Cornell Potato Breeding Annual Report, 1 December 2017

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Description of Advanced Selections from Cornell Breeding Program
Based on Cornell trials in 2017 and prior years
Last updated: 1 December 2017

NY149 (F11-1) = Yukon Gold x Keuka Gold (2004). Mid-late season yellow-fleshed tablestock, with slightly-textured skin and pink eyes.

- In fourteen Tompkins County trials over six years, marketable yields averaged 84% of Atlantic.
- Wayne County (muck soil) yield was 67% of Atlantic in 2011, 114% of Eva in 2015, 100% of Eva in 2016, and 131% of Eva in 2017.
- Yield on Long Island was 83% of Yukon Gold in 2011 and 105% of Yukon Gold in 2017.
- Yield in PA was 118% of Atlantic in 2011 (1 trial), 92% of Atlantic in 2015 (2 trials), and 87% of Atlantic in 2016 (3 trials).

Tuber flesh color and yield comparable to Yukon Gold, but tuber size is smaller. A low level of pickouts, mostly misshapes, have been observed. Generally free of internal defects (unlike Yukon Gold), although low levels of hollow heart have been observed. Specific gravity has averaged 0.011 less than Atlantic (14 trials). Moderately resistant to common scab. Tubers do not darken, and only exhibit slight sloughing, after boiling. Tuber dormancy is about 1 week longer than Atlantic. Resistant to race Ro1 of the golden nematode.

NY150 (F52-1) = NY121 x Jacqueline Lee (2004). Niche-market, early season tablestock. Produces many small tubers with bright white skin.

- In 17 Tompkins County trials (at 8 inch spacing) between 2010 and 2016, yields of tubers between 1 and 1.875 inches averaged 167 cwt/acre, while yields of tubers between 1.875 and 2.5 inches in diameter averaged 149 cwt/acre. In the same trials yield of tubers greater than 2.5 inches averaged only 16 cwt/acre. For comparison, marketable yield of Atlantic (>1.875 inches) in the same trials averaged 400 cwt/acre.

- Yield in Wayne County in 2014 was 128, 181 and 20 cwt/acre for the less than 2 inch, 2 to 3 inch, and greater than 3 inch size categories, respectively. Yield for the same size categories in a short 2015 season were 110, 35 and 0 cwt/acre. Yield in 2016 was 82, 18 and 0 cwt/acre, respectively.

- Yield on Long Island in 2014 was 63, 207 and 21 cwt/acre for the less than 2 inch, 2 to 2.5 inch, and greater than 2.5 inch size categories, respectively. Yield in 2015 was 75, 155 and 20 cwt/acre for the same size categories.

- Yield in PA in 2013 averaged 143, 185 and 43 cwt/acre for the less than 1.875 inch, 1.875 to 2.5 inch, and greater than 2.5 inch size categories, respectively (2 trials). Yield in 2014 was 114, 159 and 93 cwt/acre for the same size categories. Yield in 2015 averaged 144, 150 and 26 cwt/acre (2 trials). Yield in 2016 was 190, 92, and 3 cwt/acre, respectively.

Few pickouts (mostly misshapes) or internal defects have been observed. Specific gravity has averaged 0.009 less than Atlantic (15 trials). Tubers do not darken or slough appreciably after boiling, and retain attractive appearance after long term storage. Very little skinning when harvested early (end of July). Tuber dormancy is about 2 weeks longer than Atlantic. Intermediate reaction to common scab. Resistant to potato virus Y. Exhibited some resistance to late blight in PA in 2012, 2013 and 2014. Resistant to race Ro1 of the golden nematode and may have some resistance against race Ro2 as well.

NY151 (G73-1) = NY121 x Salem (2005). Late season, white tablestock with relatively smooth skin.

- In 16 Tompkins County trials over the past eight years, marketable yields averaged 105% of Atlantic.

- Yield in Wayne County was 114% of Atlantic in 2014, 116% of Eva in 2015, 106% of Eva in 2016, and 134% of Eva in 2017.

- Yield on Long Island was 116% of Reba in 2011, 118% in 2012, 114% in 2014, 110% in 2015, 121% in 2016, and 107% of Reba in 2017.

- Yield in PA was 117% of Atlantic in 2011 (1 trial), 114% in 2012 (3 trials), 81% in 2014 (2 trials), 105% in 2015 (1 trial), and 109% of Atlantic in 2016 (2 trials).

In general, low levels of pickouts (mostly growth cracks) or internal defects (brown center) have been observed, although 23% brown center was observed in one trial in 2014, and an average of 30% brown center was observed in two upstate NY trials in 2017. Specific gravity is low and has averaged 0.022 less than Atlantic (16 trials). Moderate resistance to common scab. Tubers do not darken or slough appreciably after boiling. Tuber dormancy is comparable to Atlantic. Resistant to race Ro1 of the golden nematode.

NY152 (H15-5) = B38-14 x Marcy (2006). Late season chipstock, excellent chip color.

- In 14 Tompkins County trials over the past seven years, marketable yields averaged 103% of Atlantic.
- Yield in PA was 106% of Atlantic in 2011 (1 trial) and 107% of Atlantic in 2016 (1 trial).
- In trials in Wyoming and Steuben Counties, yield averaged 97% of Atlantic in 2012, 133% in 2014, 98% in 2015, and 105% in 2017.
- Yield on Long Island was 164% of Reba in 2014.

Low levels of pickouts (growth cracks) and varying levels of hollow heart, occasionally high, have been observed (see table below). Specific gravity has averaged 0.007 less than Atlantic (19 trials). Chip color from 44F storage in December, January and February (2011 crop season) averaged 3.0 compared to 4.0 for Snowden (lower is better). Chip color averaged 3.3 versus 3.7 for Snowden in 2012, 3.0 versus 4.7 in 2013, 3.7 versus 4.0 in 2014, 3.2 versus 4.2 in 2015, and 3.2 versus 4.3 for Snowden in 2016. Moderate to good resistance to common scab. Tuber dormancy is about 4 weeks longer than Atlantic. May be resistant to potato virus Y. Susceptible to race Ro1 of the golden nematode.

Percent of hollow heart in NY152 (vs Atlantic in same trial)

	2012	2013	2014	2015	2016	2017
Ellis Hollow	0 (0)	5 (3)	0 (10)	5 (33)	0 (0)	8 (20)
Freeville		10 (23)	33 (3)	60 (33)	0 (10)	8 (18)
Steuben County	0 (10)		10 (5)	0 (0)		30 (25)
Wyoming County	0 (0)		0 (10)	20 (15)		25 (0)

NY155 (H122-4) = NY136 x Nordonna (2006). Early maturing, pink-skinned tablestock.

- In 11 Tompkins County trials over the past seven years, marketable yields averaged 103% of Chieftain.
- Yield in Wayne County was 84% of Atlantic in 2014, 104% of Chieftain in 2015, 103% of Chieftain in 2016, and 46% of Chieftain in 2017.
- Yield on Long Island was 76% of Chieftain in 2012 and 151% of Reba in 2014.
- Yield in PA was 115% of Chieftain in 2011 (2 trials).

Tubers are uniform, large (6.0 ounce average, 4 trials) and have an oblong, flattened shape with shallow eyes and – even though both its parents have deep red skin – **very light pink skin**. Low levels of pickouts (secondary growth) or internal defects (hollow heart, internal necrosis and brown center) have been observed. Moderate resistance to common scab. Tubers do not darken or slough appreciably after boiling. Tuber dormancy is two weeks longer than Atlantic. Susceptible to the golden nematode.

NY156 (J104-3) = White Pearl x Marcy (2007). Late maturity chipstock. Outstanding chip color.

- In four Tompkins County trials over the past six years (not tested in 2015 or 2016), marketable yields averaged 86% of Atlantic.

Low levels of pickouts (growth cracks) or internal defects (hollow heart, internal necrosis) have been observed. Specific gravity has averaged 0.008 less than Atlantic (4 trials). Chip color from 44F storage in December, January and February (2012 crop season) averaged 2.0 compared to 4.0 for Snowden (lower is better). Chip color from the 2013 crop averaged 2.0 compared to 5.7 for Snowden in the same trial. Chip color from the 2014 crop averaged 2.3 compared to 4.0 for Snowden. Moderately resistant to common scab. Tuber dormancy is similar to Atlantic. Susceptible to race Ro1 of the golden nematode.

