

## Chapter 2. Early-Line Potato Variety Trial, 2006<sup>1</sup>

C.M. Hutchinson, and Doug Gergela<sup>2</sup>

**General Comments:** Potato clones in this trial are new to the variety evaluation program. At this stage, seed supplies are usually limited. To maintain a replicated trial with a small seed lot, plot size is reduced to twelve seed pieces. This is a mixed trial with round white, red, and russet varieties.

### **Planting Information**

Planting Site	PSREU - CityHastings Farm, Hastings, FL
Planting Date	January 31, 2006
Vine Kill Date	April 28, 2006
Harvest Date	May 15, 2006
Season Length	87 days planting to vine kill; 104 days planting to harvest
Fertilizer Program	preplant, 100-43-86 lb/A; sidedress, 65-0-56 lb/A (2 appl.)
Irrigation Program	seepage

### **Experimental Design**

Number of Varieties	6 (Standard: Atlantic)
Number of Clones	88
Within Row Spacing	8 in (20 cm)
Between Row Spacing	40 in (102 cm)
Replications	3
Plot Size	8 ft (2.4 m)

### **Production Statistics**

Early Vigor Ratings	41 days after planting
Highest Total Yield	ND8331Cb-3 (550 cwt/acre or 61.6 MT/ha)
Highest Marketable Yield	ND8331Cb-3 (414 cwt/acre or 46.4 MT/ha)
Best Appearance Rating	LaChipper, AF3318-13, AF3327-27 and B2529-3 (7.0, good to excellent)

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Table 2. Production statistics for early-line potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield <sup>1</sup>		Size							Size Class			Specific Gravity
		(cwt/A)	standard % of	C	Distribution by Class (%) <sup>2</sup>				Range (%)					
					B	A1	A2	A3	A4	A1 to A3	A2 to A3			
Atlantic	342	301	100	1	3	78	13	5	0	96	18	1.077		
LaChipper	395	346	115	1	7	66	22	4	0	91	26	1.070		
Goldrush	393	337	112	1	11	75	13	1	0	88	13	1.063		
Red LaSoda	435	341	113	1	4	63	24	9	0	95	32	1.062		
Sebago	416	334	111	2	13	74	11	1	0	86	12	1.066		
Yukon Gold	394	307	102	1	11	61	24	2	0	87	27	1.078		
AF0337-4	472	280	93	2	23	74	1	0	0	75	1	1.056		
AF0338-17	327	282	94	1	9	79	11	0	0	90	11	1.076		
AF0339-28	340	262	87	1	17	78	4	0	0	82	4	1.056		
AF0339-39	296	214	71	2	19	71	7	0	0	79	7	1.058		
AF2543-6	329	232	77	1	27	70	2	0	0	72	2	1.060		
AF2596-3	386	243	81	2	23	74	2	0	0	76	2	1.068		
AF2598-1	167	125	42	1	21	77	1	0	0	78	1	1.055		
AF2607-2	295	214	71	2	15	81	2	0	0	82	2	1.062		
AF2698-2	325	268	89	2	7	59	29	3	0	91	32	1.067		
AF3310-1	345	273	90	2	6	70	19	3	0	92	22	1.068		
AF3310-3	273	211	70	2	13	81	4	0	0	85	4	1.071		
AF3310-5	310	228	76	3	21	76	0	0	0	76	0	1.064		
AF3310-12	245	198	66	1	9	81	8	0	0	90	8	1.072		
AF3310-13	345	293	97	1	11	76	12	0	0	88	12	1.069		
AF3310-16	272	196	65	2	20	67	11	0	0	79	11	1.063		
AF3310-17	394	290	96	1	20	76	3	0	0	79	3	1.068		
AF3317-15	332	232	77	3	26	71	0	0	0	71	0	1.071		
AF3318-1	311	286	95	1	2	49	43	4	0	97	48	1.073		
AF3318-2	311	262	87	1	8	76	15	0	0	91	15	1.075		
AF3318-6	288	218	72	2	17	78	3	0	0	81	3	1.080		
AF3318-13	365	205	68	3	36	61	1	0	0	61	1	1.067		
AF3325-2	188	116	38	3	34	63	0	0	0	63	0	1.063		
AF3326-7	306	271	90	1	5	78	16	1	0	95	17	1.067		

