2	-	1.5	0	0	0	1	20	1.5	1.8	1.8		Brodick	ND01496-1
MEAN	287	320						1.073												
LSD <sub>0.05</sub>	124	121																		

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field, 9/25/02); Ratings: 1-5; 1: Excellent, 5: Poor.<sup>4</sup>SCAB DISEASE RATING: MSU Scab Nursery; 0: No Infection; 1: Low Infection <5%; 3: Intermediate; 5: Highly Susceptible.<sup>5</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)<sup>6</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

Planted May 7, 2002

Table 9B

PRELIMINARY TRIAL, TABLESTOCK LINES  
 MONTCALM RESEARCH FARM  
 SEPTEMBER 18, 2002 (134 DAYS)

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	TUBER QUALITY <sup>2</sup>				TOTAL NURSERY TRIAL				PEDIGREE		
	US#1	TOTAL	US#1	Bs	As	OV	PO		HH	VD	IBS	BC	CUT	SCAB <sup>3</sup>	SCAB <sup>3</sup>	MAT <sup>4</sup>	BRUISE <sup>5</sup>	FEMALE	MALE
MSL766-1 <sup>LBR</sup>	517	544	95	3	38	58	2	1.069	10	0	0	0	20	3.5	2.3	3.8		B0718-3	A91846-5R
MSK106-B <sup>LBR</sup>	497	591	84	11	78	6	5	1.085	8	0	0	1	20	4.0	3.3	4.5	SUSC.	F128-C	G274-3
MSK125-3	448	486	92	7	80	12	1	1.070	1	0	3	0	20	2.7	1.0	3.5		G214-1	G274-3
MSK217-3P	437	459	95	3	50	45	2	1.065	1	0	0	0	20	1.0	0.3	3.3		Russian Blue	Picasso
SILVERTON RUS	435	470	93	7	65	28	0	1.063	0	0	0	0	20	0.0	0.0	3.3			
MSK214-1R	390	411	95	4	72	23	1	1.062	0	0	0	0	20	1.0	0.3	3.3		Prestile	Picasso
MSL757-1 <sup>LBR</sup>	383	450	85	13	63	22	2	1.077	2	0	0	0	20	3.0	0.3	3.8		AWN86514-2	A84180-8
MSK106-A <sup>LBR</sup>	352	406	87	12	72	15	1	1.082	6	0	4	0	20	3.0	3.0	4.5		F128-C	G274-3
MSK117-A	346	386	90	10	79	11	1	1.071	2	0	0	0	20	3.0	1.5	3.8		H142-2	OP
MSJ036-A	335	355	94	6	84	10	0	1.071	2	1	2	1	20	0.5	0.0	3.0		A7961-1	Zarevo
MSK004-2Y	309	342	90	7	90	1	3	1.064	0	0	0	0	20	1.5	0.0	3.3	SUSC.	A097-1Y	Picasso
MSG050-2	294	328	90	10	86	4	0	1.062	0	0	0	0	20	3.0	0.8	1.5		Eramosa	L235-4
MSK247-9Y	294	316	93	7	83	10	0	1.064	3	0	0	0	20	1.3	0.8	3.0		Yukon Gold	Picasso
<b>ONAWAY</b>	<b>285</b>	<b>320</b>	<b>89</b>	<b>7</b>	<b>80</b>	<b>9</b>	<b>3</b>	<b>1.056</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>1.7</b>	<b>0.0</b>	<b>1.3</b>			
MSH308-2Y	224	267	84	16	84	0	0	1.071	0	0	0	1	20	2.7	1.3	2.5		F077-7	OP
MSI092-3RY	149	220	68	31	67	1	1	1.064	3	0	0	0	20	4.7	1.5	2.0		D040-4RY	Chaleur
MSK004-AY	100	119	83	17	83	0	0	1.071	0	0	0	0	20	1.0	0.0	3.3		A097-1Y	Picasso
MSK101-2 <sup>LBR</sup>	83	99	83	17	83	0	0	1.066	0	0	0	0	20	3.0	0.5	2.0	SUSC.	F059-1	G274-3
MEAN	326	365						1.069											
LSD <sub>0.05</sub>	137	143						0.006											

<sup>LBR</sup> Line(s) demonstrated foliar resistance to Late Blight (*Phytophthora infestans*) in inoculated field trials in 2002 at the MSU Muck Soils Research Farm.

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

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

<sup>4</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)

<sup>5</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002.

