



Potato Show & Tell
4 November 2009



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Description of Advanced Selections From Cornell Breeding Program
Based on Cornell trials in 2009 and prior years
Last updated: 2 November 2009

NY138 (Y18-16) = Marcy x NY115 (1998). Late maturity chipstock. Large tubers, attractive shape, moderately textured skin.

- Tompkins County marketable yields over the past seven years have averaged 92% of Atlantic (18 trials).
- Yields in Steuben and Wyoming County trials averaged 103% of Atlantic in 2004, 114% in 2005, 102% in 2006, 103% in 2007, 107% in 2008, and 90% of Atlantic in 2009.
- Wayne County (muck soil) yield was 120% of Atlantic in 2006, 81% in 2007, and 118% of Atlantic in 2009.
- Riverhead yields were 84% of Norwis in 2004. Yields were 90% of Reba in 2005, 98% in 2006, 79% in 2007, 107% in 2008, and 106% of Reba in 2009.
- Yields in PA were 111% of Atlantic (3 trials) in 2005, 82% in 2006 (3 trials), 100% in 2007 (3 trials), and 93% of Atlantic in 2008 (2 trials).

A few pickouts due to growth cracks and misshapes. Large tubers have shown 5-10% hollow heart in most trials. Tuber size is similar to Atlantic. Specific gravity has averaged 0.010 less than Atlantic (31 trials). The lower specific gravity will likely limit where NY138 can be grown for chipstock. Moderate resistance to common scab. Chip color out of 44F has been very good to date: visual chip scores over the past five years averaged 3.0 compared to 3.6 for Snowden (lower is better). Tubers sometimes darken slightly after boiling. Less susceptible to blackspot bruise than Snowden, presumably because of lower specific gravity. Relatively long tuber dormancy; six weeks longer than Atlantic. This may explain, at least in part, why NY138 vines can emerge rather slowly/erratically. Vines are nevertheless thriving by mid-July. Nice vine, many fruit. Resistant to race Ro1 of the golden nematode. We have submitted an application for PVP.

NY139 (Y28-9) = NY120 x NY115 (1998). Mid-late season chipstock.

- Marketable yields in Tompkins County over the past seven years have averaged 91% of Atlantic (17 trials).
- Yields in Steuben and Wyoming County trials averaged 96% of Atlantic in 2004, 99% in 2005, 102% in 2006, 104% in 2007, 93% in 2008, and 96% of Atlantic in 2009.
- Wayne County (muck soil) yield was 128% of Atlantic in 2006 and 104% in 2009.
- Riverhead, Long Island yield was 85% of Norwis in 2004. Yield was 106% of Reba in 2005, 88% in 2006, 79% in 2007, 109% in 2008, and 103% of Reba in 2009.
- In PA yield averaged 125% of Atlantic in 2004 (2 trials) 83% in 2006 (4 trials), 104% in 2007 (4 trials), and 90% of Atlantic in 2008 (2 trials).

A low frequency of pickouts due to misshapes and growth cracks. Some internal necrosis has also been observed; in some years, it is worse than Atlantic, in other years it is better than Atlantic. In Ithaca, but not yet elsewhere, we have often observed small areas of translucent tissue inside NY139 tubers, but this does not appear to affect chip color. The distribution of these translucent areas suggests it may be a precursor to internal necrosis. Specific gravity has been very good, averaging 0.003 less than Atlantic (28 trials). Chip color out of 44F has been excellent, averaging 2.7 over the past five years, compared to 3.6 for Snowden (lower is better). Moderate resistance to common scab. Tubers darken slightly after boiling. Tuber dormancy is one week longer than Atlantic. Very nice light green vines, magenta flowers with white tips, sets many fruit. Resistant to race Ro1 of the golden nematode. We have submitted an application for PVP.

NY140 (Y36-4) = NY121 x NY115 (1998). Late season, dual purpose chip and tablestock. High yields of large tubers, lightly textured skin. Partially resistant to race Ro2 of the golden nematode.

- Marketable yields in Tompkins County over the past seven years have averaged 116% of Atlantic (17 trials).
- Yields in Steuben and Wyoming County trials averaged 111% of Atlantic in 2006, 119% in 2007, 117% in 2008, and 119% in 2009.
- Yield in Wayne County was 129% of Atlantic in 2008 and 123% of Atlantic in 2009.
- Yields on Long Island were 108% of Norwis in 2004. Yields were 103% of Reba in 2005, 116% in 2006, 91% in 2007, 105% in 2008, and 128% of Reba in 2009.
- In PA yields averaged 106% of Atlantic in 2005 (3 trials), 124% in 2007 (4 trials), and 119% of Atlantic in 2008 (2 trials).

A low frequency of pickouts due to knobs, misshapes and growth cracks. Some internal defects, most commonly hollow heart and internal necrosis, have been observed. Tuber size is unmistakably large, averaging 6.5 ounces per tuber (16 trials). Even at 6 inch spacing, tuber size remains large (2009 trial). Specific gravity has averaged 0.011 less than Atlantic (21 trials). Chip quality has generally been very good: over the past five years it has averaged 3.7, comparable to Snowden, which averaged 3.6 in the same trials (lower is better). Susceptible to common scab, comparable to Katahdin. Tubers remain white after boiling, and do not slough significantly. Tuber dormancy is about five weeks longer than Atlantic. Nice vines, white flowers, no fruit. Exhibited moderate resistance to late blight as well as early blight in PA trials in 2007 and 2008. Resistant to race Ro1 and partially resistant to race **Ro2** of the golden nematode.

NY141 (Y41-67) = R6-4 x NY115 (1998). Mid season tablestock, attractive tubers.

- Marketable yields in Tompkins County over the past seven years have averaged 100% of Atlantic (18 trials).
- Yield in Wayne County was 107% of Atlantic in 2008 and 106% in 2009.
- Yields on Long Island were 82% of Norwis in 2004. Yields were 95% of Reba in 2005, 100% in 2006, 81% in 2007, 111% in 2008, and 110% of Reba in 2009.
- Yield in PA in 2005 was 107% of Atlantic in 2005 (1 trial), 92% in 2007 (4 trials), and 79% of Atlantic in 2008 (2 trials).

Typically 2 to 3% of tubers have knobs. A low frequency of internal defects, mostly brown center, have also been observed. Has set an average of 6.7 tubers per foot, with an average weight of 6.3 ounces (11 trials). Early yield, assessed at the end of July in Ithaca, has been good: 110% of Atlantic in 2009, 101% of Superior in 2006, and 122% of Superior in 2005. Specific gravity has averaged 0.011 less than Atlantic (18 trials). Does not chip. Moderate resistance to common scab. Tubers remain white after boiling, and do not slough significantly. Tuber dormancy is about two weeks longer than Atlantic. Nice vines, white flowers, few fruit. Resistant to race Ro1 of the golden nematode.

B13-1 = T15-3 x Redsen (2000). Early to mid-season red-skinned tablestock.

- In thirteen Tompkins County trials over the past five years, marketable yields averaged 106% of Chieftain.
- In Wayne County (muck soil) trials over the past four years, marketable yields averaged 68% of Chieftain.
- Yield on Long Island was 80% of Chieftain in 2006 and 77% of Chieftain in 2007.
- PA yields were 114% of Chieftain in 2005 (1 trial), 120% of Chieftain in 2006 (3 trials), 114% in 2007 (3 trials), and 125% of Chieftain in 2008 (3 trials).

Tuber shape has been better than Nordonna in our trials, although the size has been a little smaller. A low percentage of pickouts, typically misshapen tubers and growth cracks. Few internal defects. Specific gravity has averaged 0.009 less than Chieftain (14 trials). Moderate resistance to common scab. Tuber flesh sometimes exhibits slight darkening after boiling, but does not slough appreciably. Tuber dormancy is similar to Chieftain. Resistant to race Ro1 of the golden nematode.

NY143 (B38-40) = NY130 x NY115 (2000). Mid-late season tablestock, nice tuber shape.

- In fourteen Tompkins County trials over the past five years, marketable yields averaged 95% of Atlantic.
- In Wayne County (muck soil) trials over the past four years, marketable yields averaged 107% of Atlantic.
- Yield on Long Island was 89% of Reba in 2006, 100% in 2008, and 92% of Reba in 2009.
- PA yields were 93% of Atlantic in 2005 (1 trial), and averaged 90% of Atlantic in 2006 (2 trials).

Overall tuber appearance is very good (oblong, shallow eyes, smooth tuber skin), although tubers are smaller than conventional white tablestock. About 2 to 3% of tubers typically have growth cracks. Few internal defects have been observed. Specific gravity is low, averaging 0.018 less than Atlantic (16 trials). Does not chip. Moderate resistance to common scab. Tuber flesh exhibits little to slight darkening after boiling, and does not slough appreciably. Tuber dormancy is similar to Atlantic. White flowers. Resistant to race Ro1 of the golden nematode.

NY144 (D32-4) = W2-127 x Nordonna (2002). Mid-season, bright red tablestock, small tubers.

- In five Tompkins County trials over the past three years, marketable yields (>1.875 inches) averaged 70% of Chieftain. NY144 also produces many smaller tubers; in our Harford yield trial in 2009, we observed 90 cwt per acre of tubers between 1 and 1.875 inches.
- In a Wayne County (muck soil) trial in 2008, marketable yield was 44% of Chieftain.
- Yield in PA was 84% of Chieftain in 2007 (1 trial) and 100% of Chieftain in 2008 (1 trial).

Bright red, relatively smooth tuber skin. A low percentage of pickouts, typically misshapen tubers and growth cracks. Few internal defects. Specific gravity has averaged 0.004 less than Chieftain (5 trials). Moderately resistant to common scab. Tuber flesh remains white or darkens slightly after boiling, and does not slough appreciably. Tuber dormancy is about three weeks less than Chieftain. Resistant to race Ro1 of the golden nematode.

D40-35 = NY121 x NY115 (2002). Mid-late season chipstock.

- In six Tompkins County trials over the past three years, marketable yields averaged 94% of Atlantic.
- In trials in Wyoming and Steuben Counties, yield averaged 96% of Atlantic in 2008 and 83% of Atlantic in 2009.
- Yield in PA was 108% of Atlantic in 2007 (1 trial) and 70% of Atlantic in 2008 (1 trial).

A low frequency of pickouts and hollow heart have been observed. Tuber size is small, averaging 3.7 ounces per tuber (6 trials). Specific gravity has averaged 0.004 less than Atlantic (9 trials). In 2008, chip color averaged 1.3, better than Snowden at 2.5 in the same trials. In 2007, chip color averaged 2.3, better than Snowden at 3.7. Moderately resistant to common scab. Tubers remain white or darken slightly after boiling, and can slough considerably. Tuber dormancy is four to five weeks longer than Atlantic. White flowers. Some sensitivity to Sencor. Resistant to race Ro1 of the golden nematode. May be partially resistant to race Ro2.

D40-50 = NY121 x NY115 (2002). Mid-late season tablestock. Round, uniform tubers.

- In seven Tompkins County trials over the past three years, marketable yields averaged 95% of Atlantic.
- In trials in Wyoming and Steuben Counties in 2009, yield averaged 105% of Atlantic.
- In Wayne County (muck soil) trials, yield was 107% of Atlantic in 2008 and 114% of Atlantic in 2009.
- Yield on Long Island was 102% of Reba in 2009.
- Yield in PA was 108% of Atlantic in 2007 (1 trial).

Few pickouts or internal defects have been observed. Tuber weight has averaged 4.5 ounces (6 trials). Specific gravity is low and has averaged 0.015 less than Atlantic (10 trials). Does not chip. Moderately resistant to common scab. Tubers remain white or darken slightly after boiling, and do not slough appreciably. Tuber dormancy has averaged seven weeks longer than Atlantic. Pale purple flowers. Resistant to race Ro1 of the golden nematode. May be resistant to race Ro2.

D40-263 = NY121 x NY115 (2002). Mid-season tablestock.

- In seven Tompkins County trials over the past three years, marketable yields averaged 95% of Atlantic.
- In Wayne County (muck soil) trials, yield was 104% of Atlantic in 2008 and 104% of Atlantic in 2009.
- Yield on Long Island was 106% of Reba in 2009.
- Yield in PA was 108% of Atlantic in 2007 (1 trial).

A low frequency of pickouts, mostly growth cracks, and a low frequency of internal defects, mostly internal necrosis, have been observed. Specific gravity is relatively low and has averaged 0.021 less than Atlantic (8 trials). Does not chip. Moderately resistant to common scab. Tubers darken slightly after boiling, and do not slough appreciably. Tuber dormancy is two to three weeks longer than Atlantic. Pale purple flowers. Resistant to race Ro1 of the golden nematode.

D40-266 = NY121 x NY115 (2002). Early-season, bright skinned, small-sized tablestock.

- In six Tompkins County trials over the past three years, marketable yields (greater than 1.875 inches in diameter) averaged 75% of Atlantic.
- In a Wayne County (muck soil) trial, marketable yield was 51% of Atlantic in 2008 and 74% in 2009.
- Yield on Long Island was 86% of Reba in 2009.

Overall tuber appearance is exceptional (oblong, shallow eyes, bright white tuber skin), although tubers are considerably smaller than conventional white tablestock. Few pickouts. A low frequency of internal necrosis has been observed. Specific gravity has averaged 0.008 less than Atlantic (8 trials). In 2008 chip color averaged 2.0, compared to Snowden at 2.5. Susceptible to common scab. Tuber flesh remains white or darkens only slightly after boiling, and does not slough appreciably. Tuber dormancy is three to four weeks longer than Atlantic. Many white flowers. Some sensitivity to Sencor. Resistant to race Ro1 of the golden nematode.

E106-4 = NY128 x Marcy (2003). Late season, high gravity, scab-resistant chipstock.

- In four Tompkins County trials over the past two years, marketable yields averaged 108% of Atlantic.
- In trials in Wyoming and Steuben Counties in 2009, yield averaged 112% of Atlantic.