Table 2. Production statistics for early-line potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield <sup>1</sup> (cwt/A)	% of standard	Size							Size Class			Specific Gravity
				Distribution by Class (%) <sup>2</sup>							Range (%)			
				C	B	A1	A2	A3	A4	A1 to A3	A2 to A3			
AF3327-24	93	52	17	3	35	56	5	0	0	0	61	5	1.045	
AF3327-27	336	255	85	1	18	80	0	0	0	0	80	0	1.068	
AF3327-28	284	236	78	1	11	77	11	0	0	0	88	11	1.060	
AF3329-16	515	354	118	1	12	78	7	1	0	0	87	8	1.061	
AF3331-11	252	197	65	1	15	61	23	0	0	0	84	23	1.067	
AF3331-5	338	214	71	3	27	66	5	0	0	0	71	5	1.059	
AF3332-6	310	227	75	1	11	72	11	5	0	0	88	16	1.067	
AF3346-2	183	125	42	4	28	58	8	2	0	0	68	10	1.042	
AF3350-2	283	248	82	1	8	73	17	0	0	0	91	17	1.068	
AF3353-1	293	170	56	3	35	60	1	0	0	0	61	1	1.060	
AF3360-1	464	373	124	1	15	77	7	0	0	0	84	7	1.078	
AF3362-1	439	384	127	1	8	81	10	0	0	0	92	10	1.065	
AND00272-1R	441	308	102	1	18	77	4	0	0	0	81	4	1.064	
B2111-80	269	245	81	1	6	60	24	9	0	0	94	34	1.075	
B2133-81	299	263	87	1	9	86	3	0	0	0	89	3	1.073	
B2460-23	354	313	104	1	6	63	21	9	0	0	92	29	1.075	
B2483-4	372	263	87	3	23	71	4	0	0	0	75	4	1.082	
B2483-20	326	226	75	2	28	68	2	0	0	0	71	2	1.078	
B2485-2	391	315	104	1	9	67	20	2	0	0	90	22	1.075	
B2487-1	317	248	82	1	15	77	7	0	0	0	83	7	1.074	
B2487-17	189	117	39	2	36	60	2	0	0	0	62	2	1.068	
B2489-3	320	256	85	2	16	72	9	1	0	0	82	10	1.080	
B2489-7	364	273	90	1	19	78	3	0	0	0	80	3	1.078	
B2491-5	241	180	60	1	21	76	2	0	0	0	77	2	1.080	
B2491-19	330	275	91	2	12	85	2	0	0	0	87	2	1.072	
B2491-22	347	285	95	2	15	78	4	1	0	0	83	5	1.069	
B2492-7	434	358	119	1	5	54	33	7	0	0	94	40	1.059	
B2494-7	221	158	52	2	13	71	11	3	0	0	85	14	1.074	
B2494-18	264	219	73	1	14	70	11	3	0	0	84	14	1.072	
B2495-6	286	213	71	2	13	70	14	1	0	0	85	15	1.058	