Planted May 7, 2002

Table 10

FRITO LAY CHIP-PROCESSING TRIAL  
MONTCALM RESEARCH FARM  
OCTOBER 7, 2002 (143 DAYS)

LINE	CWT/A		PERCENT OF TOTAL <sup>1</sup>					SP GR	CHIP SCORE <sup>3</sup>	TUBER QUALITY <sup>2</sup>				TOTAL CUT	TRIAL SCAB <sup>4</sup>	MAT <sup>5</sup>	BRUISE <sup>6</sup>
	US#1	TOTAL	US#1	Bs	As	OV	PO			HH	VD	IBS	BC				
FL1867	323	354	91	8	87	4	1	1.071	1.0	3	0	0	0	40	2.4	1.5	
LIBERATOR	301	347	87	7	79	8	6	1.078	1.0	0	2	1	0	40	0.4	3.1	
<b>ATLANTIC</b>	<b>294</b>	<b>317</b>	<b>93</b>	<b>5</b>	<b>70</b>	<b>23</b>	<b>3</b>	<b>1.079</b>	<b>1.0</b>	<b>23</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>2.1</b>	<b>2.6</b>	
FL1879	278	288	97	3	75	21	1	1.066	1.5	10	3	0	0	40	2.5	2.1	
<b>SNOWDEN</b>	<b>265</b>	<b>285</b>	<b>93</b>	<b>7</b>	<b>84</b>	<b>9</b>	<b>0</b>	<b>1.073</b>	<b>1.5</b>	<b>7</b>	<b>14</b>	<b>0</b>	<b>1</b>	<b>40</b>	<b>2.4</b>	<b>2.8</b>	
FL1833	255	263	97	2	57	41	1	1.074	1.5	19	1	1	0	40	0.6	3.0	
MEAN	286	309						1.074									
	NS	59						0.004									

<sup>1</sup>SIZE: B: <2"; A: 2-3.25"; OV: >3.25"; PO: Pickouts.

<sup>2</sup>QUALITY: HH: Hollow Heart; BC: Brown Center; VD: Vascular Discoloration; IBS: Internal Brown Spot.

<sup>3</sup>CHIP SCORE: Snack Food Association Scale (Out of the field, 9/25/02); Ratings: 1-5; 1: Excellent, 5: Poor.

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

<sup>5</sup>MATURITY RATING: Taken August 21, 2002; Ratings 1-5; 1: Early (vines completely dead); 5: Late (vigorous vine, some flowering)

<sup>6</sup>BRUISE: These lines demonstrated blackspot bruise susceptibility in simulated bruise testing in 2002. *No lines in this trial were bruise susceptible in 2002.*

Planted May 17, 2002



Table 11

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICS2002 SCAB DISEASE TRIAL  
SCAB NURSERY, EAST LANSING, MI

Potato Line	Mean Rating* (0-5)	Worst Rating (0-5)	N <sup>†</sup>	Potato Line	Mean Rating (0-5)	Worst Rating (0-5)	N
<i>RESISTANT CATEGORY:</i>				<i>MODERATELY RESISTANT CATEGORY:</i>			
A8893-1	0.0	0	3	CAL RED	1.3	2	3
AC89536-5Rus	0.0	0	2	MSE149-5Y	1.3	2	3
AC92009-4Rus	0.0	0	3	MSE221-1	1.3	3	6
MSE202-3Rus	0.0	0	5	MSH228-6	1.3	2	3
<b>LIBERATOR</b>	<b>0.0</b>	<b>0</b>	<b>2</b>	MSK247-9Y	1.3	2	3
MN18710Rus	0.0	0	3	MSK498-1Y	1.3	2	3
SILVERTON RUS	0.0	0	3	MAZAMA	1.3	2	3
W1836-3	0.0	0	3	NY112	1.3	2	3
A9014-2Rus	0.3	1	3	W1201	1.3	3	6
MSE192-8Rus	0.3	0	3	W2033-8	1.3	2	3
<b>GOLDRUSH</b>	<b>0.3</b>	<b>1</b>	<b>3</b>	B0766-3	1.5	2	4
MSJ126-9	0.3	1	3	CO92077-2Rus	1.5	2	2
<b>SUPERIOR</b>	<b>0.3</b>	<b>1</b>	<b>3</b>	MSE048-2Y	1.5	2	2
MSG227-2	0.5	1	2	MSG004-3	1.5	2	2
MSJ036-A	0.5	1	2	MSI061-B	1.5	2	2
KEYSTONE RUS	0.5	1	2	MSK004-2Y	1.5	2	4
CO85026-4	0.7	2	3	W1782-5	1.5	2	2
ND3196-1R	0.7	1	3	ATX85404-8W	1.7	2	3
TC1675-1Rus	0.7	2	3	CO86218-2R	1.7	2	3
MSB106-7	1.0	2	3	MSE080-4	1.7	2	3
<b>DR NORLAND</b>	<b>1.0</b>	<b>2</b>	<b>3</b>	<b>ONAWAY</b>	<b>1.7</b>	<b>3</b>	<b>7</b>
MSG301-9	1.0	1	2				
MSH015-2	1.0	2	3				
MSH356-A	1.0	2	3				
MSJ033-10Y	1.0	1	3				
MSJ316-A	1.0	1	2				
MSK004-AY	1.0	1	1				
MSK214-1R	1.0	1	3				
MSK217-3P	1.0	2	2				
MSK476-1	1.0	2	2				
MN19525	1.0	1	3				
NDC5372-1Rus	1.0	2	3				
NY120	1.0	1	2				
<b>RUSSET BURBANK</b>	<b>1.0</b>	<b>1</b>	<b>2</b>				
<b>SAGINAW GOLD</b>	<b>1.0</b>	<b>1</b>	<b>3</b>				
<b>PIKE</b>	<b>1.1</b>	<b>2</b>	<b>9</b>				
<b>RUSSET NORKOTAH</b>	<b>1.2</b>	<b>3</b>	<b>6</b>				