Few pickouts or internal defects have been observed. Tuber size is just a little smaller than Snowden, averaging 5.1 ounces per tuber (3 trials). Scurfy tuber skin. Specific gravity is high and has averaged only 0.001 less than Atlantic (7 trials). In 2008, chip color from December, January and February averaged 3.5, not as good as Snowden at 2.3 in the same trials. Has exhibited good resistance to common scab to date. Tubers darken slightly after boiling, and do not slough appreciably. Tuber dormancy is comparable to Atlantic. Many white flowers. Resistant to race Ro1 of the golden nematode.

2009 Summary of Yield Trials
 Marketable yield larger than 1 7/8" (including green tubers).
 Performance given as % of check variety.

	Ellis Hollow			Harford	Freeville					County			
	Advanced Trial	Intermed Trial	Red Trial	Adv. and Intermed.	CU Trial	Early Trial	Med Trial	Med-late Trial	Late Trial	Red Trial	Steuben Arkport	Wyoming Gainesville	Wayne Savannah
Atlantic	100	100		100	100	100	100	100	100		100	100	100
Snowden	97	94		90	104		101	90	116		89	106	
Superior					79	89							
Reba	99	83		92			92						
NY138	95			88					80		84	96	118
NY139	87			80				82			100	92	104
NY140	128			110					84		116	122	123
NY141	100			100		87	86						106
NY143	100			83				95					115
D40-35	88			74			90				81	86	73
D40-50	92			75			78				107	103	114
D40-263	103			94			86						104
D40-266	73			67		80					79	83	74
D40-323	98			102			108						102
D40-330	81			81			93						93
E18-7	75				82								
E39-3	78				105								63
E43-10	90				114								81
E48-2	69					89					85	79	87
E50-8	70				93								134
E50-9	74				89								71
E61-6	84				80								
E105-16	108				111								147
E106-4	94				113						109	115	129
E107-1	86				107								131
E110-4	80				80								
E110-11	95				67								
E114-5	79				80								110
E115-10	82					71							
E115-11	89				82								
Chieftain			100	100							100		100
Nordonna			74								92		90
DR Norland											77		61
NY129 (RED)			101	91							110		94
NY144 (RED)			65	57									
B13-1 (RED)			92	82							114		26

2009 Summary of Specific Gravities
 Entries show differences (in units of 0.001) from Atlantic or Snowden

	Ellis Hollow		Harford	Freeville					County	
	Advanced Trial	Intermed. Trial	Adv. and Intermed.	CU Adv Trial	Early Trial	Med Trial	Med-late Trial	Late Trial	Steuben Arkport	Wyoming Hermitage
Atlantic	1.084		1.081	1.091	1.097	1.092	1.092	1.091	1.092	1.090
Snowden	+1		+8	0		-2	-4	+1	+5	0
Reba	-14		-13			-16				
NY138	-11		-10					-13	-16	-12
NY139	-5		0				-3		-6	-1
NY140	-11		-9					-12	-17	-11
NY141	-12		-8		-17	-12				
NY143	-17		-18				-21			
D40-35	0		-2			-7			-8	-3
D40-50	-11		-10			-20			-17	-17
D40-263	-18		-18			-24				
D40-266	-4		-5		-8				-16	-8
D40-323	-11		-10			-14				
D40-330	-8		-7			-11				
E18-7		0	-5	-5						
E39-3		-21	-21	-27						
E43-10		-20	-21	-22						
E48-2		-5			-9				-15	-10
E50-8		-1	-4	-3						
E50-9		-3	-7	-5						
E61-6		-7	-10	-8						
E105-16		-18	-20	-19						
E106-4		-1	-1	-1					+1	-1
E107-1		-10	+4	-13						
E110-4		-4	-5	-5						
E110-11		-9	-13	-8						
E114-5		-7	-8	-10						
E115-10		-12	-16		-19					
E115-11		-16	-15	-21						

Results from Cornell Breeding Program Trials

Walter De Jong and Robert Plaisted

2009 Advanced Stage Yield Trial, Ellis Hollow

Plots 2 rows x 20', hills spaced at 8.2" (unless indicated otherwise)

4 Replicates

Planted April 27, harvested September 9. Vines burned down on August 24.

	cwt/acre		%	pickout		% internal defects			appear. score	specific gravity
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC		
Atlantic	606	532	88	6	gc	8	10	8	3.5	1.084
Reba	600	549	92	2	mis	5	0	25	3.2	1.070
Snowden	585	483	83	1	mis	3	0	5	3.0	1.085
Andover	417	315	75	15	gc	3	0	5	3.7	1.076
Andover giant hill #2	661	575	87	2	gc	0	3	0	3.6	1.078
NY138	578	501	87	8	gc	0	3	0	3.7	1.073
NY139	527	470	89	2	gc	0	53*	0	3.7	1.079
NY140	773	687	89	2	k	0	8	0	3.4	1.073
NY140 (6") (Uihlein sd)	690	618	90	6	mis	0	0	3	3.3	1.071
NY140 (6") (breeder sd)	718	634	88	8	gc	0	0	0	3.3	1.074
NY141 (Uihlein seed)	609	541	89	16	k	0	0	5	3.7	1.072
NY141 (breeder's seed)	542	486	90	12	k	0	0	5	3.4	1.075
NY143	606	501	83	22	gc	0	0	0	3.7	1.067
D40-35	534	363	68	0	-	0	0	0	3.4	1.084
D40-50	555	462	83	3	gc	0	0	0	3.7	1.073
D40-263	626	541	86	4	gc	0	5	3	3.6	1.066
D40-266	444	321	72	0	-	0	10	0	4.1	1.080
D40-323	595	489	82	6	gc	3	10	0	3.5	1.073
D40-330	490	376	77	0	-	5	10	0	3.7	1.076

*NY139 tubers exhibited translucence in areas where internal necrosis would typically be found in varieties prone to IN. No IN was observed.

2009 Intermediate Stage Yield Trial, Ellis Hollow

Plots 2 rows x 20', hills spaced at 8.2".

Three replicates, unless indicated otherwise following clone name

Planted April 27, harvested September 9. Vines burned down August 24.

	cwt/acre		%	pickout		% internal defects			appear. score	specific gravity
	>1 7/8"	>2 1/2"		>2 1/2"	cwt/A	type	HHT	IN		
Atlantic (4)	637	547	86	11	gc	3	15	10	3.5	1.082
Reba	527	467	89	4	gc	3	3	23	3.2	1.065
Snowden (4)	598	467	78	2	mis	8	0	0	3.0	1.082
E18-7	476	431	90	2	gc	0	0	3	3.3	1.082
E39-3	498	399	80	2	mis	0	0	0	3.5	1.061
E43-10	571	372	65	0	-	0	0	0	3.7	1.062
E48-2	439	330	75	9	gc	0	0	0	3.4	1.077
E50-8	444	379	85	5	gc	13	3	13	3.3	1.081
E50-9	472	344	73	4	gc	0	0	0	3.8	1.079
E61-6	537	455	85	1	gc	0	0	0	3.4	1.075
E105-16	689	583	85	6	gc	3	3	0	3.5	1.064
E106-4	596	443	74	0	-	0	13	0	3.2	1.081
E107-1	547	381	70	2	k	0	0	0	3.3	1.072
E110-4	509	379	75	2	gc	0	0	0	3.6	1.078
E110-11	603	516	86	7	mis	0	0	0	3.4	1.073
E114-5	501	417	83	2	k	0	10	0	3.8	1.075
E115-10	525	440	84	12	gc	0	7	7	3.7	1.070
E115-11	569	502	88	33	gc	0	3	0	3.3	1.066

2009 First Stage Yield Trial, Ellis Hollow

Plots 2 rows x 15', hills spaced at 8.2"

3 Replicates (unless indicated otherwise in parentheses)

Planted April 28, harvested September 10. Vines burned down on August 24.

	cwt/acre		%	pickout		% internal defects			appear. score	specific gravity
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC		
Atlantic	637	552	87	16	gc	0	33	7	3.3	1.085
Reba	561	507	90	8	gc	10	0	17	3.1	1.070
Snowden	583	456	78	0	-	0	0	0	3.0	1.086
F10-6	550	447	81	4	gc	0	3	0	3.1	1.074
F11-1	558	399	72	1	k	0	3	0	3.7	1.077
Yukon Gold	479	435	91	26	gc, mis	17	7	0	3.3	1.078
F16-1	414	290	70	2	gc	0	0	0	3.5	1.081
F16-4	487	357	73	6	gc	3	7	30	3.4	1.081
F17-4	393	287	73	3	mis	0	3	3	3.4	1.087
F17-7	500	376	75	3	k	0	0	7	3.7	1.085
F19-7	533	429	80	2	gc	0	0	0	3.4	1.063
F19-8	555	389	70	13	gc	20	0	0	3.7	1.067
F22-9	471	350	74	4	gc, mis	10	13	0	3.5	1.073
F25-7	563	258	46	1	gc	0	0	0	3.7	1.067
F28-3	521	398	76	1	gc	3	7	0	3.4	1.083
F29-1	547	404	74	5	k	0	0	0	3.6	1.078
F31-3	589	460	78	11	gc	0	7	7	3.6	1.073
F38-7	632	532	84	6	k	3	0	3	3.1	1.076
F39-1	527	429	81	0	-	0	0	0	3.5	1.072
F43-1	540	443	82	20	gc	3	50	0	3.4	1.074
F43-2	454	368	81	16	mis	7	3	13	2.9	1.082
F44-2	540	313	58	25	gc	0	40	0	3.6	1.075
F47-3	488	332	68	1	mis	0	0	0	3.2	1.083
F47-4	416	348	84	1	k	30	7	3	3.3	1.079
F47-5	553	409	74	2	mis	0	3	0	3.3	1.078
F48-4	533	391	73	2	mis	0	10	0	3.6	1.078
F49-2	607	420	69	7	k	17	3	13	3.4	1.079
F52-1	319*	71	22	2	k	0	0	0	3.5	1.079
F55-1	644	563	87	8	gc	0	0	0	3.2	1.065
F57-3	541	431	80	5	gc	3	0	7	3.6	1.075
F57-4	419	214	51	2	gc	0	0	0	3.6	1.081

*An additional 158 cwt/acre were less than 1.875 inches in diameter; F52-1 produces many small tubers

2009 Advanced and Intermediate Stage Yield Trials, Harford

Plots 2 rows x 15', hills spaced at 8.2". 3 Replicates (unless indicated in parentheses)

Planted April 29, vine killer applied August 12, harvested September 8.

This trial site is not irrigated.

	cwt/A		%	pickout		% internal defects			appear. score	specific gravity
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC		
Atlantic	538	424	79	7	gc	10	0	13	3.4	1.081
Reba	495	419	85	4	gc	10	0	17	3.4	1.068
Snowden	482	308	64	2	gc	0	3	10	3.0	1.089
Andover (1)	461	336	73	5	gc	0	0	0	3.7	1.074
Andover GH2 (1)	470	371	79	0	-	0	10	0	3.6	1.073
NY138	473	393	83	0	-	3	0	0	3.7	1.071
NY139	433	331	76	5	gc	0	80	0	3.6	1.081
NY140 (6" spacing)	594	498	84	7	gc	10	0	0	3.6	1.072
NY141	536	466	87	16	k	7	3	13	3.8	1.073
NY143	448	362	81	22	gc	0	10	3	3.7	1.063
D40-35	399	247	62	0	-	0	0	0	3.5	1.079
D40-50	401	254	63	1	k	0	0	0	3.6	1.071
D40-263	508	393	77	2	gc	0	17	0	3.5	1.063
D40-266	359	206	57	1	gc	0	7	0	4.6	1.076
D40-323	551	414	75	3	gc	0	0	0	3.4	1.071
D40-330	434	256	59	2	gc	7	7	0	3.4	1.074
E18-7 (1)	402	339	84	2	gc	0	0	0	3.7	1.076
E39-3 (1)	503	390	77	0	-	0	20	0	3.7	1.060
E43-10 (1)	534	272	51	1	gc	0	40	0	4.0	1.060
E50-8 (1)	343	248	72	0	-	0	10	0	3.3	1.077
E50-9 (1)	529	381	72	1	mis	0	20	0	4.2	1.074
E61-6 (1)	394	332	84	0	-	0	0	0	3.5	1.071
E105-16 (1)	547	449	82	21	gc	10	0	0	3.5	1.061
E106-4 (1)	455	284	62	0	-	0	0	0	3.3	1.080
E107-1 (1)	465	278	60	1	gc	20	10	20	3.3	1.085
E110-4 (1)	432	282	65	7	gc	0	0	0	3.3	1.076
E110-11 (1)	406	333	82	3	gc	0	0	0		1.068
E114-5 (1)	465	372	80	4	gc	0	0	0	4.5	1.073
E115-10 (1)	370	301	81	16	gc	0	10	0	3.7	1.065
E115-11 (1)	488	424	87	16	gc	0	30	0	3.5	1.066

The following are red-skinned clones

Chieftain	532	431	81	37	gc	0	0	40	3.7	1.067
NY129	485	329	68	3	gc	7	0	43	3.7	1.061
NY144	305**	96	31	5	k	0	0	0	3.5	1.061
B13-1	435	216	50	4	gc	0	0	0	3.8	1.060

** NY144 also produced an additional 90 cwt/acre of tubers less than 1.875 inches in diameter.

2009 Red Trial, Ellis Hollow

Plots 2 rows x 15', hills spaced at 8.2"

3 replicates

Planted April 28, harvested September 10. Vine killer applied August 24.

	cwt/acre		%	pickout		% internal defects			appear. score	specific gravity
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC		
Chieftain	672	582	87	7	gc	0	3	30	3.5	1.066
Nordonna	497	359	72	7	gc, mis	3	0	10	3.2	1.066
NY129	678	590	87	7	gc	13	0	7	3.5	1.065
NY142 (2)	314	153	49	15	sprouts	10	0	5	3.5	1.080
NY144	440	171	39	7	mis	0	0	0	3.5	1.063
B13-1	618	440	71	4	gc	0	0	0	3.6	1.060
F7-1 (2)	501	421	84	72	gc,sprouts	0	5	10		1.060
F36-3	418	293	70	19	gc	0	0	0	3.4	1.070

2009 Early Harvest Trial, Ellis Hollow

Plots 2 rows x 15', hills spaced at 8.2"

Planted April 28, harvested July 27. No vine killer applied.