NY157 (J105-10) = White Pearl x NY115 (2007). Mid-late season chipstock.

- In 12 Tompkins County trials over the past six years, marketable yields averaged 93% of Atlantic.
- In trials in Wyoming and Steuben Counties, yield averaged 100% of Atlantic in 2014, 87% in 2015, 112% in 2016, and 95% of Atlantic in 2017.
- On Long Island, yield was 114% of Reba in 2014, 88% of Reba in 2015, 105% of Atlantic in 2016, and 79% of Atlantic in 2017.
- Yield in Pennsylvania was 102% of Atlantic in 2015 (1 trial) and 90% of Atlantic in 2016 (4 trials).

Low levels of pickouts (knobs, growth cracks) or internal defects (hollow heart, internal necrosis, brown center) have been observed. Specific gravity has averaged 0.006 less than Atlantic (20 trials). Chip color from 44F storage in December, January and February (2012 crop season) averaged 4.0 compared to 4.0 for Snowden (lower is better). Chip color averaged 3.7 vs 5.7 for Snowden in 2013, 3.0 versus 4.0 in 2014, 3.2 vs 4.2 in 2015, and 3.3 vs 4.3 in 2016. Moderately resistant to common scab. Tuber dormancy is similar to Atlantic. Resistant to race Ro1 of the golden nematode.

NY160 (L27-2) = D32-4 x NY150 (2009). Early-mid season, pink-skinned tablestock.

This clone had a lot of virus in 2015 and will resume testing in a few years, once we have clean seed available again.

- In four Tompkins County trials over the past two years, marketable yields averaged 83% of Chieftain.
- Yield in Wayne County was 84% of Chieftain in 2014 and 50% of Chieftain in 2015.

Tubers are relatively small, with smooth, pink skin. Very few pickouts or internal defects have been observed. Moderate resistance to common scab. Tuber dormancy is two weeks shorter than Atlantic. Susceptible to the golden nematode.

NY161 (L29-3) = Daisy Gold x C24-1 (2009). Mid-late season yellow-fleshed tablestock with purple splashes on the skin.

- In eight Tompkins County trials over the past four years, marketable yields averaged 103% of Atlantic. In another Tompkins County trial, yield was 90% of Chieftain.

- Yield in Wayne County was 154% of Atlantic in 2014, 76% of Chieftain in 2015, 88% of Eva in 2016, and 170% of Eva in 2017.

- Yield on Long Island was 120% of Yukon Gold in 2016 and 150% of Yukon Gold in 2017.

Tubers have smooth skin with purple splashes around the eyes and pleasing yellow flesh. Low levels of growth cracks and hollow heart are typically observed, but incidence of growth cracks was high in 2017 (5 to 10%). Moderate resistance to common scab. Tuber dormancy is two weeks longer than Atlantic. Susceptible to the golden nematode.

NY162 (K31-4) = E106-2 x E48-2 (2008). Late season chipstock.

- In 11 Tompkins County trials over the past five years, marketable yields averaged 94% of Atlantic.

- In trials in Wyoming and Steuben Counties, yield averaged 121% of Atlantic in 2014, 97% in 2015, 104% in 2016, and 116% of Atlantic in 2017.

Tubers are round to oblong with moderately textured skin. Low levels of pickouts (misshapes, growth cracks, knobs) have been observed. Some hollow heart (average of 4% across eleven trials) has also been seen. Specific gravity has averaged 0.005 less than Atlantic (19 trials). Chip color from 44F storage in December, January and February (2013 crop season) averaged 3.3 compared to 4.3 for Snowden (lower is better). Chip color averaged 3.7 vs 4.7 for Snowden in 2014. 3.5 vs 4.2 in 2015, and 3.8 vs 4.3 in 2016. Intermediate reaction to common scab. Tuber dormancy is about two weeks longer than Atlantic. Resistant to race Ro1 of the golden nematode.

NY163 (L7-2) = E50-8 x E48-2 (2009). Mid-late season chipstock.

- In nine Tompkins County trials over the past four years, marketable yields averaged 95% of Atlantic.
- In trials in Wyoming and Steuben counties, yield averaged 84% of Atlantic in 2016 and 112% of Atlantic in 2017.
- On Long Island yield was 123% of Reba in 2016.

Tubers are round to oblong with lightly netted skin. Low levels of growth cracks and knobs have been observed. No hollow heart, brown center or internal necrosis has yet been seen in NY. Specific gravity has averaged 0.004 less than Atlantic (13 trials). Chip color from 44F storage in December, January and February (2014 crop season) averaged 3.7 compared to 4.3 for Snowden (lower is better). Chip color averaged 3.2 vs 3.8 for Snowden in 2015, and 2.3 vs 4.3 in 2016. Moderate resistance to common scab. Tuber dormancy is about one week longer than Atlantic. Resistant to race Ro1 of the golden nematode.

NY164 (L26-6) = D32-4 x C100-2 (2009). Red tablestock with smooth skin.

- In eight Tompkins County trials over the past four years, marketable yields averaged 86% of Chieftain.
- Yield in Wayne County was 66% of Chieftain in 2014, 45% of Chieftain in the shortened season of 2015, 70% in 2016, and 53% of Chieftain in the shortened season of 2017.
- Yield on Long Island was 96% of Chieftain in 2016 and 112% of Chieftain in 2017.

Tubers are round to oblong with bright red color and smooth skin. Low levels of growth cracks and knobs have been observed, along with infrequent brown center. Slight heat necrosis was observed on Long Island in 2016. Moderate resistance to common scab. Tuber dormancy is one week less than Atlantic. Susceptible to the golden nematode.

M8-5 = NY148 x F48-4 (2010) Mid-season chipstock.

- In seven Tompkins County trials over the past three years, marketable yields averaged 102% of Atlantic.
- In trials in Wyoming and Steuben counties, yield averaged 110% of Atlantic in 2017.

Tubers are round to oblong with lightly textured skin. Low levels of pickouts (misshapes and knobs) and internal defects (hollow heart and brown center) have been observed. Specific gravity has averaged 0.008 less than Atlantic (9 trials). Chip color from 44F storage in December, January and February (2015 crop season) averaged 3.2 compared to 4.2 for Snowden (lower is better). Chip color averaged 3.5 vs 4.3 for Snowden in 2016. Very good resistance to common scab. Tuber dormancy is about one week longer than Atlantic. Resistant to race Ro1 of the golden nematode.

2017 Summary of Yield Trials

Marketable yield larger than 1 7/8" (including green tubers).

Performance given as % of check variety.

	Ellis Hollow			Varna			Freeville	County Trials		
	Advanced Trial	Intermed. Trial	Red Trial	Advanced Trial	Intermed. Trial	Red Trial	Advanced Trial	Wayne Marion	Steuben Arkport	Wyoming Bliss
Atlantic	**100**	**100**		**100**	**100**		**100**		**100**	**100**
Eva	95			110			70	**100**		
Lamoka	72			92			73			85
Snowden	88	87		98	105		93		106	88
Waneta		71			90				99	
Yukon Gold	79			84			60	158		
NY149	75			91			79	131		
NY151	106			121			104	185		
NY152	100			112			116		114	96
NY156	84									
NY157	91			99			101		99	91
NY161	90			98			77	170		
NY162	93			99			84		120	112
NY163 (L7-2)	97			106			85		125	99
L8-12	75			92			92		93	68
M8-5	98			95			98		123	97
M15-3	66			84			55		52	62
M18-2	83			98			86		92	67
N6-2		114			133					
N11-4		75			97					
N16-10		73			89					
N16-11		87			105					
N24-2		82			92					
N25-1		64			88					
N35-3		68			91			91		
N35-9		86			121			170		
N40-3		71			85					
N40-7		89			115					
N44-7		59			70					

Chieftain	**100**	**100**	**100**
Nordonna	94	91	64
D.R. Norland	73	88	46
Red Maria	118	109	
NY136 (S. Paw)	82	79	
NY155	107	85	46
NY164 (L26-6)	85	81	53