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

<sup>†</sup>N = Number of plots evaluated.

Table 11 continued

2002 SCAB DISEASE TRIAL  
SCAB NURSERY, EAST LANSING, MI

Potato Line	Mean Rating (0-5)	Worst Rating (0-5)	N <sup>†</sup>	Potato Line	Mean Rating (0-5)	Worst Rating (0-5)	N	Potato Line	Mean Rating (0-5)	Worst Rating (0-5)	N
<i>SUSCEPTIBLE CATEGORY:</i>				<i>SUSCEPTIBLE CATEGORY:</i>				<i>SUSCEPTIBLE CATEGORY:</i>			
AF1775-2	2.0	2	2	MSF313-3	2.3	3	4	CO89097-2R	3.0	4	3
B1240-1	2.0	2	3	A90490-1	2.3	4	3	CV89023-2R	3.0	3	3
CHERRY RED	2.0	3	3	AC87340-2W	2.3	3	3	MSE030-4	3.0	4	2
MSH095-4	2.0	3	3	BC0894-2W	2.3	3	3	MSG050-2	3.0	4	3
MSH360-1	2.0	2	2	MSD040-4RY	2.3	4	3	MSH067-3	3.0	5	3
MSI005-20Y	2.0	2	1	MSG147-3P	2.3	3	3	MSJ319-7	3.0	3	3
MSI152-A	2.0	3	3	MSH031-5	2.3	3	3	MSK061-A	3.0	3	3
MSJ033-6Y	2.0	2	3	MSH041-1	2.3	3	3	MSK101-2	3.0	4	3
MSJ080-8	2.0	3	3	MSH094-8	2.3	3	3	MSK106-A	3.0	3	2
MSJ147-1	2.0	2	3	MSI077-4	2.3	3	3	MSK117-A	3.0	4	3
MSJ167-1	2.0	3	2	MSJ307-2	2.3	3	3	MSK128-1	3.0	4	3
MSJ170-4	2.0	3	3	MSK059-A	2.3	3	3	MSL757-1	3.0	4	3
MSJ204-3	2.0	2	2	W1386	2.3	4	3	ND2470-27	3.0	4	2
MSJ319-1	2.0	2	3	W2062-1	2.3	3	3	<b>RED PONTIAC</b>	<b>3.0</b>	<b>3</b>	<b>3</b>
MSJ456-4Y	2.0	3	2	MSF373-8	2.5	3	2	MSI083-5	3.3	4	3
MSJ457-2	2.0	3	2	MSI049-A	2.5	3	2	MSI582-A	3.3	4	3
MSJ458-2	2.0	3	3	MSJ080-1	2.5	3	2	NDC5181-2R	3.3	4	3
MSJ472-4P	2.0	3	2	MSJ317-1	2.5	3	2	NDTX4930-5W	3.3	4	6
MSK061-4	2.0	2	1	MSJ459-2Y	2.5	3	2	A90586-11	3.5	4	2
MSK188-AY	2.0	3	3	MSK033-C	2.5	3	2	A91790-13	3.5	4	6
MSK409-1	2.0	2	2	MSK223-5	2.5	3	2	MSL766-1	3.5	4	2
ND5084-3R	2.0	3	3	MSH063-2	2.7	4	3	V0497-1	3.5	4	2
NDTX4271-5R	2.0	2	2	MSH098-2	2.7	3	3	MSE018-1	3.6	4	5
NORVALLEY	2.0	2	3	MSH308-2Y	2.7	3	3	AF1424-7	3.7	4	3
<b>SNOWDEN</b>	<b>2.0</b>	<b>2</b>	<b>5</b>	MSI032-6	2.7	3	3	MSF099-3	3.7	4	3
V0498-9	2.0	3	3	MSJ197-1	2.7	3	3	MSI201-2PY	3.7	4	3
W1980-4	2.0	2	3	MSJ308-BY	2.7	3	3	MSK049-2	3.7	4	3
				MSJ453-4Y	2.7	3	3	MSR3-105	3.7	4	3
				MSJ456-2	2.7	3	3	MSH017-C	4.0	5	3
				MSJ461-1	2.7	3	3	MSI002-3	4.0	5	2
				JACQUELINE LEE	2.7	3	3	MSI077-5	4.0	4	3
				MSK031-A	2.7	3	3	MSK106-B	4.0	4	3
				MSK034-1	2.7	3	3	<b>YUKON GOLD</b>	<b>4.0</b>	<b>5</b>	<b>3</b>
				MSK068-2	2.7	3	3	TORRIDON	4.3	5	3
				MSK123-5	2.7	3	3	MSI092-3RY	4.7	5	3
				MSK244-6	2.7	4	3				
				MSK469-1	2.7	4	3				
				MICHIGAN PURPLE	2.7	3	3				
				ND5822C-7	2.7	4	3				
				NDTX4304-1R	2.7	3	3				
				W1355	2.7	3	3				
				W1773-7	2.7	3	3				
				<b>ATLANTIC</b>	<b>2.7</b>	<b>4</b>	<b>11</b>				
				W1431	2.8	4	6				