3 Replicates (unless indicated otherwise in parentheses)

	cwt/A			%	pickout		% internal defects			appear.
	<1 7/8"	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score
Atlantic	18	303	192	63	4	gc	0	3	0	3.3
NY138	21	221	121	55	2	gc	0	0	0	3.6
NY139	13	219	136	62	1	gc	0	3	0	3.5
NY140	14	314	225	72	1	gc	3	0	0	3.0
NY141	13	334	252	75	5	k	0	0	0	3.6
Eramosa	11	304	237	78	7	gc, k	3	0	0	3.6

2008 Crop Season Chip Color Scores - University Trials

44F Storage

Average of Two Sites (Harford and Ellis Hollow)

	VISUAL SCORES			
	DEC	JAN	FEB	Average 3 MONTHS
SNOWDEN	2.5	2.0	2.5	2.3
NY138	2.0	1.5	2.5	2.0
NY139	1.0	1.5	2.5	1.7
NY140	2.5	3.0	2.5	2.7

VISUAL CHIP SCALE: 1 - 10

1 = best

4 = marginal

5 and over = not acceptable

Samples were reconditioned for 6-7 days before chipping.

Average Chip Color over Five Years - University Trials

Out of 44F storage: 2004, 2005, 2006, 2007 and 2008 crop seasons.

Reconditioned 1 week at room temperature

	VISUAL SCORES			
	(4 YEARS, 2 LOCATIONS*)			
	DEC	JAN	FEB	AVG
SNOWDEN	3.7	3.2	3.9	3.6
NY138	3.0	2.6	3.3	3.0
NY139	2.5	2.7	3.0	2.7
NY140	3.9	3.7	3.6	3.7

VISUAL CHIP SCALE: 1 - 10

1 = best

4 = marginal

5 and over = not acceptable

* Locations are Ellis Hollow and Harford (both in Tompkins County).

Chip Color Scores after Processing at Terrell's Chip Plant

Average chip color over past six years
Chipped from 44F storage in late January or early February
Tubers from Ellis Hollow and Harford Trials

	VISUAL SCORE (lower is better)						
	2008	2007	2006	2005	2004	2003	AVERAGE
SNOWDEN	2.0	3.5	2.5	2.0	2.0	3.5	2.6
REBA			5.0	2.0*	4.5		3.8
NY138	3.0	3.0	3.0	2.0	1.0		2.4
NY139	2.5	2.0	2.5	1.5	2.5	2.0*	2.2
NY140	2.0	3.5	5.0	2.5			3.3

* one location only

Cornell clones are identified by a hole in each tuber, dropped into the Terrell's line flow just before the slicer. Chips with holes are collected at the end of the fryer for evaluation.

Special thanks to Jack Terrell of Terrell's Chips, Syracuse, NY for making his facility available for this testing.

In 2008, potatoes were reconditioned for two weeks days at room temperature before chipping

Tuber Dormancy Relative to Atlantic

Replicate 10 tuber samples from each clone were stored in the dark at room temperature.
The number of weeks that each clone sprouted earlier (-) or later (+) than Atlantic is shown.
Atlantic typically breaks dormancy in late October to mid November

Dormancy is considered broken when half or more of the sample has 1/4" long sprouts.

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Round whites:											
ANDOVER		4	4	3		1	4	1	2	4	3
ATLANTIC	0	0	0	0	0	0	0	0	0	0	0
EVA						9	8	7	7	9	7
KATAHDIN	1								1	2	1
KING HARRY		0	0		-1	-2	0	-1	0	-1	
LEHIGH	3	3	3	3	1	2	3	1	2	2	
MARCY		4	4	3	2	2	2	2	2	4	2
MONONA								-1	1	3	1
PIKE	4	5			2	4	3	2	2	5	2
REBA	4	6	7	5	3	4	3	2	3	5	3
SALEM								3	2		2
SNOWDEN	1	4	2	0	0	0	1	1	1	2	0
SUPERIOR	2					-1	1			1	0
NY125			0	-1	-1	-1	-1	-1	-1	-2	-3
NY138	6	8	7	5	6						
NY139	1	2	3	-1	1						
NY140	5	6	6	5	5						
NY141	2	3	3	1	2						
NY143	0	2	0	0							
D40-35	4	4									
D40-50	10	4									
D40-263	3	2									
D40-266	3	4									
E106-4	0										
Reds and purples:											
CHIEFTAIN	1	0	2	2	1	1	1	2	1	0	0
NORLAND DR	-3	-3		-2	-2	-2	-1	3			
NORDONNA	0	0	1	1	0						
NY97		2					1	0	1	-1	1
NY118							3	3	3	5	2
NY129	3	4	4	1	4	3	2	2	3	3	
NY136		4	4	5	4	3	2				
NY144	-3										
B13-1	2										
AD. BLUE		2	2	1	-1		2	0	1	-1	-1
AD. RED		2	1	5			3	2	1	-1	

Results from Freeville Research Farm *and* Upstate County Farm Trials

Don Halseth

Upstate New York Table 2. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the early maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4 "	#/ft.	wt.(oz.)	
AMBRA	437	322	74	2	18	39	22	20	79	61	5.6	8.2	67
ANDOVER	407	356	82	1	16	56	18	8	91	75	5.6	7.6	86
ATLANTIC	537	496	114	2	24	58	14	3	96	72	8.8	6.4	97
B2501-10	401	329	76	3	22	44	22	9	88	66	6.4	6.6	67
CARRERA	523	402	93	2	19	47	23	9	89	70	7.4	7.4	63
D40-266	424	399	92	2	31	57	8	2	96	64	7.5	5.9	89
E48-2	484	441	101	3	34	56	7	0	97	63	9.3	5.4	88
E115-10	450	338	78	2	18	46	22	12	86	68	6.4	7.4	78
KING HARRY (NY131)	501	453	104	2	19	59	16	3	95	75	7.9	6.6	86
NY141	523	433	99	2	12	49	27	10	88	76	6.8	8.0	80
SUPERIOR	498	435	100	3	21	52	22	3	95	74	7.4	7.1	82
YUKON GOLD	447	310	71	1	10	43	27	19	80	70	5.2	8.9	86
Average:	469	393	90	2	20	50	19	8	90	70	7.0	7.1	80
Maximum:	537	496	114	3	34	59	27	20	97	76	9.3	8.9	97
Minimum:	401	310	71	1	10	39	7	0	79	61	5.2	5.4	63
Waller-Duncan LSD (k=100)	xx	xx									xx	xx	xx
C.V. (%)	(xx)	(xx)									(xx)	(xx)	(xx)

¹Tuber size classes:

1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.

Plant Date: May 4

Maturity Ratings: Aug xx

Vinekill (Mow) Date: Aug 17

Harvest Date: Aug 18

Upstate New York Table 3. Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the early maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Plant ¹ Mat. At Vinekill	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
		Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
AMBRA	8.3	5	8	6.3	5.6	2.7	0.2	1.1	1.6	0.0	0.0	0.0	0.0	1.0
ANDOVER	8.0	3	6	6.8	3.2	0.9	0.4	1.4	0.5	2.5	0.0	0.0	2.5	1.5
ATLANTIC	7.8	1	6	5.0	3.1	1.6	0.5	0.8	0.2	0.0	0.0	2.5	5.0	0.5
B2501-10	6.5	1	6	6.3	5.8	2.2	0.2	2.9	0.5	0.0	0.0	0.0	0.0	1.0
CARRERA	8.0	5	6	6.3	12.3	8.0	0.5	1.8	1.9	0.0	0.0	0.0	10.0	1.5
D40-266	7.3	4	9	6.5	1.5	0.6	0.3	0.6	0.0	0.0	0.0	0.0	0.0	1.9
E48-2	6.8	3	6	4.3	6.0	1.7	0.6	3.6	0.1	0.0	0.0	0.0	0.0	1.0
E115-10	8.0	1	9	7.8	10.3	5.4	0.2	4.0	0.6	0.0	0.0	0.0	0.0	1.0
KING HARRY (NY131)	7.5	1	6	4.0	4.5	1.4	1.3	1.4	0.4	0.0	0.0	0.0	0.0	1.6
NY141	7.8	5	8	5.6	5.6	1.0	3.3	1.3	0.0	0.0	0.0	0.0	0.0	1.5
SUPERIOR	6.5	2	6	4.4	7.6	3.6	1.4	1.5	1.1	0.0	7.5	0.0	0.0	0.5
YUKON GOLD	7.5	4	8	5.0	10.4	1.6	2.3	4.6	1.9	5.0	0.0	0.0	0.0	2.0
Average:	7	3	7	6	6.3	2.6	1.0	2.1	0.7	0.6	0.6	0.2	1.5	1.3
Maximum:	8	5	9	8	12.3	8.0	3.3	4.6	1.9	5.0	7.5	2.5	10.0	2.0
Minimum:	7	1	6	4	1.5	0.6	0.2	0.6	0.0	0.0	0.0	0.0	0.0	0.5

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 4. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the medium maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4"	#/ft.	wt.(oz.)	
ATLANTIC (CU-PB)	523	447	109	3	24	59	12	3	95	70	8.6	6.4	92
ATLANTIC (NE1031)	516	411	100	3	23	53	16	5	92	69	8.2	6.6	92
BEACON CHIPPER	462	333	81	2	12	54	17	15	83	71	5.9	8.1	79
CAROLA	479	396	96	5	39	45	9	2	93	54	9.4	5.3	74
D40-35	466	398	97	8	49	39	3	0	92	42	12.0	4.1	85
D40-50	395	342	83	4	30	53	10	3	94	64	7.2	5.8	72
D40-263	493	387	94	4	23	55	9	9	87	64	8.4	6.1	68
D40-323	581	458	112	5	30	51	8	6	90	60	11.6	5.3	78
D40-330	453	411	100	5	34	56	6	0	95	61	9.3	5.1	81
EVA	425	366	89	3	24	65	8	0	97	73	7.3	6.1	75
LEHIGH (NY126)	523	398	97	2	13	56	19	10	88	75	6.8	8.0	84
NY115	398	306	74	2	16	50	17	15	82	67	5.5	7.5	77
NY141	496	382	93	1	11	54	23	9	89	78	6.2	8.3	80
REBA	486	405	99	2	18	55	20	5	93	75	7.2	7.1	76
SALEM	545	432	105	3	24	52	13	8	89	65	8.7	6.5	66
SNOWDEN	517	441	107	4	29	58	7	2	94	65	10.0	5.4	90
W2309-7	335	274	67	7	40	47	5	1	92	52	8.2	4.3	89
YUKON GOLD	428	291	71	2	11	52	17	18	81	69	5.5	8.3	83
Average:	473	382	93	4	25	53	12	6	90	65	8.1	6.3	80
Maximum:	581	458	112	8	49	65	23	18	97	78	12.0	8.3	92
Minimum:	335	274	67	1	11	39	3	0	81	42	5.5	4.1	66
Waller-Duncan LSD (k=100)	xx	xx									xx	xx	xx
C.V. (%)	(xx)	(xx)									(xx)	(xx)	(xx)

¹Tuber size classes: 1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.

Plant Date: May 4

Maturity Ratings: Aug 10

Vinekill Date: Aug 12

Harvest Date: Aug 24

Upstate New York Table 5. Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the medium maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Plant ¹ Mat. At Vinekill	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
		Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
ATLANTIC (CU-PB)	7.5	1	6	4.5	9.1	2.6	1.0	3.6	2.0	5.0	2.5	0.0	2.5	2.0
ATLANTIC (NE1031)	7.5	1	6	5.0	12.3	4.7	0.8	5.0	1.7	2.5	0.0	5.0	2.5	2.0
BEACON CHIPPER	8.0	2	6	4.5	10.6	3.4	2.3	3.5	1.4	0.0	2.5	7.5	0.0	2.1
CAROLA	6.8	5	8	5.1	10.8	4.2	2.8	3.5	0.4	0.0	5.0	15.0	5.0	2.1
D40-35	6.8	3	8	6.0	6.3	3.9	1.0	0.9	0.5	0.0	0.0	0.0	0.0	2.4
D40-50	7.8	2	8	6.4	7.3	4.0	1.0	1.6	0.7	0.0	0.0	15.0	0.0	1.0
D40-263	6.5	3	8	6.1	8.9	1.6	2.6	2.0	2.7	0.0	0.0	7.5	0.0	1.0
D40-323	6.5	2	8	6.0	11.1	8.6	0.8	1.0	0.7	0.0	0.0	0.0	0.0	2.0
D40-330	7.0	2	8	5.4	4.3	3.3	0.3	0.3	0.5	0.0	0.0	2.5	10.0	2.0
EVA	6.3	4	9	6.0	11.3	7.5	1.6	1.3	0.9	0.0	0.0	17.5	0.0	1.5
LEHIGH (NY126)	7.8	3	6	4.8	12.2	4.3	1.8	5.8	0.3	0.0	0.0	0.0	0.0	2.0
NY115	7.5	2	9	6.9	5.3	2.8	0.8	0.2	1.5	0.0	0.0	25.0	2.5	1.6
NY141	6.3	3	8	5.9	12.1	3.3	4.9	1.0	2.9	0.0	0.0	5.0	0.0	1.9
REBA	7.3	2	8	5.8	9.6	4.3	1.4	2.1	1.7	0.0	7.5	10.0	5.0	1.0
SALEM	8.3	3	8	6.0	9.6	4.4	0.9	1.9	2.4	0.0	0.0	10.0	0.0	2.3
SNOWDEN	7.5	1	6	4.0	9.0	5.0	1.7	2.0	0.2	0.0	0.0	22.5	0.0	2.1
W2309-7	6.8	2	8	2.8	10.7	1.3	2.9	4.8	1.7	0.0	2.5	10.0	5.0	2.1
YUKON GOLD	6.3	3	8	5.1	12.7	2.6	3.2	4.6	2.2	7.5	0.0	5.0	5.0	1.9
Average:	7	2	7	5	9.6	4.0	1.8	2.5	1.4	0.8	1.1	8.8	2.1	1.8
Maximum:	8	5	9	7	12.7	8.6	4.9	5.8	2.9	7.5	7.5	25.0	10.0	2.4
Minimum:	6	1	6	3	4.3	1.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	1.0