2017 Summary of Specific Gravities

Entries show differences (in units of 0.001) from Atlantic or Snowden

	Ellis Hollow		Varna		Freeville	County	
	Advanced Trial	Intermed. Trial	Advanced Trial	Intermed. Trial	Advanced Trial	Steuben Arkport	Wyoming Bliss
Atlantic	**1.087**	**1.087**	**1.089**	**1.086**	**1.093**	**1.091**	**1.098**
Eva	-18		-11		-15		
Lamoka	-6		-4		-5		-3
Snowden	+4	+1	+2	+4	-2	+2	-4
Waneta		-8		-11		+3	
Yukon Gold	-14		-18		-10		
NY149	-9		-13		-5		
NY151	-20		-18		-21		
NY152	-5		-6		-1	+5	-6
NY156	-9						
NY157	-6		-2		-2	-10	-8
NY161	-14		-14		-13		
NY162	-2		-5		-3	-12	-8
NY163 (L7-2)	-1		-5		-1	-7	-11
L8-12	-4		0		-3	-9	-11
M8-5	-7		-5		-6	-4	-8
M15-3	-1		-6		0	+4	-2
M18-2	+5		+4		0	+6	-7

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Results from Cornell Breeding Program Trials

Walter De Jong and Robert Plaisted

2017 Advanced Stage Yield Trial, Ellis Hollow

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

4 Replicates (unless indicated otherwise in parentheses)

Planted May 4, harvested September 27. Vine kill applied August 30.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Atlantic (3)	456	308	68	12	gc, mis	20	0	13	3.2	1.087
Daisy Gold	365	230	63	92	gc, mis	25	0	0	3.0	1.079
Eva	434	322	74	1	gc, mis	3	0	5	3.8	1.069
Keuka Gold	488	362	74	4	gc, mis	5	3	10	3.4	1.073
Lamoka (3)	328	232	71	3	mis, gc	0	0	0	3.5	1.081
Reba	415	297	72	5	gc, mis	10	3	3	3.2	1.071
Salem	444	310	70	10	gc, mis	0	0	0	3.5	1.064
Snowden	400	234	59	1	gc, mis	23	0	0	3.0	1.091
Yukon Gold	363	306	84	13	gc, mis	30	3	0	3.2	1.073
NY149	344	144	42	1	k	5	0	0	3.7	1.078
NY151	483	301	62	4	k, gc	0	0	35	3.6	1.067
NY152	457	269	59	1	mis, gc	8	0	0	3.4	1.082
NY156	385	281	73	3	gc, k	10	0	0	3.4	1.078
NY157	416	242	58	5	gc, k	0	0	3	3.4	1.081
NY161	412	202	49	22	gc	5	0	5	3.2	1.073
NY162	422	282	67	4	mis, gc	8	0	3	3.3	1.085
NY163 (L7-2)	442	227	51	5	mis, gc	0	0	0	3.2	1.086
L8-12	344	215	63	5	mis, k	3	0	0	3.1	1.083
M8-5	446	262	59	4	mis	0	0	0	3.1	1.080
M15-3	301	173	57	8	gc, k	0	0	0	3.1	1.086
M18-2	381	181	48	1	k	0	0	0	3.4	1.092
Pike (2)	388	217	56	2	mis, gc	0	40	0	3.1	1.080

2017 Advanced Stage Yield Trial, Varna

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

4 Replicates (unless indicated otherwise in parentheses)

Planted May 10, harvested October 2. Vine kill applied September 7.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Atlantic (3)	445	343	77	13	gc, k	10	0	3	3.6	1.089
Daisy Gold	396	269	68	89	mis, gc	20	0	0	3.0	1.081
Eva	488	392	80	0	-	3	0	3	3.0	1.078
Keuka Gold	419	337	80	5	gc	0	0	0	3.5	1.070
Lamoka	408	308	76	7	gc	0	0	3	3.4	1.085
Lehigh	453	355	78	7	gc	0	0	0	3.6	1.078
Reba	423	313	74	8	gc, mis	3	0	0	3.2	1.073
Salem	572	478	83	6	gc, mis	3	0	0	3.4	1.070
Snowden	434	306	70	0	-	13	0	0	3.0	1.091
Yukon Gold	373	319	85	18	mis, gc	23	3	3	3.2	1.071
NY149	407	210	52	5	gc, k	13	0	0	3.7	1.076
NY151	539	382	71	4	k, gc	0	0	25	3.5	1.071
NY152	498	308	62	1	k	3	0	0	3.5	1.083
NY157	442	287	65	5	gc, k	3	0	0	3.5	1.087
NY161	434	241	55	28	gc, k	8	0	0	3.2	1.075
NY162	441	304	69	6	k, gc	3	0	0	3.5	1.084
NY163 (L7-2)	470	252	54	3	k	0	0	0	3.4	1.084
L8-12	409	319	78	11	k, mis	5	0	0	3.2	1.089
M8-5	424	247	58	9	k, mis	0	0	0	3.4	1.084
M15-3	375	238	63	2	gc	0	0	0	3.5	1.083
M18-2	434	241	56	6	mis, gc	0	0	3	3.3	1.093
Pike (1)	405	257	63	1	mis, gc	0	10	0	3.2	1.085

2017 Intermediate Stage Yield Trial, Ellis Hollow

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

4 Replicates (unless indicated otherwise in parentheses)

Planted May 4, harvested September 27, vines burned down on August 30.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Atlantic	535	417	78	11	2g, gc	27	0	13	3.3	1.087
Snowden	464	318	68	2	gc	13	0	3	3.0	1.088
Waneta	381	301	79	6	gc	3	0	0	3.7	1.079
N6-2	610	396	65	5	mis, k	0	0	0	3.3	1.078
N11-4	402	196	49	3	k	20	0	0	3.4	1.084
N16-10	392	232	59	1	k	0	0	0	3.4	1.084
N16-11	464	256	55	3	gc, mis	0	0	0	3.4	1.076
N24-2	439	258	59	5	gc, k	0	0	0	3.1	1.080
N25-1	343	125	37	6	gc	0	0	0	3.4	1.076
N35-3	365	161	44	5	k, gc	0	0	0	3.5	1.072
N35-9	459	227	49	2	k	0	0	0	3.5	1.072
N40-3	382	217	57	8	gc, mis	0	0	0	3.2	1.084
N40-7	478	266	56	3	k, gc	0	0	0	3.4	1.080
N44-7	318	209	66	3	gc, mis	0	0	0	3.7	1.086

2017 Intermediate Stage Yield Trial, Varna

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

4 Replicates (unless indicated otherwise in parentheses)

Planted May 10, harvested October 2. Vines burned down on September 7.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Atlantic	591	510	86	11	gc, k	23	0	0	3.0	1.086
Snowden	622	518	83	3	gc	37	0	0	2.7	1.090
Waneta	533	465	87	1	gc	7	3	0	3.3	1.075
N6-2	785	561	71	0	-	0	0	0	3.0	1.079
N11-4	572	388	68	4	gc	3	0	0	3.0	1.087
N16-10	526	365	70	0	-	0	0	0	3.1	1.086
N16-11	623	406	65	0	-	0	0	0	2.8	1.082
N24-2	544	400	74	10	k, gc	10	0	0	3.1	1.089
N25-1	522	243	46	8	gc	0	0	0	3.1	1.081
N35-3	537	332	62	0	-	0	0	0	3.3	1.076
N35-9	716	487	68	3	k, gc	0	0	0	3.4	1.077
N40-3	505	380	75	2	gc	3	0	0	3.2	1.087
N40-7	682	527	77	3	k	0	0	0	3.0	1.085
N44-7	414	284	69	2	gc	0	0	0	3.4	1.081