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Clone	Total Yield (cwt/A)	Marketable Yield <sup>1</sup> (cwt/A)	% of standard	Size							Size Class			Specific Gravity
				Distribution by Class (%) <sup>2</sup>							Range (%)			
				C	B	A1	A2	A3	A4	A1 to A3	A2 to A3			
B2497-3	278	223	74	1	13	81	6	0	0	0	86	6	1.075	
B2497-17	354	314	104	2	6	73	18	1	0	93	20	1.064		
B2500-3	367	282	94	2	19	74	3	2	0	78	4	1.074		
B2500-5	300	213	71	2	20	76	0	1	0	77	1	1.072		
B2500-6	369	311	103	1	12	81	4	1	0	86	5	1.071		
B2501-8	429	321	107	2	11	72	12	3	0	87	15	1.061		
B2501-14	412	318	105	1	14	77	8	0	0	85	8	1.070		
B2502-6	375	331	110	1	6	76	15	2	0	93	17	1.065		
B2504-3	313	199	66	2	33	64	0	0	0	64	0	1.068		
B2506-12	328	239	79	1	23	75	2	0	0	77	2	1.079		
B2509-1	183	102	34	4	39	57	0	0	0	57	0	1.066		
B2514-14	242	120	40	3	45	52	0	0	0	52	0	1.065		
B2527-9	410	211	70	4	42	54	0	0	0	54	0	1.076		
B2528-2	403	249	82	2	24	65	8	0	0	74	8	1.065		
B2528-3	311	122	40	7	47	45	1	0	0	46	1	1.076		
B2529-3	167	73	24	8	48	44	0	0	0	44	0	1.064		
B2530-2	427	317	105	3	17	73	7	1	0	80	8	1.090		
B2533-3	436	272	90	3	22	73	1	0	0	74	1	1.078		
BCO01283-2	125	29	10	17	64	19	0	0	0	19	0	1.061		
BCO01283-3	466	343	114	1	23	74	1	0	0	76	1	1.063		
BCO01389-1	317	228	76	3	22	75	1	0	0	75	1	1.065		
BCO01401-2	161	96	32	3	34	63	0	0	0	63	0	1.068		
ND028601-4R	400	281	93	1	24	73	2	0	0	75	2	1.059		
ND028674-4R	297	219	73	2	7	71	19	2	0	92	21	1.054		
ND4659-5R	348	250	83	2	22	71	4	0	0	75	4	1.069		
ND4756-1R	364	313	104	1	8	75	16	0	0	91	16	1.068		
ND5002-3R	227	149	49	6	30	62	3	0	0	64	3	1.055		
ND5255-59	391	308	102	1	15	84	0	0	0	88	0	1.072		
ND5775-3	392	314	104	2	14	76	8	1	0	85	8	1.075		
ND6095-1	347	202	67	3	36	60	1	0	0	61	1	1.073		

**Table 2.** Production statistics for early-line potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield <sup>1</sup>		Size							Specific Gravity	
		(cwt/A)	% of standard	Distribution by Class (%) <sup>2</sup>								Size Class Range (%)
				C	B	A1	A2	A3	A4	A1 to A3		
ND7196c-18	364	220	73	4	29	64	3	0	0	67	3	1.073
ND7799C-1	231	186	62	2	13	63	21	1	0	85	22	1.061
ND8229-3	321	239	79	1	19	78	2	0	0	80	2	1.073
ND7818-1Y	419	282	94	2	27	68	2	1	0	71	3	1.070
ND8331Cb-3	550	414	137	2	17	79	2	0	0	82	2	1.071
<i>MSD</i> <sup>3</sup>	54	54		3	8	13	9	4	0	9	9	0.004
<i>P Value</i>	0.0001	0.0001		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

<sup>1</sup>Marketable yield: size classes A1 to A3.

<sup>2</sup>Size classes: C = .5 to 1.5 inches, B = 1.5 to 1 7/8 inches, A1 = 1 7/8 to 2.5 inches, A2 = 2.5 to 3.25 inches, A3 = 3.25 to 4 inches, A4 = greater than 4 inches.

<sup>3</sup>Means separated within columns by Waller Duncan's K- ratio t test.