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

<sup>†</sup>N = Number of plots evaluated.

Table 12A

MICHIGAN STATE UNIVERSITY  
POTATO BREEDING and GENETICS2002 BLACKSPOT BRUISE SUSCEPTIBILITY TEST  
SIMULATED BRUISE SAMPLES\*

VARIETY	NUMBER OF SPOTS PER TUBER						TOTAL TUBERS	PERCENT (%)	
	0	1	2	3	4	5+		BRUISE FREE	AVERAGE SPOTS/TUBER
<b>ROUND WHITES: CHIP-PROCESSING LINES</b>									
MSF099-3	20	5					25	80	0.200
MSG227-2	18	7					25	72	0.280
MSH094-8	18	6	1				25	72	0.320
<b>PIKE</b>	<b>19</b>	<b>4</b>	<b>2</b>				<b>25</b>	<b>76</b>	<b>0.320</b>
LIBERATOR	15	8	2				25	60	0.480
MSI083-5	13	10	2				25	52	0.560
MSJ461-1	13	10	2				25	52	0.560
<b>SNOWDEN</b>	<b>16</b>	<b>4</b>	<b>4</b>	<b>1</b>			<b>25</b>	<b>64</b>	<b>0.600</b>
MSI002-3	12	10	3				25	48	0.640
MSE018-1	13	8	2	2			25	52	0.720
B0766-3	10	12	2	1			25	40	0.760
MSF373-8	13	5	5	1		1	25	52	0.920
W1201	10	5	5	5			25	40	1.200
<b>ATLANTIC</b>	<b>6</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>1</b>		<b>25</b>	<b>24</b>	<b>1.360</b>
MSH095-4	6	5	4	5	3	2	25	24	2.000
<b>ROUND WHITES: TABLESTOCK LINES</b>									
MSE080-4	22	3					25	88	0.120
MSH031-5	23	1		1			25	92	0.160
<b>ONAWAY</b>	<b>22</b>	<b>2</b>	<b>1</b>				<b>25</b>	<b>88</b>	<b>0.160</b>
MSF313-3	19	6					25	76	0.240
MSI152-A	19	6					25	76	0.240
MSG004-3	18	6	1				25	72	0.320
MSE221-1	8	9	7	1			25	32	1.040
JACQUELINE LEE	9	7	8	1			25	36	1.040

\* 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 on October 24, 2002. The table is presented in ascending order of average number of spots per tuber.