2017 First Stage Yield Trial, Ellis Hollow

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

3 Replicates

Planted May 4, harvested September 28. Vine kill applied August 30.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Atlantic	500	363	73	17	mis, gc	30	0	10	3.3	1.085
Lamoka	433	333	77	6	gc, mis	0	0	0	3.4	1.080
Snowden	434	288	66	0	-	23	3	0	3.0	1.092
Katahdin	413	303	73	8	mis	3	0	3	3.1	1.073
NY141	438	319	73	26	k	0	0	7	3.5	1.076
P6-7	238	108	45	1	k	0	0	0	3.3	1.079
P13-11	351	158	45	3	mis, gc	0	0	0	3.5	1.088
P14-1	429	250	58	11	gc, k	3	3	0	2.9	1.086
P14-8	391	210	54	7	gc, k	3	0	3	3.4	1.084
P14-9	402	236	59	4	mis, gc	7	0	3	3.2	1.086
P14-13	408	207	51	6	gc, mis	13	0	10	3.3	1.091
P16-2	498	313	63	3	k	7	0	0	2.9	1.083
P16-4	359	198	55	3	mis, gc	10	0	3	3.6	1.076
P16-7	285	93	33	9	k, gc	3	0	0	3.2	1.088
P16-8	478	244	51	10	mis	3	0	0	3.0	1.089
P19-2	442	274	62	4	k, gc	0	0	0	3.0	1.081
P19-6	436	277	64	14	sprouts	13	17	0	3.1	1.079
P19-10	549	389	71	8	gc	30	0	0	3.4	1.086
P101-3	390	147	38	23	gc	0	0	3	3.3	1.080
P101-12	446	335	75	10	gc, mis	37	0	3	3.4	1.088
P101-14	349	236	68	27	gc	23	7	7	3.5	1.083
P103-1	464	305	66	2	k, gc	7	0	3	3.3	1.089
P103-5	341	179	52	9	k	0	0	0	3.5	1.068
P103-12	431	252	58	12	gc	20	0	0	3.1	1.095
P103-15	366	189	52	3	k, gc	13	0	3	3.2	1.087
P103-22	465	305	66	13	gc	10	0	3	3.4	1.080
P104-19	520	395	76	24	k, gc	3	0	23	2.9	1.072
P105-9	417	225	54	3	gc	0	0	3	3.5	1.088
P108-2	385	125	33	2	k, gc	0	0	0	3.5	1.089
P108-5	449	304	68	5	gc	0	3	0	3.0	1.085
P108-6	378	236	62	7	gc, k	0	0	7	3.4	1.084
P110-6	304	132	44	2	gc, mis	0	0	0	3.3	1.090
P110-14	425	233	55	1	gc	3	10	0	2.9	1.093
P111-5	481	267	56	4	gc, k	0	3	0	3.2	1.080
P111-6	317	139	44	0	-	0	0	3	3.5	1.082
P111-9	402	145	36	0	-	0	3	0	3.0	1.093
P111-16	462	283	61	3	mis	0	0	0	3.3	1.088
P114-1	452	295	65	10	gc, k	3	0	0	3.5	1.088
P114-2	437	245	56	1	gc	33	7	0	3.5	1.096
P116-6	465	309	66	12	2g, gc	27	7	0	3.2	1.087
P118-6	455	204	45	2	gc, k	0	0	0	3.5	1.083
P119-3	400	301	75	4	gc	0	0	3	3.0	1.082

2017 First Stage Yield Trial, Varna

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

3 Replicates

Planted May 10, harvested October 3. Vine kill applied September 7.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Atlantic	637	536	84	13	gc, mis	47	0	0	3.2	1.087
Green Mour	625	511	82	2	k	23	0	0	2.7	1.093
Lamoka	528	439	83	1	k	0	0	0	3.2	1.085
Snowden	575	457	80	7	mis, k	43	0	0	3.0	1.090
NY148	607	459	76	0	-	0	0	3	3.1	1.088
P6-7	349	202	58	0	-	0	3	0	3.0	1.078
P13-11	447	220	49	0	-	0	0	0	3.4	1.093
P14-1	556	424	76	5	gc	7	0	0	3.1	1.086
P14-8	518	342	66	8	gc, k	3	0	3	3.2	1.088
P14-9	516	388	75	0	k	7	0	0	3.3	1.094
P14-13	531	365	69	0	-	10	0	0	3.4	1.094
P16-2	621	480	77	2	k, gc	3	0	0	3.0	1.087
P16-4	524	382	73	10	gc	17	0	0	3.7	1.081
P16-7	403	158	39	3	gc, mis	0	0	0	2.9	1.088
P16-8	563	392	70	6	gc	0	0	0	2.8	1.085
P19-2	595	396	67	6	gc, k	0	0	0	3.5	1.081
P19-6	562	390	69	49	gc, k	17	0	0	2.8	1.083
P19-10	539	368	68	3	gc	30	0	0	3.2	1.089
P101-3	585	296	51	18	gc, k	0	0	0	3.2	1.082
P101-12	510	412	81	37	gc	43	0	0	3.6	1.089
P101-14	431	315	73	42	gc	13	3	0	3.3	1.077
P103-12	627	478	76	8	gc	17	0	0	3.2	1.094
P105-9	474	316	67	4	mis, gc	7	0	0	3.3	1.092
P108-2	529	292	55	3	k	0	0	0	3.3	1.091
P110-6	400	238	60	0	k	0	3	0	3.2	1.092
P110-14	519	340	66	0	-	7	0	0	3.1	1.095
P111-5	512	292	57	1	k	0	0	0	3.0	1.082
P111-6	460	302	66	0	k	3	0	0	3.4	1.083
P111-9	594	393	66	0	-	0	0	0	3.1	1.091
P111-16	570	431	76	0	-	0	0	0	3.2	1.087
P114-1	571	468	82	3	gc	23	0	0	3.2	1.090
P114-2	488	307	63	6	gc, k	50	0	0	3.4	1.101
P116-6	544	414	76	16	gc, k	20	0	0	3.1	1.087
P118-6	595	369	62	5	gc, k	0	0	0	3.0	1.078
P119-3	535	441	82	3	gc	0	0	0	3.0	1.085

2017 Red Trial, Ellis Hollow

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

3 replicates (unless indicated otherwise in parentheses)

Planted May 4, harvested September 29. First vine kill applied August 30.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Chieftain	434	275	63	5	gc, mis	0	3	3	3.7	1.068
Nordonna	410	211	51	0	-	3	0	0	3.2	1.066
Norland	316	151	48	14	gc, 2g	0	0	0	3.5	1.063
Red Maria	511	424	83	3	gc	0	0	3	3.5	1.064
NY136	356	235	66	13	mis, gc	0	0	0	3.2	1.069
NY155	465	339	73	23	2g, mis	3	0	13	3.4	1.065
NY164	367	180	49	11	2g, k	0	0	0	3.5	1.070

2017 Red Trial, Varna

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

3 replicates (unless indicated otherwise in parentheses)

Planted May 11, harvested October 4. First vine kill applied September 7.

	cwt/acre		%	pickout		% internal defects			appear.	specific
	>1 7/8"	>2 1/2"	>2 1/2"	cwt/A	type	HHT	IN	BC	score	gravity
Chieftain	529	388	73	17	gc, k	0	7	0	3.4	1.068
Nordonna	480	252	22	4	k, mis	0	3	0	3.3	1.068
Norland	464	290	62	23	gc, k	3	0	0	3.5	1.062
Red Maria	577	507	88	1	k, mis	0	0	0	3.5	1.068
NY136	417	297	71	11	mis	0	0	0	3.2	1.072
NY155	449	328	73	21	k, mis	3	0	0	3.4	1.066
NY164	431	242	56	3	mis	0	0	0	3.3	1.076

2016 Crop Season Chip Color Scores - University Trials

44F Storage

Average of two locations (Ellis Hollow and Freeville)

	VISUAL SCORES			
	DEC	JAN	FEB	Average 3 MONTHS
SNOWDEN	4.5	4.0	4.5	4.3
WANETA	2.5	2.5	2.5	2.5
LAMOKA	3.5	3.5	3.0	3.3
NY152	3.0	3.0	3.5	3.2
NY157	3.5	3.0	3.5	3.3
NY162	3.5	3.5	4.5	3.8
NY163 (L7-2)	2.5	2.0	2.5	2.3
L8-12	4.0	4.0	4.0	4.0
M8-5	3.5	3.5	3.5	3.5
M15-3	3.0	3.0	3.0	3.0
M18-2	2.5	3.0	3.0	2.8

VISUAL CHIP SCALE: 1 - 10

1 = best

4 = marginal

5 and over = not acceptable

Samples were not reconditioned before chipping

Average Chip Color over Five Years - University Trials

Out of 44F storage: 2012 - 2016 crop seasons.
Reconditioned 0-1 weeks at room temperature

	VISUAL SCORES (4 YEARS, 1 LOCATION = Ellis Hollow)			
	DEC	JAN	FEB	AVG
Snowden	4.6	4.0	4.2	4.3
Waneta	3.4	2.8	3.6	3.3
Lamoka	3.2	3.0	3.1	3.1
NY152	3.4	3.0	3.6	3.3
NY157	3.8	3.4	3.6	3.6