**Table 3.** Plant growth and tuber characteristics of early-line potato selections.

Clone	Plant Growth Characteristics <sup>1</sup>			Tuber Characteristics <sup>2</sup>							
	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Tuber Comments
Atlantic	97	5.3	8.3	9.0	2.0	5.5	5.0	3.0	6.0	6.5	some scab
LaChipper	100	6.3	9.0	7.0	1.0	8.0	8.0	3.5	6.0	7.0	flat tubers
Goldrush	97	5.0	9.0	8.7	2.0	4.0	2.0	5.0	6.5	6.5	attractive skin
Red LaSoda	97	6.7	8.5	8.0	1.5	2.5	7.0	3.0	4.0	5.5	deep eyes
Sebago	89	6.0	8.3	8.3	2.0	7.0	7.0	3.5	5.5	5.0	lenticels
Yukon Gold	92	6.0	8.3	7.3	3.0	7.0	7.0	3.5	5.5	5.5	okay
AF0337-4	97	6.3	9-6	7.3	1.5	7.0	6.5	3.5	4.5	4.0	irregular shapes, lumpy
AF0338-17	100	5.7	8.0	8.0	1.0	6.0	5.5	2.5	7.0	6.0	slightly flat
AF0339-28	97	4.7	8.3	9.0	1.0	7.0	6.5	3.5	5.5	5.5	good size
AF0339-39	97	4.0	8.0	8.7	1.5	7.0	6.5	2.0	5.0	6.0	deep eyes, round shape
AF2543-6	97	4.0	8.0	8.0	1.5	7.0	7.0	3.0	7.0	5.0	lenticels, some scab
AF2596-3	81	6.0	8.0	8.3	1.5	5.0	5.0	5.0	7.0	5.5	some scab
AF2598-1	72	3.0	8.0	7.7	1.5	7.0	7.0	3.5	7.0	5.0	air cracks
AF2607-2	100	4.7	8.0	7.0	1.5	7.0	7.0	3.5	5.0	5.5	lenticels, slightly flat
AF2698-2	94	4.0	8.0	9.0	1.5	6.5	6.0	3.0	6.5	5.0	some skinning, scab, irregular shapes
AF3310-1	100	5.3	8.0	9.0	1.5	7.0	6.5	2.5	6.5	6.0	irregular shapes and flat
AF3310-3	100	4.7	7.7	9.0	1.5	6.0	5.5	2.5	7.0	6.0	nice round shape
AF3310-5	100	3.7	8.0	9.0	1.5	6.5	5.5	2.0	6.5	5.5	some scab
AF3310-12	94	5.7	7.7	7.0	2.0	8.0	7.5	3.0	7.5	6.5	some lenticels
AF3310-13	100	5.3	8.3	8.0	1.5	6.5	5.5	2.5	7.0	6.0	slightly flat
AF3310-16	94	5.0	8.3	8.0	1.5	6.5	5.5	2.5	6.5	5.5	slightly irregular shape
AF3310-17	97	6.3	9.0	7.7	1.5	7.5	6.5	3.5	7.5	6.0	very white flesh
AF3317-15	94	5.3	8.0	9.0	1.0	4.0	2.5	5.5	6.5	5.0	irregular shape
AF3318-1	94	4.7	7.7	9.0	1.0	7.0	5.5	3.0	6.0	5.5	slightly flat
AF3318-2	97	5.3	8.0	7.7	1.5	8.0	7.5	3.5	6.0	5.5	irregular shapes, slightly flat
AF3318-6	97	5.7	8.0	8.0	1.5	8.0	6.5	2.0	6.0	6.0	nice round shape
AF3318-13	100	6.7	9.0	7.7	1.0	8.0	6.5	3.0	7.5	7.0	nice round shape, size and color
AF3325-2	94	3.7	7.0	7.7	1.0	5.0	2.0	5.0	6.5	5.5	very nice skin
AF3326-7	97	5.3	7.7	7.3	2.0	4.5	3.5	4.0	7.0	6.0	slightly skinning