VARIETY	NUMBER OF SPOTS PER TUBER						TOTAL TUBERS	PERCENT (%)	
	0	1	2	3	4	5+		BRUISE FREE	AVERAGE SPOTS/TUBER
	<b>LONG WHITES and RUSSETS</b>								
CO85026-4	24	1					25	96	0.040
MSE192-8RUS	24	1					25	96	0.040
<b>RUSSET NORKOTAH</b>	<b>23</b>	<b>2</b>					<b>25</b>	<b>92</b>	<b>0.080</b>
MSE202-3RUS	22	3					25	88	0.120
KEYSTONE RUSSET	22	3					25	88	0.120
AC89536-5RUS	21	4					25	84	0.160
GOLDRUSH	21	4					25	84	0.160
A8893-1RUS	20	5					25	80	0.200
<b>RUSSET BURBANK</b>	<b>20</b>	<b>4</b>	<b>1</b>				<b>25</b>	<b>80</b>	<b>0.240</b>
AC92009-4R	18	6	1				25	72	0.320
CO92077-2RUS	17	6	1	1			25	68	0.440
TC1675-1RUS	13	9	2		1		25	52	0.680
NDC5372-1RUS	6	12	4	3			25	24	1.160
<b>NORTH CENTRAL REGIONAL TRIAL</b>									
V04981-1R	25						25	100	0.000
<b>RUSSET NORKOTAH</b>	<b>24</b>	<b>1</b>					<b>25</b>	<b>96</b>	<b>0.040</b>
D.R. NORLAND	22	3					25	88	0.120
MSE202-2Rus	21	4					25	84	0.160
MSF313-3	22	2	1				25	88	0.160
V0497-1	21	4					25	84	0.160
ND3196-1R	20	5					25	80	0.200
ND5084-3R	20	5					25	80	0.200
<b>RUSSET BURBANK</b>	<b>20</b>	<b>5</b>					<b>25</b>	<b>80</b>	<b>0.200</b>
<b>RED PONTIAC</b>	<b>21</b>	<b>3</b>	<b>1</b>				<b>25</b>	<b>84</b>	<b>0.200</b>
A9014-2Rus	20	4	1				25	80	0.240
CV89023-2R	20	4	1				25	80	0.240
MN19525R	19	6					25	76	0.240
MSE221-1	20	4	1				25	80	0.240
<b>ATLANTIC</b>	<b>18</b>	<b>7</b>					<b>25</b>	<b>72</b>	<b>0.280</b>
MN18710Rus	19	5	1				25	76	0.280
MN15620LR	17	8					25	68	0.320
MN18747Rus	18	5	1	1			25	72	0.400
W1836-3Rus	16	7	2				25	64	0.440
A90586-11Rus	16	6	3				25	64	0.480
B0766-3	16	6	3				25	64	0.480
W1201	15	7	3				25	60	0.520
ND2470-27	14	8	3				25	56	0.560
<b>SNOWDEN</b>	<b>12</b>	<b>9</b>	<b>4</b>				<b>25</b>	<b>48</b>	<b>0.680</b>
W1431	12	9	3	1			25	48	0.720
ND5822C-7	12	7	3	3			25	48	0.880
NORVALLEY	9	10	6				25	36	0.880
NY112	9	7	6	2	1		25	36	1.160
W1386	8	9	5	1		2	25	32	1.280
MSE018-1	6	8	4	3	2	2	25	24	1.720

VARIETY	NUMBER OF SPOTS PER TUBER						TOTAL TUBERS	PERCENT (%)	
	0	1	2	3	4	5+		BRUISE FREE	AVERAGE SPOTS/TUBER
<b>YELLOW FLESH and EUROPEAN TRIAL</b>									
MSJ472-4P	24	1					25	96	0.040
MSJ033-6Y	24		1				25	96	0.080
<b>YUKON GOLD</b>	<b>23</b>	<b>2</b>					<b>25</b>	<b>92</b>	<b>0.080</b>
MSI005-20Y	21	2		2			25	84	0.320
MSJ033-10Y	18	6	1				25	72	0.320
MSE149-5Y	15	9	1				25	60	0.440
MSJ459-2Y	15	6	3	1			25	60	0.600
<b>SAGINAW GOLD</b>	<b>13</b>	<b>8</b>	<b>3</b>	<b>1</b>			<b>25</b>	<b>52</b>	<b>0.680</b>
MSJ453-4Y	12	6	5	1	1		25	48	0.920
MSE048-2Y	5	15	4	1			25	20	1.040
TORRIDON	7	8	6	2	1	1	25	28	1.400
<b>ADAPTATION TRIAL, CHIP-PROCESSING LINES</b>									
AC87340-2W	25						25	100	0.000
A90490-1	24	1					25	96	0.040
MSH098-2	23	1	1				25	92	0.120
MSH228-6	23	1	1				25	92	0.120
MSJ170-4	22	3					25	88	0.120
W2033-8	22	3					25	88	0.120
BC0894-2W	21	4					25	84	0.160
DAKOTA PEARL	22	2	1				25	88	0.160
W1773-7	22	2	1				25	88	0.160
MSJ319-1	20	5					25	80	0.200
MSH067-3	19	6					25	76	0.240
MSJ080-1	19	5	1				25	76	0.280
MSJ080-8	18	6	1				25	72	0.320
MSJ197-1	17	7	1				25	68	0.360
<b>ATLANTIC</b>	<b>16</b>	<b>8</b>	<b>1</b>				<b>25</b>	<b>64</b>	<b>0.400</b>
MSJ126-9	18	4	2	1			25	72	0.440
W1980-4	15	9	1				25	60	0.440
MSJ147-1	13	8	4				25	52	0.640
<b>SNOWDEN</b>	<b>14</b>	<b>7</b>	<b>2</b>	<b>2</b>			<b>25</b>	<b>56</b>	<b>0.680</b>
W1782-5	13	8	3	1			25	52	0.680
MSH360-1	12	9	3	1			25	48	0.720
A97190-13	12	7	5	1			25	48	0.800
MSH112-6	16	2	3	3	1		25	64	0.840
MSH356-A	13	6	4		1	1	25	52	0.920
MSJ456-2	12	7	2	4			25	48	0.920
B1240-1	10	7	4	2	2		25	40	1.160
MSJ167-1	8	6	8	3			25	32	1.240
MSJ456-4	8	7	6	2	2		25	32	1.320
W2062-1	7	7	7	1	2	1	25	28	1.480