VISUAL CHIP SCALE: 1 - 10

1 = best
4 = marginal
5 and over = not acceptable

Scab Score Summary

Tubers evaluated at harvest from scab-infested plots in Ellis Hollow (EH) and Varna (V)

0 = free of scab, 5 = very susceptible

LOCATION:	2017 EH	2015 EH	2014 EH	2013 EH	2012 V	2011 EH	2010 EH	2009 V	2009 EH	08 V	08 EH	07 V	07 EH	06 V	06 EH
Atlantic										4.0	4.0	3.3	4.3	2.3	3.0
Chieftain	3.3	3.0	3.5	4.0		3.3	5.0	1.0	3.0		3.5	1.3	3.7	1.5	2.5
Chippewa	5.0	5.0	4.7	4.5	3.0		5.0	4.3	5.0	4.7	5.0	4.3	5.0	4.0	4.3
Katahdin	4.4	4.7	4.7	4.0	2.3	4.0	4.8	3.7	4.3	4.3	4.0	4.0	4.3	2.6	4.3
Lamoka	2.7		2.8				2.3	1.3	2.7	2.3	2.3	2.7	3.3	1.5	2.0
Nordonna	3.3	2.3	3.7							1.0	1.5	1.7	1.0	2.0	2.0
Pike	3.3	2.7	2.4		2.7		1.7	1.3	1.7	1.5	2.0	2.7	2.7	1.8	1.6
Reba							4.0	2.0	3.0			2.7	3.3	1.7	3.0
Snowden							5.0	1.7	4.0		3.0	4.0	3.7	2.7	3.0
Superior	3.0	3.0	3.5	2.5	2.3	2.8	2.3	2.0	2.7	1.7	2.0	3.0	2.0	1.6	1.6
Waneta							2.3	2.0	1.0	1.3	2.3	3.0	3.3	2.0	2.0
NY140 (yield, Ro2)			4.7	4.5			4.7	2.7	3.3	3.0	3.7	3.7	4.3	3.0	4.0
NY141 (table)		2.3	3.0	3.5			3.0	1.3	1.7	2.7	2.7	3.0	3.1	2.3	3.0
NY148 (chip)			2.5	2.5	2.3	3.0	2.7	2.5	1.5						
NY149 (yellow)	3.2	2.7			2.3	2.7	3.0								
NY150 (small)		2.7	3.0	3.0	2.5	3.7	2.3								
NY151 (table)		2.7		3.0	2.3	3.3	3.0								
NY152 (chip)		2.3	2.2	2.0	2.0	2.8									
NY155 (pale pink)	3	2.7	3.0	3.0		2.7									
NY156 (chip)	3.3		3.2	2.5											
NY157 (chip)	2.8	2.0	2.8	2.5											
NY160 (pink)		2.3	2.7												
NY161 (yellow)	2.3	2.3	2.8												
NY162 (chip)	3.7	2.0	3.3	2.5											
NY163 (chip)	3	2.0	2.8												
NY164 (red)	3.7	3.0	2.2												

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.

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Round whites:											
Andover	0		1		3	3	3	3		4	4
Atlantic	0	0	0	0	0	0	0	0	0	0	0
Eva	5		6		7	8					
Lamoka	1		0		3	0	1	1	1	2	3
Lehigh									3	3	3
Reba	2		2		4		5	5	4	6	7
Snowden	2	0	0		2	2	2	2	1	4	2
Superior	1								2		
Waneta	7	9	6		10	7	8	8	6	8	7
Yukon Gold	1	2				0	1				
NY140			4	5	7	6	6	7	5	6	6
NY141		4	0	4	3	2	2	2	2	3	3
NY148			0	0	0	1	0	0	0		
NY149	2	2				0	2	1			
NY150	0	3	3	3	2	2	2	2			
NY151	0	2	0	0	1	1	0				
NY152	4	5	2	4	3	5					
NY156			0	1	2						
NY157	2	-2	-1	0	2						
NY161	2	3	1								
NY162	1	5	0	1							
NY163	2	1									
M8-5	1										
Reds and purples:											
Chieftain	0		0	0	2	1	2	1	1	0	2
Norland DR	-2		-4		-1				-3	-3	
Nordonna	-2		-2	0	2	0	1	2	0	0	1
Red Maria			1	3	3	4	5	3	3	4	4
NY155	0		1	2	3	2					
NY160			-2								
NY164	-2		-1								
Ad. Blue			0	0	-2					2	2
Ad. Red			2							2	1

(blank)

Data from Freeville and Upstate County Farm Trials
Walter De Jong and Don Halseth

Advanced Clone Yield Trial, Freeville NY, 2017. Page 1 of 2.

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

3 Replicates

Planted May 11, harvested September 12. First vine kill applied August 21 (although most vines already down; hopperburn).

Genotype	Total	Mkt. Yield		Size Distribution					Size Distrib. (%)		
Variety	Yield		% of	(% of total yield)					1-7/8"	2-1/2"	Spec.
or Clone	Cwt/A	Cwt/A	Std.	1	2	3	4	5	to 4"	to 4 "	Grav.
Atlantic	253	240	100	4	30	52	14	0	96	67	1.093
Eva	178	169	70	6	52	38	4	0	94	43	1.078
Keuka Gold	243	230	96	5	35	48	12	0	95	60	1.081
Lamoka	187	175	73	7	48	41	4	0	93	45	1.088
Reba	256	245	102	5	47	40	8	0	95	48	1.076
Snowden	253	224	93	12	46	34	9	0	88	43	1.091
Yukon Gold	165	144	60	2	18	60	20	0	98	80	1.083
NY149	221	189	79	14	53	32	0	0	86	32	1.088
NY151	281	250	104	8	46	41	4	0	92	46	1.072
NY152	304	279	116	9	51	38	2	0	91	40	1.092
NY157	262	243	101	7	51	38	4	0	93	42	1.091
NY161	224	184	77	16	51	31	2	0	84	34	1.080
NY162	210	202	84	3	28	54	15	0	97	69	1.090
NY163	219	205	85	6	50	38	6	0	94	44	1.092
L8-12	229	222	92	3	29	51	17	0	97	68	1.090
M8-5	254	235	98	10	42	40	8	0	90	48	1.087
M15-3	148	132	55	11	49	35	4	0	89	40	1.093
M18-2	232	207	86	9	49	40	2	0	91	42	1.093

Tuber size classes: 1 = under 1.875 inches diameter, 2 = 1.875 to 2.5, 3 = 2.5 to 3.25, 4 = 3.25 to 4, 5 = over 4 inches diameter

Genotype	Tuber Attributes			External Tuber Defects (%)			Int. Tuber Defects (%)			
Variety or Clone	Tuber Shape	Skin Text.	Tuber Appear.	Total Defects	Mis-shapen	Growth Cracks	Holl. Heart	Brn. Center	Vasc. Disc.	Int. Nec.
Atlantic	3.0	5.0	6.5	1.7	0.0	1.7	18	0	0	0
Eva	3.0	7.0	7.0	0.2	0.2	0.0	0	0	0	0
Keuka Gold	2.0	5.0	7.0	0.7	0.5	0.2	0	3	12.5	0
Lamoka	3.0	6.0	7.0	0.0	0.0	0.0	0	0	2.5	0
Reba	3.5	6.0	5.0	0.2	0.1	0.1	3	0	0	0
Snowden	3.0	5.0	5.0	0.0	0.0	0.0	30	0	5	0
Yukon Gold	3.0	6.0	6.3	11.1	0.0	11.1	3	0	0	0
NY149	3.0	6.0	7.0	0.3	0.2	0.1	0	0	7.5	0
NY151	2.0	7.0	7.3	3.1	0.0	3.1	0	0	7.5	0
NY152	3.0	5.3	6.3	0.2	0.0	0.2	8	0	2.5	0
NY157	2.8	5.0	6.3	0.4	0.0	0.4	0	0	2.5	0
NY161	2.8	6.0	6.0	7.3	1.2	6.1	3	0	10	0
NY162	3.0	5.8	6.3	1.0	1.0	0.0	5	0	2.5	0
NY163	2.3	7.0	6.0	0.4	0.0	0.4	0	0	0	0
L8-12	3.3	5.5	5.3	0.0	0.0	0.0	0	2.5	0	0
M8-5	2.5	5.8	5.8	0.4	0.1	0.3	2.5	0	7.5	0
M15-3	3.0	6.0	6.0	1.6	1.3	0.3	0	0	0	0
M18-2	2.0	6.0	6.3	2.1	0.0	2.1	0	0	0	0

Tuber shape 1 = round, 2 = mostly round, 3 = round to oblong, 4 = mostly oblong, 5 = oblong, 6 = oblong to long, 7 = long

Skin texture 5 = netted, 6 = slight net, 7 = medium smooth, 8 = smooth, 9 = very smooth

Tuber appearance 2 = ugly, 3 = OK, 4 = nice

Upstate New York Grower Table 1. 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 Marion, New York - 2017.