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 6. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the medium-late maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4"	#/ft.	wt.(oz.)	
ATLANTIC (CU-PB)	504	439	101	3	20	63	13	1	96	76	8.6	6.1	92
ATLANTIC (NE1031)	509	433	100	2	21	62	14	1	96	75	8.3	6.4	91
AF2291-10	437	322	74	2	19	53	15	10	87	68	6.5	7.1	88
B1992-106	438	357	82	3	20	53	15	9	88	68	6.8	6.8	83
B2492-7	397	257	59	3	18	49	18	12	85	67	5.8	7.1	63
B38-40	527	398	92	2	16	54	24	4	94	77	7.5	7.3	71
DAKOTA DIAMOND	432	335	77	6	40	49	4	1	93	53	9.6	4.7	87
KENNEBEC	495	308	71	1	13	46	25	15	84	71	6.2	8.4	77
KEUKA GOLD	875	405	94	2	13	51	13	21	77	64	8.4	10.4	76
MEGACHIP	382	271	63	4	18	58	15	5	91	73	6.0	6.6	89
NY139 (CU-PB)	413	348	80	2	25	59	12	2	95	70	7.0	6.2	89
NY139 (NE1031)	426	366	85	3	27	60	7	4	94	67	7.4	6.0	86
SNOWDEN	447	382	88	4	33	56	7	0	95	63	8.5	5.4	88
W2438-3Y	390	319	74	3	23	59	8	6	91	68	6.6	6.2	81
W2978-3	412	321	74	3	29	54	12	1	96	66	7.7	5.6	80
W2982-1	471	415	96	5	31	58	7	0	95	64	9.4	5.2	79
W3186-2	377	317	73	4	33	51	9	3	93	60	7.3	5.4	88
W5015-12	425	367	85	8	54	38	1	0	92	39	11.4	3.9	89
Average:	464	353	82	3	25	54	12	5	91	66	7.7	6.4	83
Maximum:	875	439	101	8	54	63	25	21	96	77	11.4	10.4	92
Minimum:	377	257	59	1	13	38	1	0	77	39	5.8	3.9	63
Waller-Duncan LSD (k=100)	xx	xx									xx	xx	xx
C.V. (%)	(xx)	(xx)									(xx)	(xx)	(xx)

¹Tuber size classes: 1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.

Plant Date: May 5

Maturity Ratings: Aug 10

Vinekill Date: Aug 12

Harvest Date: Aug 25

Upstate New York Table 7 Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the medium-late maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Plant ¹ Mat. At Vinekill	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
		Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
ATLANTIC (CU-PB)	7.0	2	6	6.1	9.1	2.4	1.6	3.1	2.0	0.0	0.0	0.0	0.0	0.9
ATLANTIC (NE1031)	7.0	2	6	5.8	11.5	3.5	1.0	3.7	3.3	2.5	0.0	7.5	0.0	0.9
AF2291-10	7.5	2	8	4.8	13.1	2.7	5.4	0.8	4.2	0.0	2.5	2.5	0.0	1.1
B1992-106	7.5	3	6	5.6	6.7	2.0	0.5	2.0	2.2	2.5	0.0	0.0	2.5	1.8
B2492-7	6.8	1	8	6.8	20.3	5.4	0.9	11.1	2.9	7.5	0.0	0.0	0.0	1.9
B38-40	7.3	2	8	7.4	18.4	7.7	1.3	8.6	0.8	0.0	0.0	5.0	0.0	0.9
DAKOTA DIAMOND	7.3	2	8	4.5	15.2	1.4	4.5	6.8	2.5	5.0	10.0	7.5	7.5	2.0
KENNEBEC	7.3	6	9	4.5	22.1	7.1	1.9	11.1	2.1	2.5	0.0	12.5	0.0	1.4
KEUKA GOLD	7.8	2	6	5.8	8.2	2.9	0.8	0.7	3.8	0.0	17.5	7.5	7.5	1.5
MEGACHIP	8.0	2	8	4.1	20.1	11.2	3.3	2.5	3.2	0.0	0.0	20.0	2.5	2.0
NY139 (CU-PB)	6.8	1	8	6.0	11.0	6.2	1.3	1.6	2.0	0.0	0.0	15.0	17.5	1.6
NY139 (NE1031)	7.0	1	8	6.0	8.2	4.0	1.6	1.6	0.9	0.0	0.0	20.0	0.0	1.4
SNOWDEN	7.5	1	6	4.4	10.0	6.0	1.8	1.8	0.5	0.0	0.0	27.5	0.0	1.8
W2438-3Y	7.3	3	6	5.0	9.3	3.9	1.2	4.2	0.0	2.5	5.0	5.0	0.0	1.8
W2978-3	6.0	1	9	6.6	17.9	4.1	1.9	10.6	1.3	0.0	0.0	20.0	2.5	2.0
W2982-1	6.5	3	6	4.3	7.1	1.7	1.7	2.0	1.6	0.0	0.0	7.5	0.0	1.8
W3186-2	7.5	1	6	4.4	8.5	6.2	0.8	0.7	0.8	0.0	0.0	0.0	0.0	1.9
W5015-12	8.3	1	3	4.5	6.0	2.8	0.1	1.3	1.8	7.5	0.0	5.0	0.0	1.0
Average:	7	2	7	5	12.4	4.5	1.7	4.1	2.0	1.7	1.9	9.0	2.2	1.5
Maximum:	8	6	9	7	22.1	11.2	5.4	11.1	4.2	7.5	17.5	27.5	17.5	2.0
Minimum:	6	1	3	4	6.0	1.4	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.9

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 8. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the late maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4 "	#/ft.	wt.(oz.)	
ALLEGANY	584	391	97	1	14	41	28	15	83	69	7.5	8.1	85
ATLANTIC (CU-PB)	592	446	110	2	20	58	16	3	94	74	9.6	6.4	91
ATLANTIC (NE1031)	567	404	100	2	17	51	22	8	90	73	8.0	7.4	91
AF2497-2	431	261	65	1	11	35	29	24	75	64	4.8	9.4	84
AF2574-1	608	329	82	1	10	38	27	25	74	64	6.7	9.5	84
B2452-3	499	220	55	3	13	31	30	24	74	60	6.1	8.5	76
GENESEE	442	370	92	2	22	59	13	4	93	72	6.8	6.8	71
HARLEY BLACKWELL	474	416	103	5	29	55	10	1	94	66	8.7	5.7	82
KATAHDIN	547	358	89	2	14	49	26	9	89	75	7.3	7.8	73
MARCY	543	435	108	3	17	53	21	6	91	74	7.6	7.4	84
NY138 (CU-PB)	470	355	88	3	18	51	22	6	91	73	6.9	7.1	78
NY138 (NE1031)	524	394	97	2	21	50	20	6	91	70	8.0	6.9	77
NY140	586	357	88	2	13	42	26	18	81	68	6.5	9.7	79
SNOWDEN	598	521	129	3	30	57	8	2	95	65	10.7	5.8	92
ZOLUSHKA	590	472	117	5	34	44	14	3	92	58	11.1	5.6	85
Average:	537	382	95	2	19	48	21	10	87	68	7.8	7.5	82
Maximum:	608	521	129	5	34	59	30	25	95	75	11.1	9.7	92
Minimum:	431	220	55	1	10	31	8	1	74	58	4.8	5.6	71
Waller-Duncan LSD (k=100)	xx	xx									xx	xx	xx
C.V. (%)	(xx)	(xx)									(xx)	(xx)	(xx)

¹Tuber size classes:

1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.

Plant Date: May 5

Maturity Ratings: Aug 31

Vinekill Date: Sep 2

Harvest Date: Sep 14

Upstate New York Table 9. Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the late maturity trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Plant ¹ Mat. At Vinekill	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
		Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
ALLEGANY	6.0	3	8	6.0	16.2	7.1	1.9	3.4	3.8	0.0	0.0	2.5	0.0	0.0
ATLANTIC (CU-PB)	4.8	1	6	5.4	19.1	4.6	1.1	2.1	11.3	0.0	0.0	2.5	5.0	0.0
ATLANTIC (NE1031)	4.8	1	6	5.3	19.0	3.8	1.4	4.4	9.5	0.0	2.5	0.0	0.0	0.0
AF2497-2	8.0	3	8	4.3	14.2	4.0	1.0	2.3	6.9	0.0	0.0	2.5	0.0	1.0
AF2574-1	5.8	2	6	4.0	19.8	3.2	5.1	5.5	6.0	0.0	2.5	2.5	0.0	1.8
B2452-3	5.0	1	6	5.8	29.6	15.5	0.1	2.0	12.0	0.0	2.5	2.5	0.0	2.0
GENESEE	6.3	4	6	6.3	9.5	6.4	0.3	0.8	2.0	0.0	2.5	7.5	0.0	0.8
HARLEY BLACKWELL	2.8	1	6	5.0	6.6	2.8	0.6	0.4	2.7	0.0	0.0	5.0	0.0	1.0
KATAHDIN	4.5	5	8	4.8	23.3	12.4	1.6	1.9	7.4	10.0	2.5	5.0	10.0	1.9
MARCY	6.8	1	6	5.6	11.3	6.6	1.1	0.4	3.3	7.5	0.0	0.0	0.0	1.0
NY138 (CU-PB)	5.8	1	8	6.4	15.1	5.0	0.3	8.4	1.4	2.5	0.0	5.0	0.0	1.0
NY138 (NE1031)	5.3	1	8	6.1	16.3	5.8	0.8	7.2	2.4	0.0	0.0	0.0	0.0	1.3
NY140	5.8	4	8	5.0	20.0	9.3	1.7	1.5	7.5	7.5	0.0	2.5	2.5	1.4
SNOWDEN	5.0	1	6	4.0	8.0	4.1	1.7	1.0	1.3	0.0	0.0	2.5	0.0	1.3
ZOLUSHKA	7.0	3	8	3.8	11.6	2.7	3.0	0.8	5.0	5.0	0.0	2.5	5.0	1.6
Average:	6	2	7	5	16.0	6.2	1.5	2.8	5.5	2.2	0.8	2.8	1.5	1.1
Maximum:	8	5	8	6	29.6	15.5	5.1	8.4	12.0	10.0	2.5	7.5	10.0	2.0
Minimum:	3	1	6	4	6.6	2.7	0.1	0.4	1.3	0.0	0.0	0.0	0.0	0.0

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 10. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the red-skinned variety trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4"	#/ft.	wt.(oz.)	
ADIRONDACK BLUE	433	344	82	3	36	48	10	3	94	58	7.9	5.8	75
ADIRONDACK RED	581	471	112	3	38	49	5	5	92	55	10.7	5.7	71
AC97521-1R/Y	613	465	111	8	38	44	9	1	91	53	13.4	4.8	84
ATTX98500-2P/Y	537	422	101	6	30	51	9	4	91	60	10.1	5.6	73
B13-1	653	558	133	4	30	49	12	6	91	61	11.2	6.1	63
B2152-17	527	467	111	5	37	52	5	1	94	57	11.1	4.9	73
B2538-5	471	312	74	1	16	48	18	16	82	66	5.9	8.3	71
B2676-2	521	461	110	4	38	50	7	2	95	57	9.7	5.6	85
BCO01306-2	481	433	103	5	27	58	9	1	94	67	9.0	5.6	77
BCO01357-4	509	375	89	3	25	54	18	0	97	72	8.2	6.4	78
BNC193-1	499	451	107	3	34	57	6	0	97	63	9.5	5.5	76
BTX2332-1R	503	373	89	3	22	52	14	8	89	67	7.9	6.6	70
CHIEFTAIN (NE-1031)	588	420	100	2	19	46	18	14	84	64	8.2	7.5	71
CHIEFTAIN (PRYPUT)	644	485	116	2	13	58	18	8	90	76	8.7	7.7	77
CO97232-2R/Y	532	420	100	3	24	50	13	9	88	64	8.5	6.6	67
CO98012-5R	495	425	101	8	42	46	5	0	92	51	11.3	4.6	81
COTX94216-1R	527	430	102	8	33	47	8	5	88	55	10.9	5.0	71
COTX94218-1R	458	362	86	10	53	32	5	1	89	37	12.0	4.0	79
DAKOTA JEWEL	438	373	89	3	27	57	12	1	95	69	7.6	6.0	78
DAKU PURPLE	518	270	64	1	9	40	29	20	79	70	5.5	9.8	74
DR NORLAND (NE-1031)	486	391	93	2	16	54	24	4	94	77	6.9	7.4	73
DR NORLAND (CHILD)	480	376	90	2	26	50	19	2	95	69	7.6	6.6	68
MSL228-1SPL	512	378	90	1	14	57	18	9	90	76	6.8	7.8	88
MSQ425-4Y	432	385	92	4	39	50	4	2	94	55	8.9	5.1	78
NDA7985-1R	508	344	82	7	25	41	21	6	87	62	9.4	5.7	63
NDTX7599-3R	408	220	52	2	26	49	13	9	89	62	6.2	7.0	68
NORDONNA	528	447	106	4	22	54	15	6	91	69	8.8	6.3	72
NY129	677	534	127	3	15	52	19	11	86	71	9.5	7.4	70
PETER WILCOX	433	397	95	3	43	52	1	0	97	54	8.8	5.1	75
RED LASODA	599	446	106	2	13	54	21	10	88	75	8.1	7.7	72
SUPER RED NORLAND	493	239	57	2	12	41	22	22	76	63	6.3	8.1	62
W5767-1R	527	432	103	2	21	61	11	5	92	71	8.5	6.5	80
AF4127-3 *	564	480	114	2	16	47	29	7	91	76	7.8	7.5	77
AOTX93483-1R *	530	439	105	2	22	54	16	6	92	69	7.9	7.0	69
ATTX00289-5R/Y *	552	388	92	2	22	47	15	13	84	62	7.8	7.4	67
ATTX98453-6R *	476	407	97	4	29	61	6	0	96	67	8.8	5.7	74
ATTX98500-3PW/Y *	495	339	81	4	20	43	19	14	82	62	7.9	6.5	76
ATX98448-6R/Y *	450	352	84	2	20	49	18	11	87	67	6.8	6.9	60
CO97222-1R/R *	481	385	92	10	47	38	3	1	89	41	11.5	4.3	71
CO97227-2P/PW *	434	270	64	33	60	6	0	0	67	6	16.2	2.8	85
Average:	515	399	95	4	28	49	13	6	89	62	8.9	6.3	73
Maximum:	677	558	133	33	60	61	29	22	97	77	16.2	9.8	88
Minimum:	408	220	52	1	9	6	0	0	67	6	5.5	2.8	60