VARIETY	NUMBER OF SPOTS PER TUBER						TOTAL TUBERS	PERCENT (%)	
	0	1	2	3	4	5+		BRUISE FREE	AVERAGE SPOTS/TUBER
	<b>ADAPTATION TRIAL, TABLESTOCK LINES</b>								
CHERRY RED	25						25	100	0.000
MSI049-A	25						25	100	0.000
DURANGO RED	24	1					25	96	0.040
MSI032-6	24	1					25	96	0.040
NDC5281-2R	24	1					25	96	0.040
NDTX4271-5R	24	1					25	96	0.040
<b>ONAWAY</b>	<b>24</b>	<b>1</b>					<b>25</b>	<b>96</b>	<b>0.040</b>
<b>SUPERIOR</b>	<b>24</b>	<b>1</b>					<b>25</b>	<b>96</b>	<b>0.040</b>
MAZAMA	24		1				25	96	0.080
CO89097-2RED	22	3					25	88	0.120
MSJ319-7	22	3					25	88	0.120
MSJ307-2	21	4					25	84	0.160
MSJ317-1	21	4					25	84	0.160
NDTX4304-1R	20	5					25	80	0.200
CAL RED	19	6					25	76	0.240
MSJ204-3	19	6					25	76	0.240
NDTX4930-5W	20	4	1				25	80	0.240
ATX85404-8W	19	5	1				25	76	0.280
MSI077-4	15	7	2	1			25	60	0.560
<b>PRELIMINARY TRIAL, CHIP-PROCESSING LINES</b>									
MSI061-B	25						25	100	0.000
MSK061-4	22	3					25	88	0.120
MSG301-9	21	4					25	84	0.160
MSK409-1	20	5					25	80	0.200
MSK476-1	19	5		1			25	76	0.320
MSK498-1Y	21	3				1	25	84	0.320
MSNY120	19	5		1			25	76	0.320
<b>ATLANTIC</b>	<b>16</b>	<b>8</b>	<b>1</b>				<b>25</b>	<b>64</b>	<b>0.400</b>
MSR3-105	16	8	1				25	64	0.400
MSK469-1	17	6	1	1			25	68	0.440
<b>SNOWDEN</b>	<b>14</b>	<b>8</b>	<b>2</b>	<b>1</b>			<b>25</b>	<b>56</b>	<b>0.600</b>
MSJ316-A	11	12	2				25	44	0.640
MSK188-AY	11	9	3	2			25	44	0.840

VARIETY	NUMBER OF SPOTS PER TUBER						TOTAL TUBERS	PERCENT (%)	
	0	1	2	3	4	5+		BRUISE FREE	AVERAGE SPOTS/TUBER
<b>PRELIMINARY TRIAL, TABLESTOCK LINES</b>									
SILVERTON RUSSET	25						25	100	0.000
MSI092-3RY	24	1					25	96	0.040
<b>ONAWAY</b>	<b>24</b>	<b>1</b>					<b>25</b>	<b>96</b>	<b>0.040</b>
MSK125-3	23	1	1				25	92	0.120
MSG050-2	20	5					25	80	0.200
MSJ036-A	19	5	1				25	76	0.280
MSK004-AY	19	5	1				25	76	0.280
MSK117-A	20	3	2				25	80	0.280
MSK217-3P	18	7					25	72	0.280
MSK106-A	20	4			1		25	80	0.320
MSL757-1	17	8					25	68	0.320
MSH308-2Y	15	8	2				25	60	0.480
MSL766-1	19	1	3	2			25	76	0.520
MSK247-9Y	14	9	1	1			25	56	0.560
MSK101-2	15	4	4	2			25	60	0.720
MSK004-2Y	9	8	4	2	2		25	36	1.200
MSK106-B	6	8	10	1			25	24	1.240
<b>FRITO-LAY TRIAL</b>									
LIBERATOR	22	3					25	88	0.120
<b>SNOWDEN</b>	<b>21</b>	<b>4</b>					<b>25</b>	<b>84</b>	<b>0.160</b>
FL1879	19	4	1		1		25	76	0.400
FL1867	18	3	3	1			25	72	0.480
FL1833	15	8	2				25	60	0.480
<b>ATLANTIC</b>	<b>12</b>	<b>11</b>		<b>1</b>		<b>1</b>	<b>25</b>	<b>48</b>	<b>0.760</b>