Variety or Clone	Total Yield	Mkt. Yield		Size Distribution[1] (% of total yield)				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Specific Gravity
	Cwt/A	Cwt/A	% of Std.	1	2	3	4	#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	
AF4831-2	243	63	23	51	48	0	0	11.9	2.1	21	1	1	0	0	0	0	0	1.068
CHIEFTAIN	468	278	100	15	80	5	0	13.0	3.7	25	0	1	0	0	0	0	0	1.073
DR NORLAND	283	137	49	35	64	1	0	11.9	2.5	16	0	1	0	0	0	0	0	1.066
MSQSNDSU07-04R	397	229	82	14	78	9	0	11.4	3.6	25	2	1	1	0	0	0	0	1.064
NORDONNA	314	167	60	19	71	10	0	10.2	3.2	27	0	1	0	0	0	0	0	1.067
NY155	228	160	58	20	77	4	0	6.8	3.5	9	0	0	0	0	0	5	0	1.059
NY164	274	168	61	23	76	1	0	10.0	2.8	15	0	0	0	0	0	0	0	1.062
W8890-1R	175	82	30	42	58	0	0	8.2	2.2	9	1	0	0	0	0	0	0	1.062
Average:	298	161	58	27	69	4	0	10	3	18	1	1	0	0	0	1	0	1.065
Maximum:	468	278	100	51	80	10	0	13	3.7	27	2	1	1	0	0	5	0	1.073
Minimum:	175	63	23	14	48	0	0	7	2.1	9	0	0	0	0	0	0	0	1.059

Tuber size classes: 1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: June 22 Vinekill Date: September 11 Harvest Date: October 18

Fertilizer: 89 N-90 P-240 K lbs. per acre Vinekill: 1 pt./a Reglone + crop oil Irrigation: none

Fertilizer: Taskforce 2 qt/acre and Nutrimag 2 gal/acre

Upstate New York Grower Table 2. 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 Marion, New York - 2017.

Variety or Clone	Total Yield	Mkt. Yield		Size Distribution[1] (% of total yield)				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Specific
	Cwt/A	Cwt/A	% of Std.	1	2	3	4	#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	Gravity
EVA	203	125	100	25	72	3	0	7.3	3.0	13	1	0	0	0	0	0	0	1.076
KEUKA GOLD	401	277	222	10	71	19	0	9.9	4.2	20	0	0	1	0	0	0	0	1.075
N35-3	240	101	81	42	58	0	0	10.0	2.5	15	1	0	0	0	3	0	0	1.078
N35-9	367	136	109	29	71	0	0	13.5	2.8	33	0	0	0	0	0	3	0	1.070
NY149	300	153	122	32	68	0	0	11.3	2.8	15	2	0	0	0	0	0	0	1.076
NY151	362	167	134	23	71	6	0	12.7	3.0	31	1	0	0	0	0	0	0	1.071
NY161	368	146	117	30	70	0	0	14.5	2.6	30	0	0	0	0	10	0	0	1.070
YUKON GOLD	264	132	106	7	58	35	0	5.4	5.1	40	1	2	0	10	0	0	0	1.076
Average:	313	155	124	25	67	8	0	11	3	24	1	0	0	1	2	0	0	1.074
Maximum:	401	277	222	42	72	35	0	14	5.1	40	2	2	1	10	10	3	0	1.078
Minimum:	203	101	81	7	58	0	0	5	2.5	13	0	0	0	0	0	0	0	1.070

Tuber size classes: 1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: June 22 Vinekill Date: September 11 Harvest Date: October 18

Fertilizer: 89 N-90 P-240 K lbs. per acre Vinekill: 1 pt./a Reglone + crop oil Irrigation: none

Fertilizer: Taskforce 2 qt/acre and Nutrimag 2 gal/acre

Upstate New York Grower Table 3. 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 - 2017.

Variety or Clone	Total Yield	Mkt. Yield		Size Distribution[1] (% of total yield)				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Spec.
	Cwt/A	Cwt/A	% of Std.	1	2	3	4	#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	Grav.
ATLANTIC	427	340	100	4	42	46	7	6.8	7.0	3	3	3	0	25	5	5	0	1.091
L8-12	396	320	94	4	37	49	10	6.0	7.3	2	2	1	0	20	0	5	0	1.082
M8-5	476	421	123	4	50	43	3	8.7	6.0	3	0	0	0	5	0	0	0	1.087
M15-3 *	211	185	54	11	79	9	0	6.1	3.9	0	0	1	0	0	0	0	0	1.095
M18-2 *	380	311	91	11	65	21	3	9.1	4.6	4	0	0	0	20	0	10	0	1.097
MSW485-2	410	361	106	10	72	18	1	10.9	4.1	1	0	0	0	0	0	35	0	1.095
NY152	439	383	112	9	70	21	0	11.2	4.3	4	0	0	0	30	0	0	0	1.096
NY157	401	336	98	7	58	32	4	8.8	5.1	3	3	0	0	0	0	5	0	1.086
NY162	477	414	121	4	39	50	7	7.7	6.9	2	1	0	0	5	0	25	0	1.079
NY163	471	437	128	4	63	31	1	9.6	5.4	1	1	0	0	0	0	5	0	1.084
SNOWDEN	410	362	106	5	50	43	2	7.9	5.7	3	1	0	0	55	0	0	0	1.093
W8822-1	416	370	109	6	57	35	2	8.7	5.3	2	1	0	0	5	0	5	0	1.090
WANETA	420	327	96	2	31	51	15	5.9	7.9	5	0	0	0	20	0	15	0	1.094
Average:	410	351	103	6	55	35	4	8.2	5.7	3	1	0	0	14	0	8	0	1.090
Maximum:	477	437	128	11	79	51	15	11.2	7.9	5	3	3	0	55	5	35	0	1.097
Minimum:	211	185	54	2	31	9	0	5.9	3.9	0	0	0	0	0	0	0	0	1.079

[1]Tuber size classes: 1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: June 13 Vinekill Dates: Harvest Date: October 19

Fertilizer: 128N - 256P- 128K - 4S - 4Zn - 0.24B lbs. per acre Vinekill: Irrigation:

36" bed width by 8 inch within row spacing

* Note: This trial had two replications, except there was only one plot each for M15-3 and M18-2 clones as denoted by "*".

Upstate New York Grower Table 4. 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 Bliss, New York - 2017.

Variety or Clone	Total Yield	Mkt. Yield		Size Distribution[1] (% of total yield)				Mean Tuber		Percent External Tuber Defects				Percent Internal Tuber Defects				Spec.
	Cwt/A	Cwt/A	% of Std.	1	2	3	4	#/ft	wt(oz)	SUN	KNB	GC	ROT	HH	BC	VD	NEC	Grav.
ATLANTIC	462	407	100	4	51	42	4	8.2	6.0	3	1	1	1	0	10	0	0	1.098
LAMOKA	379	349	86	3	50	45	2	6.0	6.6	2	0	1	0	0	0	0	0	1.095
L8-12	305	283	69	4	49	46	1	4.8	6.4	1	1	1	1	0	0	0	0	1.087
M8-5	443	399	98	4	49	43	3	8.5	5.4	2	0	0	0	0	5	0	0	1.090
M15-3 *	287	258	64	8	73	18	0	6.5	4.6	1	0	0	1	0	0	0	0	1.096
M18-2 *	346	270	66	13	58	25	3	8.4	4.3	4	0	2	0	50	0	0	0	1.091
MSW485-2	466	401	99	6	60	31	3	9.5	5.1	2	1	1	0	0	5	0	0	1.093
NY152	430	400	98	5	63	31	1	8.7	5.1	1	0	0	0	25	5	0	0	1.092
NY157	438	369	91	6	52	38	3	8.9	5.1	3	1	2	0	10	0	0	0	1.090
NY162	513	466	115	3	38	54	5	7.7	7.0	1	1	0	0	15	0	0	0	1.090
NY163	465	418	103	5	69	23	3	9.0	5.4	0	1	0	0	0	0	0	0	1.087
SNOWDEN	383	361	89	4	46	50	0	6.9	5.8	2	0	0	0	10	0	0	0	1.094
W8822-1	436	402	99	5	56	38	1	7.7	5.9	0	0	2	0	10	0	0	0	1.086
Average:	412	368	90	5	55	37	2	7.7	5.6	2	0	1	0	9	2	0	0	1.091
Maximum:	513	466	115	13	73	54	5	9.5	7.0	4	1	2	1	50	10	0	0	1.098
Minimum:	287	258	64	3	38	18	0	4.8	4.3	0	0	0	0	0	0	0	0	1.086

[1]Tuber size classes: 1 = under 2" dia., 2 = 2" to 3" dia., 3 = 3" to 4" dia., and 4 = over 4" dia.