¹Tuber size classes:
Plant Date: May 8

1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.
Maturity Ratings: Aug 18

Vinekill Date: Aug 26

Harvest Date: Sep 8

Upstate New York Table 11. Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the red-skinned variety trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Plant ¹ Mat. At Vinekill	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
		Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
ADIRONDACK BLUE	3.5	5	7	5.0	15.2	0.4	13.3	0.5	1.0	0.0	0.0	0.0	0.0	1.0
ADIRONDACK RED	2.5	5	8	6.3	11.1	1.8	3.1	3.5	2.7	0.0	0.0	0.0	0.0	0.0
AC97521-1R/Y	5.0	5	6	4.8	15.3	1.9	4.2	9.0	0.2	5.0	10.0	0.0	0.0	2.0
ATTX98500-2P/Y	8.0	1	8	6.3	11.9	0.3	8.6	2.5	0.6	0.0	0.0	0.0	0.0	1.3
B13-1	5.0	5	8	6.5	5.1	0.0	1.1	2.4	1.7	0.0	0.0	0.0	0.0	1.8
B2152-17	2.5	1	6	6.0	5.1	1.2	0.7	0.3	2.9	0.0	0.0	0.0	0.0	0.0
B2538-5	4.5	5	8	6.3	16.1	0.6	3.3	10.6	1.6	0.0	0.0	0.0	5.0	1.5
B2676-2	4.5	4	7	6.0	6.3	0.3	2.9	0.6	2.5	0.0	0.0	0.0	0.0	0.0
BCO01306-2	5.0	1	5	5.8	3.8	1.0	1.8	0.8	0.2	0.0	0.0	0.0	0.0	0.5
BCO01357-4	4.5	5	8	5.8	23.4	9.0	5.7	5.8	3.0	0.0	20.0	0.0	0.0	1.0
BNC193-1	3.5	3	8	6.3	6.7	0.7	2.8	1.9	1.3	0.0	0.0	0.0	0.0	0.8
BTX2332-1R	4.0	2	8	6.0	14.6	1.2	5.4	4.5	3.4	0.0	0.0	0.0	0.0	2.0
CHIEFTAIN (NE-1031)	5.0	1	8	6.3	12.5	2.4	3.9	2.6	3.5	0.0	0.0	0.0	20.0	1.5
CHIEFTAIN (PRYPUT)	4.0	1	8	6.0	14.3	0.6	2.8	6.6	4.3	0.0	15.0	0.0	25.0	1.8
CO97232-2R/Y	4.0	4	5	5.5	9.3	0.7	0.9	3.8	3.9	0.0	0.0	0.0	10.0	2.0
CO98012-5R	4.5	3	8	6.8	6.4	1.2	1.9	3.2	0.1	0.0	0.0	0.0	0.0	1.3
COTX94216-1R	5.0	3	6	6.3	6.0	0.6	3.6	1.8	0.0	0.0	0.0	0.0	0.0	2.0
COTX94218-1R	7.5	1	8	6.5	10.2	0.7	2.9	6.0	0.6	0.0	0.0	0.0	5.0	2.0
DAKOTA JEWEL	3.0	1	8	7.3	10.0	0.2	2.3	4.2	3.3	5.0	10.0	0.0	0.0	1.0
DAKU PURPLE	4.5	5	8	6.0	26.2	0.4	10.3	15.5	0.0	0.0	0.0	0.0	0.0	2.0
DARK RED NORLAND (NE-1031)	2.5	3	6	5.5	13.2	0.2	4.4	7.3	1.2	0.0	0.0	0.0	0.0	2.0
DARK RED NORLAND (CHILD)	2.5	3	8	6.0	16.4	0.5	6.3	8.1	1.7	0.0	0.0	0.0	0.0	2.0
MSL228-1SPL	5.5	1	8	7.0	15.7	0.4	1.7	8.3	5.3	0.0	0.0	0.0	0.0	0.0
MSQ425-4Y	3.0	1	8	7.0	5.0	0.4	0.6	0.4	3.6	0.0	5.0	0.0	0.0	0.0
NDA7985-1R	5.0	3	8	6.5	19.1	1.6	7.6	4.7	5.2	5.0	0.0	5.0	10.0	2.0
NDTX7599-3R	4.0	5	8	6.5	35.3	0.2	1.6	30.9	2.6	0.0	0.0	5.0	5.0	1.0
NORDONNA	5.0	3	6	5.0	6.1	0.8	2.0	2.8	0.5	0.0	0.0	0.0	0.0	2.5
NY129	7.0	1	6	7.0	7.0	0.7	3.2	0.1	3.0	0.0	0.0	0.0	0.0	1.5
PETER WILCOX	4.0	5	8	6.0	5.2	0.5	0.4	2.0	2.3	0.0	0.0	0.0	0.0	2.0
RED LASODA	4.0	2	8	4.5	13.7	1.3	7.1	5.0	0.4	5.0	5.0	0.0	0.0	2.0
SUPER RED NORLAND	3.0	3	8	4.5	27.0	0.8	5.6	12.9	7.8	0.0	10.0	0.0	0.0	1.0
W5767-1R	5.5	1	6	6.8	10.5	0.8	6.5	2.2	0.8	0.0	0.0	0.0	0.0	1.3
AF4127-3 *	5.0	3	8	4.5	6.2	1.4	2.8	2.0	0.0	0.0	0.0	0.0	0.0	2.5
AOTX93483-1R *	7.0	3	6	5.5	9.0	1.3	5.7	1.1	0.9	0.0	0.0	0.0	0.0	2.0
ATTX00289-5R/Y *	3.0	5	8	6.0	13.9	1.3	6.6	5.1	0.9	0.0	0.0	0.0	10.0	0.0
ATTX98453-6R *	4.0	1	8	6.5	10.6	3.0	0.0	7.0	0.5	0.0	0.0	0.0	0.0	2.0
ATTX98500-3PW/Y *	6.0	5	8	6.5	13.7	5.0	8.3	0.4	0.0	0.0	0.0	0.0	0.0	1.0
ATX98448-6R/Y *	6.0	5	6	5.5	9.3	0.6	0.0	7.5	1.2	0.0	0.0	0.0	0.0	1.5
CO97222-1R/R *	5.0	3	6	5.0	8.5	0.7	7.0	0.8	0.0	0.0	0.0	0.0	0.0	1.0
CO97227-2P/PW *	7.0	5	8	6.0	4.3	0.0	0.7	3.7	0.0	0.0	0.0	0.0	0.0	1.0
Average:	5	3	7	6	12.0	1.2	4.0	5.0	1.9	0.5	1.9	0.3	2.3	1.3
Maximum:	8	5	8	7	35.3	9.0	13.3	30.9	7.8	5.0	20.0	5.0	25.0	2.5
Minimum:	3	1	5	5	3.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 14. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the advanced Cornell "E" clone trial grown at Freeville, New York - 2009.

(trial had 4 replications except 3 lines followed by an * had 3 replications)

Genotype Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4"	#/ft.	wt.(oz.)	
ALBANE *	463	337	80	5	36	41	15	2	92	56	8.2	5.9	68
ALLEGANY	546	399	95	3	18	46	21	14	84	66	8.4	7.2	86
ATLANTIC	551	421	100	3	21	52	18	6	91	70	8.3	6.9	91
APOLLINE	654	538	128	3	27	51	13	6	91	65	10.1	6.8	67
E18-7 *	452	348	83	2	20	54	16	8	90	70	6.6	7.2	86
E39-3	500	445	106	4	28	55	11	1	95	67	8.8	5.9	64
E43-10	548	493	117	6	34	56	4	1	94	60	10.8	5.3	69
E50-8	473	395	94	3	20	52	19	5	92	72	6.9	7.1	88
E50-9	421	379	90	3	29	58	7	2	94	65	7.2	6.0	86
E61-6	405	337	80	3	21	57	14	5	92	71	6.0	7.0	83
E105-16	570	450	107	3	23	57	11	5	91	68	9.2	6.5	72
E106-4	555	478	113	4	24	60	11	2	95	71	9.2	6.3	90
E107-1	526	455	108	4	31	56	8	0	95	64	9.6	5.7	78
E110-4	473	328	78	3	26	50	15	5	92	65	7.8	6.4	86
E110-11	473	282	67	3	14	41	16	25	72	57	5.9	8.4	83
E114-5	387	332	79	3	25	57	13	2	95	70	6.2	6.5	81
E115-11	495	344	82	3	15	48	18	16	82	67	6.5	7.9	70
KATAHDIN	405	310	74	2	19	61	12	6	91	73	6.0	7.1	77
SASSY *	474	398	95	13	60	27	0	0	87	27	12.6	3.9	94
SNOWDEN	515	458	109	3	29	58	9	1	96	67	8.9	6.0	91
SUPERIOR	421	339	81	3	24	50	17	6	91	67	6.6	6.7	82
Average:	491	394	94	4	26	52	13	6	91	65	8.1	6.5	81
Maximum:	654	538	128	13	60	61	21	25	96	73	12.6	8.4	94
Minimum:	387	282	67	2	14	27	0	0	72	27	5.9	3.9	64
Waller-Duncan													
LSD (k=100)	xx	xx									xx	xx	xx
C.V. (%)	(xx)	(xx)									(xx)	(xx)	(xx)

¹Tuber size classes: 1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.

Plant Date: May 11

Maturity Ratings: Sep 4

Vinekill Date: Sep 9

Harvest Date: Sep 25

Upstate New York Table 15. Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the advanced Cornell "E" clone trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Plant ¹ Mat. At Vinekill	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
		Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
ALBANE *	6.7	5	8	4.0	19.8	2.8	8.0	9.0	0.0	0.0	6.7	6.7	0.0	1.0
ALLEGANY	5.8	2	6	6.6	11.0	4.5	1.8	2.5	2.2	0.0	0.0	0.0	0.0	0.0
ATLANTIC	5.0	3	5	5.0	14.8	4.8	2.2	5.5	2.3	2.5	10.0	5.0	5.0	0.8
APOLLINE	4.8	5	8	6.0	9.1	2.3	4.7	1.5	0.7	0.0	0.0	15.0	15.0	1.1
E18-7 *	6.7	2	9	6.3	13.3	3.4	1.5	3.9	4.6	0.0	0.0	0.0	3.3	0.7
E39-3	4.8	2	7	7.0	5.9	3.5	1.4	0.0	1.0	0.0	0.0	2.5	2.5	0.8
E43-10	4.5	3	8	6.1	3.8	2.3	0.4	0.5	0.6	5.0	0.0	7.5	0.0	0.3
E50-8	6.3	2	8	5.3	8.3	4.2	1.3	2.8	0.0	0.0	0.0	0.0	5.0	1.0
E50-9	6.5	3	8	6.5	4.1	3.4	0.2	0.2	0.2	2.5	5.0	10.0	0.0	0.0
E61-6	5.3	3	6	6.3	9.0	4.9	1.7	1.3	1.1	0.0	0.0	0.0	2.5	0.5
E105-16	7.0	2	5	5.5	11.9	8.6	0.6	2.3	0.4	0.0	2.5	0.0	2.5	2.0
E106-4	6.8	2	6	5.8	8.5	4.5	1.3	0.0	2.7	0.0	0.0	0.0	0.0	1.0
E107-1	6.0	2	8	6.8	8.9	4.0	3.3	0.0	1.7	0.0	0.0	0.0	7.5	0.0
E110-4	5.5	3	5	4.9	22.0	7.0	1.1	13.6	0.2	2.5	0.0	2.5	0.0	1.0
E110-11	6.0	3	6	5.4	12.2	4.5	3.4	2.5	1.8	0.0	0.0	2.5	2.5	0.8
E114-5	4.5	3	8	5.5	9.5	6.6	1.0	1.9	0.0	2.5	0.0	27.5	0.0	0.8
E115-11	5.3	2	8	4.0	12.7	5.4	1.5	5.8	0.0	0.0	0.0	7.5	2.5	0.3
KATAHDIN	4.3	3	8	4.3	14.8	10.9	1.2	1.1	1.6	7.5	15.0	0.0	0.0	1.0
SASSY *	3.3	2	5	4.8	3.4	2.2	1.1	0.0	0.2	3.3	0.0	3.3	3.3	0.3
SNOWDEN	3.8	2	5	4.8	7.4	4.4	1.8	0.2	1.0	2.5	0.0	5.0	0.0	0.0
SUPERIOR	2.5	3	6	4.5	10.2	2.8	1.5	4.2	1.8	2.5	15.0	2.5	0.0	0.3
Average:	5	3	7	5	10.5	4.6	2.0	2.8	1.1	1.5	2.6	4.6	2.5	0.6
Maximum:	7	5	9	7	22.0	10.9	8.0	13.6	4.6	7.5	15.0	27.5	15.0	2.0
Minimum:	3	2	5	4	3.4	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 16. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the advanced Cornell "F" clone trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4"	#/ft.	wt.(oz.)	
F11-1	426	379	100	5	32	53	7	2	93	61	8.3	5.4	78
F16-1	368	321	84	8	33	53	6	0	92	59	8.3	4.6	85
F17-7	401	365	96	5	35	55	6	0	95	61	8.4	5.0	88
F19-7	436	355	93	3	19	58	15	4	92	73	6.9	6.5	62
F19-8	492	433	114	6	36	50	8	0	94	58	10.3	5.0	73
F22-9	347	294	77	5	34	56	4	1	94	60	7.1	5.1	74
F25-7	544	455	119	11	55	33	1	0	89	35	14.3	4.0	71
F29-1	453	360	94	5	31	50	9	5	90	60	8.6	5.5	80
F31-3	498	411	108	4	27	57	10	1	95	68	9.2	5.7	76
F38-7	493	431	113	3	24	61	9	3	94	70	8.6	6.0	80
F39-1	506	437	115	2	22	61	10	4	94	71	8.0	6.6	74
F47-3	459	394	103	6	39	50	4	0	94	55	9.6	5.0	85
F47-5	406	373	98	4	29	63	3	0	96	66	7.4	5.7	78
F48-4	322	283	74	6	51	41	1	0	94	42	7.8	4.3	77
F49-2	563	454	119	5	32	51	8	3	91	59	11.2	5.3	90
F52-1	433	273	72	34	60	7	0	0	66	7	20.1	2.3	80
F55-1	226	199	52	5	31	63	2	0	95	65	4.6	5.1	62
F57-3	471	427	112	3	20	61	14	3	95	75	7.7	6.3	83
F57-4	369	300	79	13	68	19	0	0	87	19	10.6	3.6	79
F57-5	486	421	111	3	25	62	8	2	95	70	8.5	6.0	83
ATLANTIC	482	381	100	3	15	58	20	4	93	78	7.5	6.6	89
KATAHDIN	397	331	87	3	20	61	14	2	95	75	5.3	8.1	72
KEUKA GOLD	471	405	106	2	18	59	18	2	96	77	7.6	6.5	76
SNOWDEN	511	447	117	3	26	59	10	2	95	69	8.8	6.1	89
SUPERIOR	387	311	82	2	18	61	14	5	93	75	6.0	6.7	80
Average:	438	370	97	6	32	52	8	2	92	60	8.8	5.5	78
Maximum:	563	455	119	34	68	63	20	5	96	78	20.1	8.1	90
Minimum:	226	199	52	2	15	7	0	0	66	7	4.6	2.3	62
Waller-Duncan													
LSD (k=100)	xx	xx									xx	xx	xx
C.V. (%)	(xx)	(xx)									(xx)	(xx)	(xx)