**Table 3.** Plant growth and tuber characteristics of early-line potato selections.

Clone	Plant Growth Characteristics <sup>1</sup>			Tuber Characteristics <sup>2</sup>							
	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Tuber Comments
AF3327-24	100	5.0	8.0	2.7	-	-	-	-	-	-	severe herbicide damage
AF3327-27	97	5.3	9.0	8.3	1.0	4.0	2.5	5.0	7.5	7.0	nice appearance
AF3327-28	100	5.0	8.0	8.7	2.0	4.5	2.5	5.0	7.0	5.5	slightly skinning, irregular shapes
AF3329-16	100	6.0	8.0	9.0	1.5	7.0	6.5	6.0	6.5	3.5	lenticels, lumpy shapes
AF3331-11	89	3.7	7.3	9.0	1.5	2.5	5.5	2.5	5.5	5.0	netted skin
AF3331-5	97	6.3	8.0	6.3	1.5	7.0	6.5	4.0	7.0	5.5	slightly skinning
AF3332-6	97	3.7	7.7	8.7	1.0	6.5	6.0	3.0	4.5	4.0	lenticels, deep eyes
AF3346-2	44	3.0	7.0	9.0	1.0	6.5	6.5	3.5	5.5	4.5	slightly skinning, irregular shapes
AF3350-2	83	6.0	8.0	8.0	1.0	5.5	6.0	3.5	6.5	4.5	skinning
AF3353-1	100	5.3	8.7	5.7	1.5	4.5	2.5	5.0	6.5	6.0	slightly skinning
AF3360-1	100	6.0	9.0	9.0	1.5	6.0	6.0	2.5	5.0	6.0	slightly flat, purple bud end
AF3362-1	97	6.7	8.7	8.7	2.0	5.0	3.5	5.5	5.5	4.5	irregular shapes, slightly flat
AND00272-1R	89	6.0	9-6	7.0	1.5	2.0	7.0	4.0	6.5	4.5	pointy shapes, external corky ring spot
B2111-80	97	5.7	7.5	7.0	1.5	5.5	5.0	2.0	6.0	6.5	decent appearance
B2133-81	92	4.7	8.0	9.0	1.5	6.0	5.5	3.5	7.0	5.5	scab
B2460-23	97	8.0	8.7	9.0	1.5	6.0	5.0	3.5	7.5	6.0	decent appearance
B2483-4	100	7.7	9-6	7.7	2.0	6.0	5.0	2.0	7.5	6.0	decent appearance
B2483-20	100	7.7	9-6	7.7	1.0	6.0	5.0	2.0	6.5	5.5	scab, slightly flat
B2485-2	100	8.7	9.0	8.7	2.0	6.0	5.5	3.0	6.0	6.5	slightly flat
B2487-1	100	7.7	8.0	7.7	2.0	5.0	5.0	2.5	7.0	6.5	decent appearance
B2487-17	97	5.7	7.5	7.7	2.0	6.5	6.0	2.5	7.0	6.0	slightly fat, some herbicide damage
B2489-3	100	6.7	9.0	8.0	2.0	6.0	5.0	2.5	6.5	5.0	scab
B2489-7	97	8.7	9-6	7.3	1.5	7.0	7.0	2.0	7.5	6.5	some lenticels
B2491-5	100	5.3	8.7	8.7	1.5	7.0	6.5	2.5	6.0	5.5	irregular shapes, lenticels
B2491-19	100	7.0	9.0	8.7	1.0	6.0	5.0	3.5	7.0	6.0	nice white flesh
B2491-22	97	6.3	8.3	9.0	1.5	7.0	7.0	3.0	7.0	3.5	scab
B2492-7	100	7.7	9.0	8.0	2.0	6.5	6.0	2.5	6.5	5.0	lenticels