Plant Date: June 9 Vinekill Dates: September 29 & October 6 Harvest Date: October 27

Fertilizer: 180N - 73P- 92K - 12Mg-17S-1.1Zn-41Ca lbs./a Vinekill: 2 pt./a Reglone and Surfactant (2x) Irrigation: None needed

Other: 1 qt./a Double Nickel and 3 pt./a Vydate in furrow 34" bed width by 8" within row spacing

* Note: This trial had two replications, except there was only one plot each for M15-3 and M18-2 clones as denoted by "*".

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Data from Riverhead, Long Island Trials
Sandra Menasha

Long Island Table 2. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of advanced white-skinned clones grown at Riverhead, N.Y. - 2017.

	Total	Marketable Yield		Size Distribution (%)					Size Distribution		
	Yield		percentage		2 to	2.5 to	3.25 to		2 to	2.5 to	Specific [1]
Clone	cwt/A	cwt/A	of standard	< 2"	2.5"	3.25"	4"	> 4"	4 in.	4 in.	Gravity
Season–121 days											
Reba	475	419	100	2	21	67	10	0	98	77	65
Envol	342	300	72	3	25	65	7	0	97	72	65
Marcy	507	447	107	3	23	65	9	0	97	74	75
Norwis	385	349	83	2	13	54	31	0	98	85	61
Purple Soul	217	191	46	3	34	59	3	0	97	63	60
Salem	434	389	93	4	21	60	15	0	96	75	60
Spartan Splash	408	368	88	8	49	42	0	0	92	43	65
Superior	415	370	88	5	46	47	2	0	95	49	68
Waneta	363	293	70	4	24	57	15	0	96	72	67
AF0338-17	454	421	100	2	25	63	10	0	98	72	73
BNC182-5	453	422	101	4	26	61	9	0	96	70	78
NY140	436	378	90	4	26	57	13	0	96	70	75
NY141	427	360	86	5	45	48	3	0	95	50	68
NY151	513	446	107	4	24	54	18	0	96	72	60
Fischer"s Protected LSD (0.05)	*(64)*	*(63)*									*(2)*

Planted on 4/24/17, fertilizer rate was 165-165-225/A, vine killed on 8/23/17, harvested on 10/2/17

[1] -1.0 is excluded from specific gravity readings.

Long Island Table 3. Maturity, tuber shape, and internal and external defects of advanced white-skinned varieties grown at Riverhead, N.Y. - 2017.

	Maturity [1]	Tuber Data [1]		Tuber Defects (%)					Percentage				
	on		Appear-		Sun–	Mis-	Growth		Hollow	Brown	Internal Necrosis		
Clone	7/27/2017	Shape	ance	Total	burn	shapen	cracks	Other [2]	heart	center	Sl.	Mod.	Sev.
Season–121 days													
Reba	8	R-O	7	**10**	5	1	0	3	43	0	3	0	0
Envol	4	R-O	8	**9**	1	2	0	7	5	8	0	0	0
Marcy	9	R-O	6	**9**	3	3	0	4	25	0	10	0	0
Norwis	9	R-O	6	**7**	3	2	1	2	15	0	13	0	0
Purple Soul	4	R-O	7	**9**	0	0	8	2	0	0	0	0	0
Salem	7	R-O	8	**6**	2	2	0	2	3	0	0	0	0
Spartan Splash	6	R-O	8	**2**	1	1	0	0	5	0	0	0	0
Superior	6	R-O	7	**6**	1	5	0	1	5	5	5	0	0
Waneta	8	R-O	6	**16**	5	1	1	9	18	0	0	0	0
AF0338-17	8	R-O	7	**5**	1	2	1	1	5	5	0	0	0
BNC182-5	8	R-O	7	**3**	1	1	0	1	25	0	0	0	0
NY140	9	R-O	7	**10**	7	2	0	1	15	3	0	0	0
NY141	7	R-O	7	**11**	1	9	0	1	0	0	0	0	0
NY151	8	R	8	**9**	7	1	0	1	0	10	8	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. No. 1 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 intermediate white-skinned clones grown at Riverhead, N.Y. -2017.

	Total	Marketable Yield		Size Distribution (%)					Size Distribution		
	Yield		percentage		2 to	2.5 to	3.25 to		2 to	2.5 to	Specific [1]
Clone	cwt/A	cwt/A	of standard	< 2"	2.5"	3.25"	4"	> 4"	4 in.	4 in.	Gravity
Season–121 days											
Reba	475	417	100	3	23	65	9	0	97	74	66
AF4157-6	386	344	83	7	44	48	0	0	93	49	78
B3083-11	432	378	90	4	24	61	11	0	96	73	76
B3083-4	469	397	95	4	25	56	15	0	96	71	60
B3084-3	527	497	119	3	24	66	6	0	97	73	76
B3148-22	301	257	62	5	40	51	5	0	95	55	60
BNC177-5	537	475	114	5	30	55	10	0	95	65	74
BNC364-1	408	339	81	5	40	53	2	0	95	54	72
N24-2	386	333	80	9	60	31	0	0	91	31	79
N35-3	334	263	63	16	66	18	0	0	84	18	68
N35-9	514	429	103	9	46	44	1	0	91	46	63
N44-7	318	266	64	7	42	48	3	0	93	51	73
NDAF102629C-4	399	370	89	4	38	54	4	0	96	58	65
Fischer's Protected LSD (0.05)	*(69)*	*(65)*									*(3)*

Planted on 4/24/17, fertilizer rate was 165-165-225/A, vine killed on 8/23/17, harvested on 10/3/17

[1] -1.0 is excluded from specific gravity readings.

Long Island Table 5. Maturity, tuber shape, and internal and external defects of intermediate white-skinned varieties grown at Riverhead, N.Y. - 2017.

	Maturity [1]	Tuber Data [1]		Tuber Defects (%)					Percentage				
	on		Appear-		Sun–	Mis-	Growth		Hollow	Brown	Internal Necrosis		
Clone	7/27/2017	Shape	ance	Total	burn	shapen	cracks	Other [2]	heart	center	Sl.	Mod.	Sev.
Season–121 days													
Reba	8	R-O	8	**9**	5	2	1	2	50	0	3	0	0
AF4157-6	7	R-O	7	**4**	1	0	2	1	10	0	0	0	0
B3083-11	6	R-O	7	**9**	1	3	2	3	18	0	3	0	0
B3083-4	5	R-O	7	**12**	2	6	3	1	0	0	3	0	0
B3084-3	7	R-O	8	**3**	1	1	0	0	8	0	0	0	0
B3148-22	6	R-O	8	**10**	5	1	0	5	3	0	0	0	0
BNC177-5	9	R-O	7	**7**	2	1	3	1	8	0	0	0	0
BNC364-1	7	O-R	7	**12**	2	6	1	3	5	0	0	0	0
N24-2	6	R-O	7	**5**	2	1	0	2	15	0	3	0	0
N35-3	8	R-O	8	**7**	2	4	0	1	0	0	0	0	0
N35-9	8	R-O	8	**8**	3	5	0	0	0	0	0	0	0
N44-7	8	R-O	7	**10**	2	2	2	5	0	0	0	0	0
NDAF102629C-4	7	R-O	7	**3**	0	1	1	1	3	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. No. 1 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 NE1231 white-skinned clones grown at Riverhead, N.Y. - 2017.