¹Tuber size classes: 1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.

Plant Date: May 11

Maturity Ratings: Sep 4

Vinekill Date: Sep 9

Harvest Date: Sep 20

Upstate New York Table 17. Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the advanced Cornell "F" clone trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Plant ¹ Mat. At Vinekill	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
		Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
F11-1	4.5	3	6	6.6	4.5	1.1	2.2	0.5	0.7	0.0	0.0	5.0	0.0	0.5
F16-1	5.3	1	6	4.1	5.1	3.0	1.4	0.7	0.0	2.5	2.5	2.5	0.0	2.5
F17-7	4.3	2	8	6.0	4.2	2.1	0.3	0.8	1.0	2.5	2.5	0.0	0.0	1.0
F19-7	4.5	1	8	6.0	11.6	2.7	2.6	4.5	1.9	0.0	0.0	10.0	2.5	2.4
F19-8	3.0	4	6	5.6	6.2	2.2	1.6	1.7	0.7	12.5	0.0	0.0	0.0	1.6
F22-9	2.5	1	8	7.1	9.0	3.4	3.2	1.6	0.7	0.0	0.0	0.0	0.0	1.4
F25-7	3.3	3	8	6.0	5.7	3.4	1.6	0.2	0.5	0.0	0.0	0.0	0.0	1.5
F29-1	5.0	3	6	6.0	11.3	5.1	4.4	0.7	1.1	0.0	0.0	2.5	0.0	1.5
F31-3	4.8	2	6	6.0	12.4	6.9	1.4	2.0	2.1	2.5	10.0	2.5	5.0	2.0
F38-7	4.8	1	8	6.0	7.1	4.1	1.0	0.3	1.7	0.0	0.0	5.0	0.0	0.9
F39-1	2.3	4	6	4.8	7.3	3.4	2.2	0.3	1.4	0.0	0.0	7.5	0.0	2.0
F47-3	3.0	3	8	4.0	7.8	3.9	1.9	1.1	0.9	0.0	0.0	0.0	0.0	1.0
F47-5	4.3	3	6	4.0	4.4	1.2	1.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0
F48-4	2.8	1	6	6.0	6.0	3.4	2.3	0.3	0.0	0.0	0.0	0.0	2.5	1.1
F49-2	6.0	3	8	5.3	11.0	8.6	1.9	0.1	0.4	10.0	27.5	0.0	2.5	1.5
F52-1	2.5	1	8	6.5	3.4	2.1	0.9	0.1	0.3	0.0	10.0	0.0	5.0	0.0
F55-1	2.0	1	8	6.0	7.7	1.1	2.7	3.0	0.9	0.0	0.0	0.0	5.0	0.3
F57-3	4.0	2	6	5.5	4.4	1.8	1.4	0.5	0.7	5.0	2.5	0.0	2.5	2.1
F57-4	4.8	3	8	5.5	5.8	3.1	2.6	0.1	0.0	0.0	0.0	5.0	0.0	1.5
F57-5	4.0	1	8	6.8	7.8	5.1	0.2	2.1	0.4	0.0	5.0	0.0	0.0	0.4
ATLANTIC	4.3	1	6	5.4	13.7	3.1	1.2	6.5	2.9	7.5	2.5	2.5	0.0	0.0
KATAHDIN	3.5	3	8	5.9	12.2	7.7	1.0	2.5	1.0	2.5	7.5	2.5	2.5	1.9
KEUKA GOLD	5.8	1	6	5.1	9.9	3.2	1.4	1.2	4.1	5.0	5.0	2.5	2.5	2.3
SNOWDEN	4.0	2	6	3.5	7.5	2.7	2.9	1.8	0.0	0.0	0.0	5.0	0.0	1.6
SUPERIOR	2.3	3	6	4.3	12.5	2.8	3.1	4.4	2.3	2.5	15.0	0.0	7.5	1.3
Average:	4	2	7	6	7.9	3.5	1.9	1.5	1.0	2.1	3.6	2.1	1.5	1.3
Maximum:	6	4	8	7	13.7	8.6	4.4	6.5	4.1	12.5	27.5	10.0	7.5	2.5
Minimum:	2	1	6	4	3.4	1.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 22. Total yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, and specific gravity for the organic culture and variety trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Levi	Total Yield		Mkt. Yield		Size Distribution ¹ (% of total yield)					Size Distrib. (%)		Mean Tuber		Spec. Grav.
		Cwt/A	% of Std.	Cwt/A	% of Std.	1	2	3	4	5	1-7/8" to 4"	2-1/2" to 4"	#/ft.	wt.(oz.)	
ADIRONDACK BLUE	L1	185	86	156	86	13	79	8	0	0	87	8	6.8	2.9	73
ADIRONDACK RED	L2	224	111	203	111	8	76	16	0	0	92	16	6.6	3.5	68
ATLANTIC	L3	214	100	182	100	9	64	27	0	0	91	27	6.0	3.7	90
AC99375-1RU	L4	157	46	84	46	43	39	18	0	0	57	18	4.9	3.3	83
BLISS TRIUMPH	L5	186	83	151	83	12	73	14	0	0	88	14	6.3	3.1	71
BRIGUS	L6	258	127	232	127	8	73	18	0	1	91	18	7.3	3.7	77
B2152-17 *	L7	221	101	184	101	14	70	16	0	0	86	16	7.6	3.0	71
BCO01306-2 *	L8	226	104	188	104	17	71	12	0	0	83	12	8.8	2.7	79
CHIEFTAIN	L9	232	115	209	115	10	67	23	0	0	90	23	7.0	3.4	71
CO99053-3RU	L10	167	63	114	63	31	37	26	5	0	69	31	4.0	4.4	78
DAISY GOLD	L11	189	73	132	73	29	67	4	0	0	71	4	7.2	2.7	71
DAKU PURPLE	L12	185	96	175	96	4	46	49	1	0	96	50	4.1	4.7	69
D40-50	L13	179	88	159	88	10	78	11	0	0	90	11	5.8	3.2	74
EARLY OHIO	L14	253	107	195	107	22	75	3	0	0	78	3	10.6	2.5	67
GREEN MOUNTAIN	L15	213	102	186	102	13	73	14	0	0	87	14	7.2	3.0	82
KATAHDIN	L16	159	78	141	78	8	53	38	0	0	92	38	4.5	3.7	70
KING HARRY (NY131)	L17	295	146	265	146	8	73	19	0	0	92	19	8.8	3.5	81
KEUKA GOLD	L18	231	102	187	102	21	75	4	0	0	79	4	8.6	2.8	79
LEHIGH (NY126)	L19	192	99	180	99	4	72	24	0	0	96	24	4.5	4.5	79
NDA7985-1R *	L20	232	110	200	110	11	52	37	0	0	89	37	6.7	3.6	62
NDTX7590-3R *	L21	105	54	97	54	5	70	24	0	0	95	24	2.8	3.9	61
NY129	L22	239	117	212	117	11	83	7	0	0	89	7	8.1	3.1	69
NY140	L23	217	111	201	111	7	69	24	0	0	93	24	6.0	3.7	75
PAPA CACHO	L24	41	15	28	15	50	33	17	0	0	50	17	3.5	1.2	63
PETER WILCOX (B1816-5)	L25	233	106	193	106	17	75	8	0	0	83	8	8.0	3.0	81
PURPLE FINGERS	L26	19	0	0	0	100	0	0	0	0	0	0	1.0	na	na
RED LA SODA	L27	243	119	216	119	9	51	39	0	0	91	39	6.6	3.8	71
SALEM	L28	196	98	178	98	7	72	20	0	0	93	20	5.7	3.6	66
SIEGLINDE	L29	97	4	8	4	91	9	0	0	0	9	0	6.6	1.5	68
SUPERIOR	L30	192	95	174	95	5	60	35	0	0	95	35	5.0	3.9	78
YUKON GOLD	L31	273	130	237	130	7	70	23	0	0	93	23	7.7	3.7	88
ZOLUSHKA	L50	194	76	138	76	28	64	8	0	0	72	8	8.4	2.4	77
Average:		195	89	163	89	20	62	18	0	0	80	19	6.3	3.3	74
Maximum:		295	146	265	146	100	83	49	5	1	96	50	10.6	4.7	90
Minimum:		19	0	0	0	4	0	0	0	0	0	0	1.0	1.2	61

¹Tuber size classes:
Plant Date: May 26

1 = 1" to 1-7/8", 2 = 1-7/8" to 2-1/2", 3 = 2-1/2" to 3-1/4", 4 = 3-1/4" to 4", and 5 = over 4" dia.

Maturity Ratings: Aug xx

Vinekill (mow) Date: Aug 4

Harvest Date: Aug 17

Upstate New York Table 23. Plant maturity, tuber shape and appearance, percentage of external and internal tuber defects, and scab rating for the organic culture and variety trial grown at Freeville, New York - 2009.

Genotype Variety or Clone	Tuber Attributes ¹			External Tuber Defects (%)					Int. Tuber Defects (%) ²				Scab Rating
	Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Sun- Green	Mis- shapen	Growth Cracks	Rot	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.	
ADIRONDACK BLUE	3	7	6.3	2.6	0.7	1.9	0.0	0.0	5.0	0.0	0.0	0.0	0.0
ADIRONDACK RED	7	8	7.0	1.5	0.0	1.4	0.0	0.1	0.0	0.0	0.0	0.0	0.8
ATLANTIC	1	6	5.5	6.6	0.9	0.2	5.2	0.3	5.0	0.0	0.0	0.0	1.8
AC99375-1RU	4	4	4.5	4.7	0.7	0.0	4.0	0.0	40.0	0.0	0.0	0.0	1.8
BLISS TRIUMPH	1	8	4.5	7.5	0.0	2.7	4.9	0.0	0.0	0.0	0.0	0.0	2.0
BRIGUS	4	5	6.3	1.3	0.1	0.0	0.2	1.0	20.0	0.0	0.0	0.0	1.0
B2152-17 *	1	6	6.5	2.4	0.8	0.6	0.0	1.0	0.0	0.0	0.0	0.0	1.0
BCO01306-2 *	1	5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0
CHIEFTAIN	1	8	5.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	3.5
CO99053-3RU	8	3	5.3	2.0	0.0	0.6	1.4	0.0	40.0	0.0	0.0	0.0	2.3
DAISY GOLD	3	6	6.5	1.4	0.0	0.8	0.0	0.6	0.0	0.0	0.0	0.0	3.0
DAKU PURPLE	3	8	6.0	1.6	0.0	0.7	0.9	0.0	0.0	0.0	0.0	0.0	0.5
D40-50	1	8	7.0	1.0	0.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8
EARLY OHIO	1	9	7.3	1.0	0.0	0.1	0.4	0.5	0.0	0.0	0.0	0.0	1.5
GREEN MOUNTAIN	2	8	4.5	0.9	0.0	0.1	0.0	0.7	0.0	0.0	0.0	0.0	3.0
KATAHDIN	2	8	7.0	3.2	2.4	0.0	0.8	0.0	5.0	0.0	0.0	0.0	1.5
KING HARRY (NY131)	2	8	7.0	2.6	0.0	1.5	0.8	0.2	0.0	5.0	0.0	0.0	0.0
KEUKA GOLD	1	6	6.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
LEHIGH (NY126)	3	6	5.0	2.2	0.7	1.1	0.5	0.0	0.0	0.0	5.0	0.0	1.5
NDA7985-1R *	2	9	6.0	2.9	0.0	0.9	2.0	0.0	0.0	0.0	0.0	0.0	3.0
NDTX7590-3R *	3	6	6.5	1.7	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	1.0
NY129	1	6	6.5	0.8	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2.5
NY140	3	7	6.3	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0
PAPA CACHO	8	8	6.5	0.7	0.7	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0
PETER WILCOX (B1816-5)	3	7	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	3.0
PURPLE FINGERS	7	8	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED LA SODA	2	8	5.0	1.9	0.0	0.0	1.2	0.7	0.0	0.0	0.0	0.0	2.0
SALEM	3	8	5.5	2.4	0.0	1.9	0.0	0.6	0.0	0.0	0.0	0.0	2.5
SIEGLINDE	3	8	4.8	2.4	0.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUPERIOR	2	6	6.0	4.3	0.1	2.5	0.5	1.2	15.0	35.0	0.0	0.0	1.0
YUKON GOLD	3	8	6.5	6.5	0.4	0.9	3.1	2.1	0.0	0.0	0.0	0.0	0.0
ZOLUSHKA	3	8	6.5	1.7	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	1.8
Average:	3	7	6	2.1	0.3	0.7	0.8	0.3	4.1	4.4	0.5	0.0	1.4
Maximum:	8	9	7	7.5	2.4	2.7	5.2	2.1	40.0	40.0	10.0	0.0	3.5
Minimum:	1	3	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

¹See the standard NE184 rating system for a key to these rating scales in the appendix in the rear of this report.