**Table 3.** Plant growth and tuber characteristics of early-line potato selections.

Clone	Plant Growth Characteristics <sup>1</sup>			Tuber Characteristics <sup>2</sup>							
	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Tuber Comments
B2494-7	86	4.3	8.0	9.0	1.5	5.5	5.0	2.5	7.0	5.0	scab
B2494-18	89	5.3	7.7	6.7	1.5	7.5	7.0	3.0	7.0	5.0	lenticels, slightly flat
B2495-6	97	4.0	7.3	7.0	1.5	6.5	6.0	2.5	6.5	5.5	skinning
B2497-3	89	5.3	8.3	7.7	1.0	8.0	7.5	3.5	7.0	5.5	some lenticels and scab
B2497-17	92	5.3	8.3	8.3	1.5	7.5	7.0	3.5	7.0	6.0	some scab
B2500-3	97	6.3	9.0	8.3	1.5	6.5	5.5	3.0	6.5	5.0	skinning
B2500-5	89	6.0	8.7	7.7	2.0	8.0	6.5	2.5	7.0	5.5	some lenticels
B2500-6	100	6.0	8.0	8.3	1.0	5.0	4.5	4.0	6.5	6.0	some skinning
B2501-8	100	9.0	8.0	7.3	2.0	6.0	5.5	2.5	7.0	6.0	scab
B2501-14	100	8.7	9.0	7.7	2.0	6.0	6.0	3.0	6.5	5.0	flat tubers
B2502-6	100	6.3	8.3	8.0	1.5	5.5	5.0	2.5	7.0	5.5	scab, possibly chip
B2504-3	100	5.0	8.7	9.0	1.0	4.0	2.5	3.5	8.0	5.5	small size, nice skin, round russet
B2506-12	92	6.0	8.5	7.0	1.5	6.5	5.5	4.0	7.5	5.0	irregular shapes, pointy
B2509-1	100	4.0	7.5	9.0	1.0	4.0	3.0	4.0	8.0	5.0	small set
B2514-14	94	4.0	7.7	9.0	1.5	4.0	2.5	4.0	8.0	5.5	small size, nice skin
B2527-9	100	8.3	9-6	8.3	4.0	3.0	7.5	3.0	6.0	6.5	flat tubers, lenticels
B2528-2	100	8.0	9-6	6.3	2.0	3.0	7.0	2.5	6.5	5.5	irregular shapes
B2528-3	92	7.7	6.0	5.7	6.0	2.0	6.0	2.5	7.0	5.0	mottled pink flesh, flat
B2529-3	97	8.7	8-5	1.7	1.5	2.0	7.5	1.0	7.0	7.0	very small
B2530-2	94	8.7	9.0	7.7	3.0	6.5	5.5	2.5	7.0	5.0	irregular shapes, scab
B2533-3	100	9.0	9.0	8.0	4.0	7.0	7.0	3.5	6.0	6.0	deep yellow flesh
BCO01283-2	97	6.3	8-5	6.7	1.0	2.5	7.5	3.0	6.5	6.5	very white flesh, small size, herb. damage
BCO01283-3	100	6.0	9-6	6.7	1.0	2.5	7.5	3.5	6.5	6.0	irregular shapes, slightly flat
BCO01389-1	97	5.3	9.0	9.0	1.0	2.5	7.5	2.5	6.0	5.5	stolons, flat tubers
BCO01401-2	100	5.0	7.7	7.7	4.0	1.0	6.5	3.0	6.0	6.0	some skinning, slightly flat
ND028601-4R	97	8.3	8-5	6.7	1.0	2.5	7.5	4.5	5.0	6.5	some deep eyes
ND028674-4R	58	6.7	8-5	6.3	2.0	2.5	7.5	4.0	6.0	5.5	lenticels
ND4659-5R	97	6.0	9.0	7.0	1.5	2.5	7.5	2.5	6.5	6.5	slightly irregular shape, nice color

**Table 3.** Plant growth and tuber characteristics of early-line potato selections.

Clone	Plant Growth Characteristics <sup>1</sup>				Tuber Characteristics <sup>2</sup>							
	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Tuber Comments	
ND4756-1R	83	5.3	8.3	7.0	1.0	2.5	6.0	2.5	6.0	6.0	slightly irregular shape	
ND5002-3R	100	5.7	8.0	5.3	1.0	2.5	6.0	3.0	5.5	5.5	irregular shapes, skinning	
ND5255-59	100	5.7	9.0	8.7	1.5	5.5	4.0	4.0	6.0	5.0	irregular shapes	
ND5775-3	81	4.3	8.0	9.0	1.5	7.0	6.0	2.5	6.0	6.0	some lenticels	
ND6095-1	94	7.7	9.0	7.3	1.5	7.5	6.5	3.0	7.0	6.0	some lenticels	
ND7196c-18	100	6.7	8-5	6.7	2.0	7.0	6.5	3.5	7.0	5.5	some lenticels, flat tubers	
ND7799C-1	69	5.3	7.5	8.3	1.5	6.5	6.5	3.0	7.5	5.5	irregular shapes, lenticels	
ND8229-3	97	4.3	7.7	8.3	1.0	6.0	5.5	5.0	7.5	5.5	decent appearance	
ND7818-1Y	100	6.7	8.0	8.7	3.0	7.0	6.5	4.0	7.0	5.5	some lenticels	
ND8331Cb-3	97	7.3	9-6	9.0	1.5	8.0	6.5	3.5	6.5	6.0	some lenticels, irregular shapes	

<sup>1</sup>See rating system outlined in Chapter 1.<sup>2</sup>See rating system outlined in Chapter 1.

Table 4. External and internal defects of early-line potato selections.