Table 13

2002 LATE BLIGHT VARIETY TRIAL  
MUCK SOILS RESEARCH FARM

LINE	N	RAUDPC <sup>1</sup>		LINE	N	RAUDPC <sup>1</sup>
		MEAN	Table <sup>2</sup>			MEAN
<b><i>Foliar Resistance Category:</i></b>				<b><i>Foliar Susceptibility Category (select lines)<sup>3</sup> :</i></b>		
MSJ456-2	3	0.0		ZAREVO	3	7.3
MSJ461-1	3	0.0	Table 1,2	BANNOCK RUSSET	3	8.1
JACQUELINE LEE	3	0.0	Table 3,4	ALTURAS RUSSET	3	8.4
LBR8	3	0.0		MSK125-3	1	9.2
MSL766-1	3	0.0	Table 9B	GEM RUSSET	3	9.3
LBR9	3	0.0		LBR5	3	9.6
MSK106-A	6	0.0	Table 9B	MSI049-A	3	10.6
MSK101-2	2	0.1	Table 9B	IDA ROSE	3	10.8
MSJ457-2	3	0.1		LBR3	3	12.6
MSK106-B	6	0.1	Table 9B	CAL WHITE	3	12.8
B0767-2	3	0.1		MSJ036-A	3	13.7
B0692-4	3	0.2		LBR4	3	14.4
MSK128-A	3	0.3		LBR2	3	15.2
MSJ453-4Y	3	0.4	Table 7	KEYSTONE RUSSET	3	16.3
MSJ456-4	3	0.4	Table 8A	<b>RED PONTIAC</b>	<b>3</b>	<b>16.8</b>
B0718-3	3	0.7		MSJ316-AY	3	17.2
MSK128-1	3	0.8		<b>YUKON GOLD</b>	<b>6</b>	<b>17.4</b>
MSJ458-2	3	0.9		<b>SNOWDEN</b>	<b>3</b>	<b>18.4</b>
AWN86514-2	3	1.1		DURANGO RED	2	18.9
TORRIDON	3	1.1	Table 7	MAZAMA	3	19.3
MSL757-1	3	2.5	Table 9B	<b>RUSSET BURBANK</b>	<b>6</b>	<b>20.6</b>
MSJ307-2	6	2.7	Table 8B	<b>RUSSET NORKOTAH</b>	<b>3</b>	<b>22.5</b>
MSJ319-7	3	2.8	Table 8B	<b>ATLANTIC</b>	<b>6</b>	<b>22.8</b>
MSL211-3	3	2.8		<b>DR NORLAND</b>	<b>3</b>	<b>23.8</b>
MSJ317-1	3	2.9	Table 8B	<b>PIKE</b>	<b>3</b>	<b>24.2</b>
MSJ319-1	3	4.0	Table 8A	CAL RED	3	24.2
MSK027-C	3	4.0		<b>SUPERIOR</b>	<b>3</b>	<b>25.0</b>
A79543-4R	3	4.6		IVORY CRISP	3	25.1
MSK049-A	6	5.1	Table 8B	<b>ONAWAY</b>	<b>1</b>	<b>27.0</b>
MSK136-2	3	5.9		CHERRY RED	3	29.4
MSK034-1	3	6.1				
C085026-4	2	6.2				
A90586-11	3	6.3	Table 6			
LSD <sub>0.05</sub>		7.0				7.0

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

<sup>2</sup> Agronomic performance data of this line may be found on the referenced table.

<sup>3</sup> 160 potato varieties and advanced breeding lines were tested in all. For brevity purposes, only selected varieties and breeding lines are listed. Varieties and breeding lines with a mean RAUDPC value of 7.0 and less are considered resistant in 2002.

*Phytophthora infestans* isolate 95-7 was inoculated 26 July 2002.

Planted as a randomized complete block design consisting of 3 replications of 4 hill plots on 7 June 2002.