	Total	Marketable Yield		Size Distribution (%)					Size Distribution		
Clone	Yield cwt/A	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.	Specific [1] Gravity
Season–121 days											
Atlantic	506	440	100	3	18	57	23	0	97	79	75
Katahdin	440	378	86	3	20	54	24	0	97	77	61
Superior	538	486	110	3	25	62	11	0	97	72	65
Yukon Gold	433	353	80	2	13	53	32	0	98	84	63
AF4648-2	442	369	84	5	25	59	10	0	95	70	69
AF5040-8	491	424	97	5	32	58	4	0	95	63	81
AF5280-5	403	334	76	7	36	52	5	0	93	57	60
AF5429-3	461	399	91	3	20	51	26	0	97	77	67
BNC364-1	436	387	88	4	37	55	4	0	96	59	70
NY157	401	349	79	7	32	56	6	0	93	61	70
NY158	618	538	122	5	28	59	9	0	95	68	76
NY161	578	487	111	7	34	54	5	0	93	59	62
Fischer's Protected LSD (0.05)	*(74)*	*(73)*									*(4)*

Planted on 4/24//17, fertilizer rate was 165-165-225/A, vine killed on 8/23/17, harvested on 9/27/17

[1] -1.0 is excluded from specific gravity readings.

Long Island Table 7. Maturity, tuber shape, and internal and external defects of NE1231 white-skinned varieties grown at Riverhead, N.Y. - 2017.

	Maturity [1]	Tuber Data [1]		Tuber Defects (%)					Percentage				
	on		Appear-		Sun–	Mis-	Growth		Hollow	Brown	Internal Necrosis		
Clone	7/27/2017	Shape	ance	Total	burn	shapen	cracks	Other [2]	heart	center	Sl.	Mod.	Sev.
Season–121 days													
Atlantic	8	R-O	5	**10**	3	3	2	2	45	0	15	8	0
Katahdin	9	O-R	6	**11**	6	1	1	4	38	3	3	0	0
Superior	7	R-O	6	**7**	2	3	1	2	20	3	3	0	0
Yukon Gold	8	R-O	7	**16**	3	3	1	10	68	0	8	0	0
AF4648-2	9	R-O	7	**12**	5	2	1	3	23	3	0	0	0
AF5040-8	8	R-O	7	**9**	2	1	0	6	13	0	3	0	0
AF5280-5	6	R-O	7	**11**	2	3	0	6	0	0	0	0	0
AF5429-3	9	R-O	7	**11**	6	2	0	3	55	0	0	0	0
BNC364-1	8	O-R	8	**7**	1	5	1	1	5	0	3	0	0
NY157	8	R	6	**7**	3	2	1	2	8	3	0	0	0
NY158	9	R-O	6	**9**	3	3	0	2	70	0	0	0	0
NY161	8	R-O	7	**10**	2	4	4	0	30	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. 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 red and purple-skinned clones grown at Riverhead, N.Y. - 2017.

	Total	Marketable Yield		Size Distribution (%)					Size Distribution		
	Yield		percentage		2 to	2.5 to	3.25 to		2 to	2.5 to	Specific [1]
Clone	cwt/A	cwt/A	of standard	< 2"	2.5"	3.25"	4"	> 4"	4 in.	4 in.	Gravity
Season–121 days											
Chieftain	333	280	100	5	32	55	8	0	95	63	61
Dark Red Norland	326	265	95	6	38	56	1	0	94	56	60
AF4659-12	187	64	23	59	40	1	0	0	41	1	61
B2152-17	322	261	93	14	51	35	0	0	86	35	62
MSV235-2PY	225	163	58	22	71	7	0	0	78	7	70
MSW343-2R	391	326	116	6	29	55	10	0	94	65	60
MSX324-1P	276	237	85	10	49	41	0	0	90	41	70
BNC420-2	343	313	112	4	29	61	6	0	96	68	68
MSZ109-5RR	68	26	9	61	39	0	0	0	39	0	60
NY136 (S. Paw)	335	262	94	5	33	55	7	0	95	62	61
NY164 (L26-6)	409	343	122	7	39	51	3	0	93	54	64
Fischer's Protected											
LSD (0.05)	*(66)*	*(50)*									*(2)*

Planted on 4/24/17, fertilizer rate was 165-165-225/A, vine killed on 8/23/17, harvested on 9/25/17

[1] -1.0 is excluded from specific gravity readings.

Long Island Table 9. Maturity, tuber shape, and internal and external defects of red and purple-skinned varieties grown at Riverhead, N.Y. - 2017.

	Maturity [1]	Tuber Data [1]		Tuber Defects (%)					Percentage				
	on		Appear-		Sun–	Mis-	Growth		Hollow	Brown	Internal Necrosis		
Clone	7/27/2017	Shape	ance	Total	burn	shapen	cracks	Other [2]	heart	center	Sl.	Mod.	Sev.
Season–121 days													
Chieftain	8	R-O	5	**11**	3	2	4	2	3	3	0	0	0
Dark Red Norland	5	R-O	5	**14**	1	5	6	3	23	5	0	0	0
AF4659-12	9	O	6	**18**	2	12	0	4	0	0	0	0	0
B2152-17	6	R-O	6	**6**	1	4	0	1	0	3	5	0	0
MSV235-2PY	7	R-O	7	**8**	0	4	2	1	0	0	3	0	0
MSW343-2R	6	R-O	5	**11**	5	0	6	0	3	0	3	0	0
MSX324-1P	6	R-O	6	**5**	0	2	3	0	0	3	18	0	0
BNC420-2	7	R-O	6	**5**	1	3	1	1	23	0	3	0	0
MSZ109-5RR	8	O-R	7	**4**	1	3	0	0	0	0	10	3	0
NY136 (S. Paw)	9	R-O	5	**17**	2	13	1	1	0	0	0	0	0
NY164 (L26-6)	8	R-O	5	**10**	1	6	2	1	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. No. 1 grade. Mechanical defects, however, were not scored.

Long Island Table 10. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of yellow-fleshed clones grown at Riverhead, N.Y. - 2017.

	Total	Marketable Yield		Size Distribution (%)					Size Distribution		
Clone	Yield cwt/A	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.	Specific [1] Gravity
Season–121 days											
Yukon Gold	404	318	100	3	15	55	26	1	96	81	65
Natascha	360	274	86	15	60	25	0	0	85	25	61
Vivaldi	503	430	135	9	50	39	2	0	91	41	60
AF5450-7	543	487	153	5	28	59	8	0	95	67	69
NDAF113458-2	518	395	124	19	59	22	0	0	81	22	60
NY149	402	332	105	11	48	40	1	0	89	41	62
NY161	570	478	150	8	42	48	2	0	92	50	61
Fischer's Protected LSD (0.05)	*(50)*	*(52)*									*(3)*

Planted on 4/24/17, fertilizer rate was 165-165-225/A, vine killed on 8/23/17, harvested on 9/14/17

[1] -1.0 is excluded from specific gravity readings.

Long Island Table 11. Maturity, tuber shape, and internal and external defects of yellow-fleshed varieties grown at Riverhead, N.Y. - 2017.

	Maturity [1]	Tuber Data [1]		Tuber Defects (%)					Percentage				
	on		Appear-		Sun–	Mis-	Growth		Hollow	Brown	Internal Necrosis		
Clone	7/27/2017	Shape	ance	Total	burn	shapen	cracks	Other [2]	heart	center	Sl.	Mod.	Sev.
Season–121 days													
Yukon Gold	7	R-O	6	**18**	1	2	0	15	70	0	3	0	0
Natascha	7	O-R	8	**10**	2	7	0	1	0	5	0	0	0
Vivaldi	6	O-R	7	**6**	2	2	0	2	0	5	3	0	0
AF5450-7	9	R	6	**6**	2	1	0	2	8	0	0	0	0
NDAF113458-2	7	O-R	7	**6**	1	3	1	1	0	0	0	0	0
NY149	7	R-O	6	**7**	1	3	0	3	8	0	3	0	0
NY161	7	O-R	6	**9**	1	1	5	1	30	0	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. No. 1 grade. Mechanical defects, however, were not scored.

View from the Wyoming County Yield Trial in 2017