Clone	% External Tuber Defects					% Internal Defects <sup>2</sup>						
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls <sup>1</sup>	HH	BR	CRS	IHN	L	M	H
Atlantic	0	0	6	2	8	2	0	0	3	0	0	0
LaChipper	0	1	1	2	4	0	0	0	0	0	0	0
Goldrush	0	2	1	1	3	0	0	0	0	0	0	0
Red LaSoda	2	3	1	13	18	0	0	3	0	0	0	0
Sebago	0	1	3	3	6	0	0	0	2	2	0	0
Yukon Gold	0	2	7	2	11	0	0	3	2	5	0	0
AF0337-4	0	7	1	13	21	0	0	5	0	0	0	0
AF0338-17	1	1	2	1	4	0	0	0	0	0	0	0
AF0339-28	0	1	4	0	6	0	0	0	0	0	0	0
AF0339-39	3	3	1	1	8	0	0	0	0	0	0	0
AF2543-6	0	0	1	0	1	2	0	5	13	12	13	5
AF2596-3	0	0	6	10	16	2	0	0	2	0	0	0
AF2598-1	0	0	3	1	4	0	0	0	0	3	0	0
AF2607-2	1	2	4	7	13	5	0	0	0	0	0	0
AF2698-2	2	1	6	1	10	2	0	0	0	0	0	2
AF3310-1	0	1	5	8	14	0	0	15	0	0	0	0
AF3310-3	0	2	5	2	9	0	0	0	0	0	0	0
AF3310-5	0	0	2	1	3	2	0	0	0	0	2	0
AF3310-12	0	0	9	1	10	0	0	0	0	0	0	0
AF3310-13	0	0	2	1	3	2	0	0	0	2	0	0
AF3310-16	0	2	3	3	8	2	0	0	0	0	0	0
AF3310-17	0	0	2	4	7	0	0	0	0	0	0	0
AF3317-15	0	1	1	0	1	0	0	0	0	0	0	0
AF3318-1	0	0	1	4	6	0	0	0	0	0	0	0
AF3318-2	0	1	2	5	8	0	0	3	0	10	0	0
AF3318-6	0	0	2	5	6	0	0	10	0	0	2	0
AF3318-13	0	0	2	6	8	0	0	0	0	0	0	0
AF3325-2	0	0	1	2	3	0	0	0	0	0	0	0
AF3326-7	0	0	2	4	7	2	0	0	0	2	0	2
AF3327-24	0	3	0	1	4	0	0	0	0	0	0	0

Table 4. External and internal defects of early-line potato selections.

Clone	% External Tuber Defects					% Internal Defects <sup>2</sup>							
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls <sup>1</sup>	HH	BR	CRS	IHN	L	M	H	Brown Center
AF3327-27	0	0	2	4	6	0	0	0	0	0	0	0	0
AF3327-28	1	0	4	1	5	0	0	7	0	0	0	0	0
AF3329-16	0	4	15	2	21	0	0	0	0	0	0	0	0
AF3331-11	0	0	6	0	7	0	0	2	0	0	0	0	0
AF3331-5	0	1	5	5	11	0	0	2	0	0	2	0	0
AF3332-6	0	3	9	5	17	0	0	0	0	0	0	0	0
AF3346-2	1	0	1	2	4	0	0	3	0	3	0	0	0
AF3350-2	0	0	1	2	3	0	0	0	0	0	0	0	0
AF3353-1	0	0	3	4	7	0	0	8	0	0	0	0	0
AF3360-1	0	0	4	0	4	0	0	0	0	0	0	0	0
AF3362-1	0	1	1	2	5	0	0	2	7	0	0	0	0
AND00272-1R	0	3	1	9	13	0	0	20	0	0	0	0	0
B2111-80	1	0	0	2	3	2	0	18	0	0	0	0	0
B2133-81	0	0	1	1	2	0	0	2	0	0	0	0	0
B2460-23	0	0	2	2	4	0	0	0	0	0	2	0	0
B2483-4	0	0	5	1	6	0	0	0	0	0	0	0	0
B2483-20	0	0	0	1	2	0	0	0	0	0	0	0	0
B2485-2	0	0	3	7	10	0	0	3	0	0	0	0	0
B2487-1	0	0	5	2	7	0	0	22	0	2	0	0	0
B2487-17	0	0	0	2	2	0	0	0	0	0	0	0	0
B2489-3	0	0	2	1	3	2	0	0	0	2	0	0	0
B2489-7	0	0	4	3	7	0	0	3	0	0	0	0	0
B2491-5	0	0	0	4	4	0	0	0	0	0	0	0	0
B2491-19	0	1	0	3	4	0	0	0	0	0	0	0	0
B2491-22	0	0	1	0	1	0	0	0	2	0	0	0	0
B2492-7	0	0	4	8	12	0	0	0	0	0	0	2	0
B2494-7	0	0	8	9	17	0	0	3	0	0	0	0	0
B2494-18	0	0	2	1	3	0	0	0	0	0	0	0	0
B2495-6	0	1	6	4	12	0	0	0	0	2	0	0	0
B2497-3	0	0	2	5	7	0	0	0	0	0	0	0	0
B2497-17	0	0	4	0	4	0	0	10	0	2	0	0	0

Table 4. External and internal defects of early-line potato selections.