TABLE 14

2002 *FUSARIUM* DRY ROT TRIAL

LINE	Average Lesion Depth (mm)	Average Lesion Width (mm)	LINE	Average Lesion Depth (mm)	Average Lesion Width (mm)
W1836-3RUS	0.6	1.8	V0498-1R	6.4	10.5
MICHIGAN PURPLE	0.7	1.0	ND5084-3R	6.4	8.5
<b>RUSSET NORKOTAH</b>	<b>0.9</b>	<b>1.3</b>	MSE192-8RUS	6.4	9.3
W1386	1.3	6.3	B0766-3	6.4	20.7
MN15620LR	1.6	3.1	MSJ080-8	6.5	18.4
MSK106-A	1.9	8.6	MN18710 RUS	6.5	9.0
MSK409-1	1.9	5.9	NDTX4271-5R	6.6	15.8
SILVERTON RUSSET	2.2	4.6	NDTX4304-1R	6.7	15.4
BC0894-2W	2.4	3.9	<b>RUSSET BURBANK</b>	<b>6.7</b>	<b>16.0</b>
NY112	2.4	8.0	FL1867	6.9	15.1
MSI077-4	2.5	6.9	FL1833	6.9	16.7
CAL RED	2.5	4.3	MSG050-2	7.1	17.3
<b>GOLDRUSH</b>	<b>2.5</b>	<b>4.2</b>	LIBERATOR	7.1	19.9
MSJ147-1	2.6	7.4	MSH356-A	7.2	22.9
MSJ036-A	2.6	4.9	MSH094-8	7.3	24.2
CHERRY RED	2.7	4.2	MSK498-1Y	7.3	18.9
MSK217-3P	2.9	8.2	MSJ033-6Y	7.5	18.9
MSG004-3	3.2	9.3	CO85026-4	7.6	8.7
MSG301-9	3.2	12.5	NY120	7.7	17.3
NORVALLEY	3.3	5.6	TC1675-1RUS	7.7	11.7
A8893-1RUS	3.4	6.5	W1201	7.8	13.9
MSH067-3	3.4	11.9	V0497-1	7.8	13.5
CO92077-2RUS	3.6	3.8	MSJ204-3	8.1	24.7
W2062-1	3.9	11.2	MSJ197-1	8.4	19.3
MSJ170-4	3.9	11.3	FL1879	8.4	15.2
<b>SUPERIOR</b>	<b>4.0</b>	<b>3.3</b>	KEYSTONE RUSSET	8.6	16.9
<b>DR NORLAND</b>	<b>4.0</b>	<b>15.2</b>	MSK476-1	8.7	21.1
W1980-4	4.1	12.8	A90490-1	8.9	18.5
ND2470-27	4.1	7.6	W2033-8	9.0	8.8
ND3196-1R	4.2	5.7	CO89097-2R	9.3	17.4
DURANGO RED	4.3	6.0	MSF099-3	9.3	18.7
MSJ080-1	4.4	11.7	MN19525R	9.5	18.4
W1773-7	4.6	15.8	A9014-2RUS	9.6	12.1
MSE221-1	4.8	5.9	B1240-1	9.6	19.7
<b>RED PONTIAC</b>	<b>4.9</b>	<b>6.6</b>	MSG227-2	10.0	18.7
CV89023-2R	4.9	11.1	<b>ATLANTIC</b>	<b>10.5</b>	<b>20.5</b>
MSI005-20Y	4.9	8.2	MSH112-6	10.6	21.5
<b>SNOWDEN</b>	<b>5.0</b>	<b>15.8</b>	AC89536-5RUS	10.6	10.0
<b>ONAWAY</b>	<b>5.2</b>	<b>8.4</b>	MSJ033-10Y	10.8	22.6
MSE202-3RUS	5.3	6.7	A91790-13	10.9	18.3
W1201	5.5	15.7	MSH228-6	11.0	16.4
MSJ126-9Y	5.5	16.0	AC87340-2W	11.9	30.2
ATX85404-8W	5.6	8.7	MSK117-A	12.6	17.6
MSK061-4	5.7	19.7	MAZAMA	12.7	22.1
W1782-5	5.7	20.1	MSH095-4	12.8	21.2
MSK469-1	5.9	17.8	W1431	13.7	16.3
MSK214-1R	5.9	10.7	NDC5372-1RUS	13.8	16.0
MN18747RUS	6.0	7.9	<b>PIKE</b>	<b>14.4</b>	<b>23.8</b>
MSH015-2	6.2	10.2	NDC5821-2R	15.0	22.9
AC92009-4R	6.2	11.3	NDTX4930-5W	15.9	16.5
MSJ167-1	6.3	16.9	MSI002-3	15.9	21.0
LSD <sub>0.05</sub>	6.2	9.3		6.2	9.3

Innoculated on 11/27/02. Readings taken on 12/16/02.

**Table 15**

**2002 POTATO SEED INVENTORY**  
**MSU Potato Breeding Program Introductions**  
**Availability of Michigan Certified Seed**  
**A Cumulative Inventory**

LINE	MINI- TUBERS <sup>2</sup> (UNITS)	Y1 <sup>3</sup> (CWT)	Y2 <sup>3</sup> (CWT)	Y3 <sup>3</sup> (CWT)
LIBERATOR (MSA091-1)	9638	64	-	80
JACQUELINE LEE (MSG274-3)	-	2.5	16	-
MICHIGAN PURPLE	6855	16	75	-
MSE192-8RUS	-	18	72	-
MSE202-3RUS	-	2	60	-
MSF099-3	7520	31	-	40
MSG227-2	868	90	-	-
MSH031-5	6800	-	-	-
MSH067-3	5377	-	-	-
MSH095-4	2373	-	-	-
MSI152-A	456	-	-	-
MSJ319-1	2390	-	-	-
MSJ461-1	7401	16	-	-

Information listed above is a cumulative count from Golden Seed Farms, Iott Seed Farms Inc., Krueger Seed Farm, Marker Farms, and Sklarczyk Seed Farm.

Table courtesy of Chris Long.