²Based on a 10-tuber sample from each replication. The tubers were taken from the size 3 and 4 categories.

Upstate New York Table 24. Yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, percentage of defects, and specific gravity for Wayne County muck soil red-skinned variety trial grown near Savannah, New York - 2009.

Variety or Clone	Total Yield	Mkt. Yield		Size Distribution ¹				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Spec. Grav.
	Cwt/A	Cwt/A	% of Std.	(% of total yield)				#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	
				1	2	3	4											
AC97521-1R/Y *	141	78	26	24	76	0	0	6.1	2.4	6	11	0	3	0	0	0	0	69
B13-1	135	88	30	30	69	2	0	7.3	2.0	1	2	1	1	0	0	0	0	56
B2152-17	285	196	66	13	80	7	0	11.5	2.6	13	1	3	1	0	0	5	0	64
B2676-2	250	127	43	16	84	0	0	10.0	2.6	23	7	1	3	0	0	0	0	73
BCO01306-2	274	201	68	11	80	10	0	10.1	2.8	9	2	4	1	0	0	0	0	69
BCO01357-4	252	126	42	16	66	19	0	8.9	2.9	19	7	4	5	0	10	0	0	69
BNC193-1	327	217	73	9	81	10	0	11.5	3.0	20	1	1	2	0	0	0	0	70
CHIEFTAIN	416	297	100	4	60	34	2	9.1	4.7	13	2	7	1	0	0	0	0	63
CO97232-2R/Y *	263	189	63	11	75	13	0	9.3	2.9	9	1	7	0	0	0	0	0	57
CO98012-5R *	197	84	28	37	61	3	0	12.3	1.7	14	2	4	1	0	10	0	0	69
DARK RED NORLAND	288	177	60	11	78	11	0	8.2	3.6	15	1	7	5	5	0	0	0	59
NORDONNA	412	260	88	15	74	11	0	13.8	3.1	17	2	1	1	0	0	0	0	65
NY129	384	291	98	6	67	28	0	9.1	4.4	9	1	8	0	0	0	5	0	61
W5767-1R	333	221	75	5	63	32	0	8.2	4.2	5	11	12	1	0	0	0	0	67
Average:	283	182	61	15	72	13	0	9.7	3.1	12	4	4	2	0	1	1	0	65
Maximum:	416	297	100	37	84	34	2	13.8	4.7	23	11	12	5	5	10	5	0	73
Minimum:	135	78	26	4	60	0	0	6.1	1.7	1	1	0	0	0	0	0	0	56

¹Tuber size classes:

1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: May 18

Vinekill Date: September xx

Harvest Date: October 21

Fertilizer:

Vinekill:

Irrigation:

* Note: This trial had two replications, except there was only one plot each of AC97521-1R/Y, CO97232-2R/Y and CO98012-5R.

Upstate New York Table 25. Yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, percentage of defects, and specific gravity for Wayne County muck soil white-skinned variety trial grown near Savannah, New York - 2009.

Variety or Clone	Total Yield	Mkt. Yield		Size Distribution ¹				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Spec. Grav.
	Cwt/A	Cwt/A	% of Std.	(% of total yield)				#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	
				1	2	3	4											
ATLANTIC	382	294	100	9	66	22	3	9.0	4.5	7	3	1	0	0	10	10	5	83
BEACON CHIPPER	424	331	113	3	48	41	9	6.5	6.8	7	1	2	0	0	0	35	0	75
B2452-3	287	182	62	9	59	25	7	6.3	4.8	18	0	1	0	0	0	50	0	66
CAROLA	275	136	46	37	58	5	0	8.7	3.3	8	6	0	0	0	0	60	0	65
D40-35	316	217	74	25	74	1	0	12.5	2.7	6	0	0	0	0	0	5	0	81
D40-50	388	353	120	7	76	17	0	9.4	4.4	2	0	0	0	0	0	15	0	65
D40-263	371	325	110	10	78	12	0	9.5	4.0	1	0	0	2	0	0	40	0	66
D40-266	279	220	75	16	78	6	0	8.4	3.5	6	0	0	0	0	0	20	0	76
D40-323	402	301	102	18	76	5	0	11.9	3.6	7	0	0	0	0	0	0	0	70
D40-330	383	279	95	23	75	3	0	13.0	3.1	5	0	0	0	0	0	10	0	73
EVA	254	209	71	10	72	16	2	6.3	4.3	5	0	0	0	0	5	35	0	69
E39-3	301	190	65	29	64	7	0	10.8	2.9	4	3	0	0	0	0	5	0	60
E43-10	361	235	80	25	74	1	0	12.9	2.9	8	0	0	2	0	0	40	0	65
E48-2	382	257	87	21	76	3	0	12.6	3.1	7	0	5	0	0	0	5	0	77
E50-8	448	398	135	5	69	26	0	9.3	5.2	6	0	0	0	0	0	25	0	85
E50-9	342	203	69	29	70	1	0	12.4	2.9	10	0	1	1	0	5	10	0	79
E105-16	520	445	151	10	81	9	0	13.7	3.9	4	0	0	0	0	0	85	0	65
E106-4	470	390	133	12	83	5	0	13.8	3.6	4	0	0	1	0	0	5	0	86
E107-1	543	391	133	22	77	1	0	19.2	3.0	6	0	0	0	0	0	55	0	70
E114-5	422	293	100	10	70	20	0	10.5	4.2	18	0	1	1	0	0	30	0	74

(continued)

Upstate New York Table 25 (cont'd). Yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, percentage of defects, and specific gravity for Wayne County muck soil white-skinned variety trial grown near Savannah, New York - 2009.

Variety or Clone	Total Yield	Mkt. Yield		Size Distribution ¹				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Spec. Grav.
	Cwt/A	Cwt/A	% of Std.	(% of total yield)				#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	
				1	2	3	4											
GENESEE *	348	243	83	11	60	29	0	8.4	4.3	18	0	0	1	0	0	50	0	61
KEUKA GOLD	458	387	131	6	58	31	6	9.5	5.1	4	0	0	1	5	5	30	0	71
LEHIGH	440	397	135	4	60	36	0	7.9	5.8	5	1	0	0	0	0	10	0	74
MEGACHIP	327	209	71	13	61	24	3	7.8	4.4	13	5	2	1	0	5	65	5	84
NY138	416	358	122	9	65	25	0	10.7	4.1	4	0	0	0	0	0	60	0	71
NY139	390	304	103	12	78	10	0	10.6	3.8	8	1	1	0	0	0	30	0	83
NY140	455	369	125	4	56	31	8	8.0	6.1	5	1	0	0	0	0	30	0	70
NY141	392	304	103	7	68	24	1	8.3	4.9	10	2	0	1	0	0	20	0	71
NY143	425	315	107	9	61	30	0	8.6	5.1	15	0	1	1	0	0	20	0	62
ZOLUSHKA	351	275	94	14	71	13	2	9.2	4.0	2	3	1	0	0	0	70	0	74
Average:	385	294	100	14	67	16	1	10.2	4.1	7	1	1	0	0	1	31	0	72
Maximum:	543	445	151	37	83	41	9	19.2	6.8	18	6	5	2	5	10	85	5	86
Minimum:	254	136	46	1	2	1	0	6.3	2.7	1	0	0	0	0	0	0	0	60

¹Tuber size classes:

1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: May 18

Vinekill Date: September xx

Harvest Date: October 21

Fertilizer:

Vinekill:

Irrigation:

* Note: This trial had two replications per entry, except there was only one plot of Genesee.

Upstate New York Table 26. Yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, percentage of defects, and specific gravity for Steuben County chipping variety trial grown near Arkport, New York - 2009.

Variety or Clone	Total	Mkt. Yield		Size Distribution ¹				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Spec. Grav.
	Yield	Cwt/A	% of Std.	(% of total yield)				#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	
	Cwt/A			1	2	3	4											
ATLANTIC	507	425	100	6	59	31	5	10.2	5.5	2	2	0	0	0	10	0	10	92
BEACON CHIPPER *	522	393	92	6	35	45	14	7.4	7.8	3	2	1	0	20	0	0	0	75
D40-35	414	340	80	15	69	15	0	12.2	3.8	3	0	0	0	0	0	15	0	84
D40-50	506	453	107	6	64	28	2	10.3	5.4	2	0	0	0	0	5	0	0	75
D40-266	398	341	80	11	72	15	2	10.0	4.4	1	0	0	0	0	0	10	0	76
E48-2	406	367	86	6	75	19	0	9.0	5.0	0	1	2	0	0	0	0	0	77
E106-4	530	465	109	7	68	22	2	12.3	4.8	2	0	0	0	0	0	0	0	93
MARCY	443	382	90	7	62	26	5	9.4	5.2	2	0	0	0	0	0	15	0	78
MEGACHIP *	405	248	58	8	46	37	9	7.7	5.8	10	5	2	4	0	10	20	10	87
NY138	432	361	85	6	50	35	9	7.7	6.2	1	0	0	0	0	0	10	0	76
NY139	482	423	100	7	69	23	1	10.8	4.9	3	1	0	0	0	0	15	0	86
NY140	589	482	113	5	41	47	7	9.3	7.0	4	2	1	0	0	0	0	0	75
SNOWDEN	448	380	89	11	72	17	0	12.0	4.1	2	2	0	0	0	0	25	0	97
Average:	468	389	92	8	60	28	4	9.9	5.4	3	1	1	0	2	2	8	2	82
Maximum:	589	482	113	15	75	47	14	12.3	7.8	10	5	2	4	20	10	25	10	97
Minimum:	398	248	58	5	35	15	0	7.4	3.8	0	0	0	0	0	0	0	0	75

¹Tuber size classes:

1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: May 20

Vinekill Date: September xx

Harvest Date: October 12

Fertilizer: 1600 lbs/a 8-16-8 with 1/2 lb B

Vinekill:

Irrigation:

Other: 2.5 pt Vydate CLV and 7.0 oz Quadris/acre in furrow

Spacing: 36 inch bed width by 8.0 inch within row seed spacing

* Note: This trial had two replications, except there was only one plot each of Beacon Chipper and Megachip.

Upstate New York Table 27. Yield, marketable yield, percentage of yield by grade size distribution, mean tuber number per foot and weight, percentage of defects, and specific gravity for Wyoming County chipping variety trial grown near Gainesville, New York - 2009.

Variety or Clone	Total Yield Cwt/A	Mkt. Yield		Size Distribution ¹ (% of total yield)				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Spec. Grav.
		Cwt/A	% of Std.	1	2	3	4	#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	
ATLANTIC	501	447	100	8	68	24	0	10.9	4.9	1	1	0	0	15	10	0	0	90
BEACON CHIPPER *	581	489	109	4	43	48	5	9.7	6.2	4	2	1	0	0	0	0	0	81
D40-35	466	378	85	16	74	10	0	14.5	3.4	2	0	0	0	0	0	0	0	87
D40-50	507	461	103	6	63	29	2	10.3	5.1	1	0	0	0	0	0	0	0	73
D40-266	422	372	83	11	77	12	0	9.6	4.6	1	0	0	0	0	0	0	0	82
E48-2	404	341	76	6	75	19	1	9.2	4.6	4	1	4	0	10	0	0	0	80
E106-4	568	512	115	9	75	17	0	13.7	4.3	1	0	0	0	0	0	0	0	89
MARCY	520	478	107	5	53	39	2	9.7	5.6	0	0	0	0	0	0	0	0	76
MEGACHIP *	392	348	78	9	68	22	0	9.5	4.3	2	0	0	0	0	0	0	0	87
NY138	509	421	94	5	47	41	8	8.7	6.1	3	0	1	0	0	0	0	0	78
NY139	446	410	92	6	76	17	0	10.0	4.7	1	0	0	0	0	0	5	5	89
NY140	603	528	118	3	47	45	5	9.8	6.4	4	0	0	0	15	0	0	0	79
SNOWDEN	538	467	104	10	69	20	0	12.5	4.6	2	0	0	0	0	0	5	0	90
Average:	497	435	97	8	64	26	2	10.6	5.0	2	0	1	0	3	1	1	0	83
Maximum:	603	528	118	16	77	48	8	14.5	6.4	4	2	4	0	15	10	5	5	90
Minimum:	392	341	76	3	43	10	0	8.7	3.4	0	0	0	0	0	0	0	0	73

¹Tuber size classes:

1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: May 6

Vinekill Date: September xx

Harvest Date: October 6

Fertilizer:

Vinekill:

Irrigation:

* Note: This trial had two replications, except there was only one plot each of Beacon Chipper and Megachip.