Clone	% External Tuber Defects					% Internal Defects <sup>2</sup>							
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls <sup>1</sup>	HH	BR	CRS	IHN	L	M	H	
B2500-3	0	0	1	1	2	0	0	2	0	0	2	0	
B2500-5	0	1	3	4	8	3	0	0	0	0	0	0	
B2500-6	0	0	1	1	2	0	0	0	2	3	0	0	
B2501-8	0	0	1	13	14	0	0	3	0	0	0	0	
B2501-14	0	1	1	8	10	0	0	18	0	0	0	0	
B2502-6	0	1	2	2	5	2	0	0	0	0	0	0	
B2504-3	0	0	0	3	3	0	0	0	0	0	0	0	
B2506-12	0	2	1	3	6	0	0	0	2	0	0	0	
B2509-1	0	1	1	1	3	0	0	0	0	0	0	0	
B2514-14	1	0	0	2	4	0	0	0	0	0	0	0	
B2527-9	0	1	0	5	6	0	0	3	0	0	0	0	
B2528-2	0	4	2	11	17	0	0	0	0	23	7	10	
B2528-3	0	0	0	17	17	0	0	2	0	0	0	0	
B2529-3	0	2	0	0	2	0	0	0	0	0	0	0	
B2530-2	0	0	2	5	8	0	0	12	0	0	0	0	
B2533-3	0	1	4	11	16	0	0	0	0	0	2	0	
BCO01283-2	0	0	0	5	5	0	0	0	0	0	0	0	
BCO01283-3	0	0	1	1	2	0	0	0	0	0	2	0	
BCO01389-1	2	2	0	0	4	0	0	0	0	0	0	0	
BCO01401-2	0	0	0	5	5	0	0	0	0	0	0	0	
ND028601-4R	1	1	1	3	6	0	0	0	0	0	0	0	
ND028674-4R	4	0	5	12	20	0	0	2	7	0	0	0	
ND4659-5R	0	1	0	4	5	0	0	2	0	0	0	0	
ND4756-1R	0	4	0	2	7	0	0	0	0	0	0	0	
ND5002-3R	0	1	0	0	1	0	0	0	0	0	0	0	
ND5255-59	0	5	1	1	7	0	0	2	2	0	2	0	
ND5775-3	1	1	2	2	5	0	0	5	0	2	2	2	
ND6095-1	0	0	0	4	5	0	0	0	0	0	0	0	
ND7196c-18	0	0	1	9	10	0	0	0	2	0	0	0	
ND7799C-1	0	0	1	3	4	0	0	0	0	0	0	0	
ND8229-3	0	1	4	2	7	0	0	0	0	0	0	0	

**Table 4.** External and internal defects of early-line potato selections.

Clone	% External Tuber Defects					% Internal Defects <sup>2</sup>						
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls <sup>1</sup>	HH	BR	CRS	IHN	L	M	H
ND7818-1Y	1	1	1	3	6	0	0	0	0	0	2	0
ND8331Cb-3	0	5	0	2	8	0	0	0	0	0	0	0
<i>MSD</i> <sup>3</sup>	2	3	4	14	14	ns	0	ns	4	6	3	2
<i>P Value</i>	0.0016	0.0001	0.0001	0.0237	0.0008	0.7599	-	0.524	0.000	0.000	0.000	0.000
								6	1	1	1	1

<sup>1</sup>Percent of total yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

<sup>2</sup>Percent tubers; HH, hollow heart; BR, brown rot; CRS, corky ring spot; IHN, internal heat necrosis.

Brown center: L = Light, M = Moderate, H = Heavy

<sup>3</sup>Means separated within columns by Waller Duncan's K-ratio t test.