Data from Riverhead, Long Island Trials
Sandra Menasha and Joe Siczka

Long Island Table 2. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of Advanced Cornell white-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Total Yield cwt/A	Marketable Yield		Size Distribution (%)					Size Distribution		Specific Gravity
		cwt/A	percentage of standard	<2"	2 to 2.5"	2.5 to 3.25"	3.25" to 4"	>4"	2 to 4 in.	2.5 to 4 in.	
<u>Season-133 days</u>											
Reba	493	423	100	2	16	63	17	2	95	79	77
Andover	456	397	94	2	17	63	16	1	96	79	83
Lehigh	423	320	76	3	18	56	20	3	94	76	76
Marcy	513	433	102	3	14	55	24	3	94	80	79
Norwis	530	475	112	3	12	59	24	2	95	83	72
Salem	543	476	113	3	17	52	24	3	93	77	65
NY 138	503	450	106	3	16	58	22	1	96	81	74
NY 139	509	435	103	3	22	61	13	1	96	74	85
NY 140	609	540	128	3	19	56	19	3	94	75	78
NY 141	553	466	110	2	12	55	27	3	95	83	76
NY 143	462	390	92	4	28	49	18	1	95	68	66
D40-50	474	432	102	3	22	53	22	1	97	75	74
D40-263	517	448	106	3	13	49	29	6	91	78	67
D40-266	424	362	86	4	30	51	13	3	94	64	80
<i>Waller-Duncan</i>											
LSD (0.05)	(95)	(95)									(5)

Planted on 4/27/09, fertilizer rate was 100-200-200/A plus 60 lb N/A sidedressed, vine killed on 9/7/09, harvested on 9/14/09. ¹-1.0 is excluded from specific gravity readings.

Long Island Table 3. Maturity, tuber shape, and internal and external defects of Advanced Cornell white-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Maturity ¹ on 8/20/2009	Tuber Data ¹		Tuber Defects (%)					Percentage				
		Shape	Appearance	Total	Sun-burn	Mis-shapen	Growth cracks	Other ²	Hollow heart	Brown center	Internal SI.	Necrosis Mod.	Necrosis Sev.
<u>Season-133 days</u>													
Reba	3	R-O	6	10	5	1	3	1	38	3	0	3	0
Andover	2	O-R	7	10	1	1	8	0	28	3	0	0	0
Lehigh	6	O-R	5	21	4	2	11	4	13	5	0	0	0
Marcy	7	O-R	6	10	5	1	1	3	38	0	5	5	5
Norwis	2	R-O	6	5	2	0	3	0	18	23	10	0	0
Salem	4	O-R	6	6	2	1	1	3	8	3	5	3	0
NY 138	4	R-O	6	7	1	1	1	4	13	8	5	0	0
NY 139	5	O-R	6	11	3	1	3	4	3	10	8	15	10
NY 140	7	O-R	6	6	3	1	1	1	5	10	13	0	0
NY 141	4	R-O	6	11	5	5	2	0	3	13	10	0	0
NY 143	4	O-R	6	12	5	1	4	2	0	15	5	5	0
D40-50	6	R	7	6	4	0	0	1	8	13	8	0	0
D40-263	5	O-R	7	6	3	1	1	0	0	8	20	5	0
D40-266	2	O-R	7	9	6	1	1	1	8	0	5	3	0

¹ -See rating system outlined in the text.

² -Other includes defects such as rhizoctonia, prominent lenticels, pink eye, decay and other defects scorable against a U.S. grade. Mechanical defects, however, were not scored.

Long Island Table 4. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of Cornell and Maine Intermediate white-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Total Yield cwt/A	Marketable Yield		Size Distribution (%)					Size Distribution		Specific Gravity ¹
		cwt/A	percentage of standard	<2"	2 to 2.5"	2.5 to 3.25"	3.25 to 4"	>4"	2 to 4 in.	2.5 to 4 in.	
<i>Season- 133 days</i>											
Reba	451	388	100	3	16	66	14	1	96	80	71
Norwis	541	495	128	2	11	54	32	1	96	85	70
AF2497-2	503	439	113	2	15	55	27	1	97	82	77
AF4058-1	563	488	126	4	20	58	19	0	96	77	75
E39-3	507	459	118	4	22	56	17	1	95	73	65
E43-10	655	593	153	6	43	49	2	0	94	51	65
E50-9	443	392	101	4	36	56	5	0	96	61	80
E110-11	556	482	124	3	16	54	25	2	95	80	76
E114-5	463	383	99	6	35	49	8	1	93	58	70
E115-10	439	351	90	3	22	68	6	0	96	74	75
E115-11	591	494	127	2	13	54	29	1	96	83	67
<i>Fisher's Protected</i>											
<i>LSD (0.05)</i>	<i>(95)</i>	<i>(90)</i>									<i>(4)</i>

Planted on 4/27/09, fertilizer rate was 100-200-200/A plus 60 lb N/A sidedressed, vine killed on 9/7/09, harvested on 9/1-10 is excluded from specific gravity readings.

Long Island Table 5. Maturity, tuber shape, and internal and external defects of Cornell and Maine Intermediate white-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Maturity ¹ on 8/20/2009	Tuber Data ¹		Tuber Defects (%)					Percentage				
		Shape	Appearance	Total burn	Misshapen	Growth cracks	Other ²	Hollow heart	Brown center	Internal SI.	Necrosis Mod.	Sev.	
<i>Season-133 days</i>													
Reba	3	R-O	7	10	8	1	1	1	38	10	0	5	0
Norwis	3	O-R	6	5	2	0	2	1	13	10	13	8	0
AF2497-2	7	O-R	5	10	2	3	0	4	35	5	3	0	0
AF4058-1	4	O	6	10	2	3	4	1	3	0	13	3	0
E39-3	4	R-O	6	4	3	1	0	0	3	0	0	0	0
E43-10	4	R-O	7	3	2	1	0	0	3	0	0	0	0
E50-9	4	O-R	7	8	6	0	1	1	0	3	10	0	0
E110-11	5	R-O	5	9	5	2	2	0	18	8	0	0	0
E114-5	4	O-R	6	11	7	2	1	0	5	0	3	3	0
E115-10	3	R-O	6	17	9	1	3	4	10	3	3	0	0
E115-11	3	R	6	13	6	1	6	0	0	0	0	0	0

¹ -See rating system outlined in the text.

² -Other includes defects such as rhizoctonia, prominent lenticels, pink eye, decay and other defects scorable against a U.S. grade. Mechanical defects, however, were not scored.

Long Island Table 6. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of NE white-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Total Yield cwt/A	Marketable Yield		Size Distribution (%)					Size Distribution		Specific Gravity ¹
		cwt/A	percentage of standard	<2"	2.5"	3.25"	4"	>4"	2 to 4 in.	2.5 to 4 in.	
Season- 133 days											
Katahdin	502	437	100	2	22	66	10	0	98	76	72
Atlantic	487	423	97	3	23	62	12	0	97	74	90
Superior	450	395	90	4	29	61	5	0	96	67	77
Yukon gold	383	342	78	4	19	62	15	1	96	77	74
AF2574-1	527	461	105	3	21	60	15	1	96	75	78
B2452-3	502	449	103	2	12	54	28	3	95	83	72
B2647-3	437	335	77	5	30	58	7	0	95	65	78
BNC182-5	493	456	104	4	28	63	5	0	96	68	80
NY 138	457	416	95	3	21	61	15	0	97	76	75
NY 140	553	485	111	3	19	59	18	2	95	76	77
<i>Fisher's Protected</i>											
<i>LSD (0.05)</i>	<i>(88)</i>	<i>(89)</i>									<i>(5)</i>

Planted on 4/27/09, fertilizer rate was 100-200-200/A plus 60 lb N/A sidedressed, vine killed on 9/7/09, harvested on 9/14/09. ¹-1.0 is excluded from specific gravity readings.

Long Island Table 7. Maturity, tuber shape, and internal and external defects of NE 1031 white-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Maturity ¹ on 8/20/2009	Tuber Data ¹		Tuber Defects (%)					Percentage				
		Shape	Appearance	Total burn	Mis-shapen	Growth cracks	Other ²	Hollow heart	Brown center	Internal SI.	Necrosis Mod.	Sev.	
Season- 133 days													
Katahdin	3	R	6	11	7	0	1	1	40	5	3	0	0
Atlantic	4	O-R	7	10	4	2	4	1	25	0	5	3	0
Superior	1	R-O	6	8	3	3	1	1	3	3	0	0	0
Yukon gold	1	O-R	7	7	3	2	1	1	60	0	0	0	0
AF2574-1	5	O-R	6	9	2	1	5	0	3	10	0	0	0
B2452-3	3	R-O	6	6	3	1	1	2	20	5	3	0	0
B2647-3	1	O-R	6	19	2	1	15	1	3	0	0	0	0
BNC182-5	5	R	6	4	1	0	1	2	15	3	0	0	0
NY 138	4	R-O	6	6	3	0	0	3	30	0	0	0	0
NY 140	5	O-R	7	8	4	1	2	1	5	3	0	0	0

¹-See rating system outlined in the text.

²-Other includes defects such as rhizoctonia, prominent lenticels, pink eye, decay and other defects scorable against a No. 1 grade. Mechanical defects, however, were not scored.

Long Island Table 8. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of NE red and purple-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Total Yield cwt/A	Marketable Yield cwt/A	percentage of standard	Size Distribution (%)					Size Distribution		Specific Gravity ¹
				< 2"	2 to 2.5"	2.5 to 3.25"	3.25 to 4"	> 4"	2 to 4 in.	2.5 to 4 in.	
<u>Season- 133 days</u>											
Chiefton	590	542	100	3	18	66	13	1	96	78	66
D.R. Norland	366	338	62	5	37	54	4	0	95	57	63
NY 129	679	647	119	2	9	56	32	1	97	88	67
B 1816-5	375	333	61	8	46	45	1	0	92	46	73
B2676-2	444	380	70	8	39	49	4	0	92	53	83
<i>Fisher's Protected</i>											
LSD (0.05)	(70)	(66)									(5)

Planted on 4/27/09, fertilizer rate was 100-200-200/A plus 60 lb N/A sidedressed, vine killed on 9/7/09, harvested on 9/11/09.
¹ -1.0 is excluded from specific gravity readings.

Long Island Table 9. Maturity, tuber shape, and internal and external defects of NE1031 red and purple-skinned clones grown at Riverhead, N.Y. - 2009.

Clone	Maturity ¹ on 8/20/2009	Tuber Data ¹		Tuber Defects (%)					Percentage			
		Shape	Appearance	Sun- Total burn	Mis- shapen	Growth cracks	Other ²	Hollow heart	Brown center	Internal SI.	Necrosis Mod.	Sev.
<u>Season- 133 days</u>												
Chiefton	1	6	5	1	0	3	0	10	18	30	3	0
D.R. Norland	1	5	2	1	0	1	0	18	0	8	0	0
NY 129	2	5	2	0	0	1	0	23	0	18	0	0
B 1816-5	2	6	4	0	1	2	0	0	0	5	0	0
B2676-2	5	5	7	1	5	1	0	3	3	3	0	0

¹ -See rating system outlined in the text.

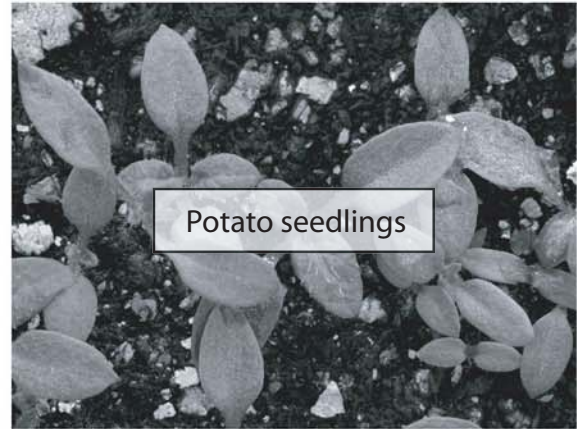
² -Other includes defects such as rhizoctonia, prominent lenticels, pink eye, decay and other defects scorable against a U.S. grade. Mechanical defects, however, were not scored.



Potato harvest in Yunnan province, China



Check varieties, like Eva, are planted at the start of every breeding field. Candidate varieties need to perform comparably, or they will be discarded



Potato seedlings



Fertilizer hoppers on our 2-row potato planter

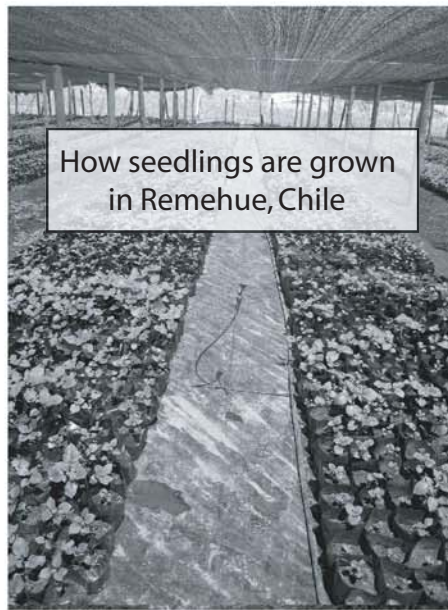
Potato Show & Tell
4 November 2009



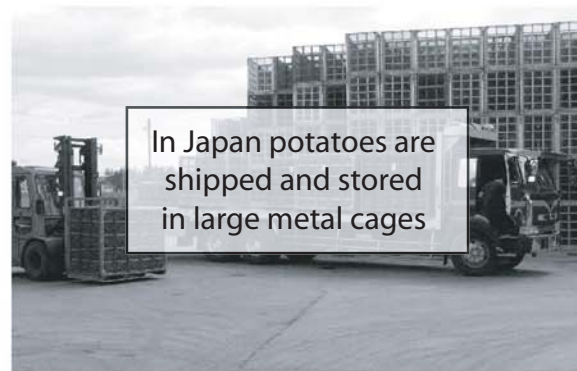
Our two row planter



Potato shoot emerging from one of our stony fields



How seedlings are grown in Remehue, Chile



In Japan potatoes are shipped and stored in large metal cages



We save about 7% of clones after their first year in the field, and store them in onion bags



Gary Mahany's ecologically friendly tractor emits... blue sky



Automatic car wash to ensure golden nematode does not enter potato research facility in Hokkaido, Japan



Stakes for check variety plots



Our two row digger, with the Mount Pleasant observatory in the background