2008 WSU Potato Cultivar Yield and Postharvest Quality Evaluations

GROWER'S EDITION

WSU Potato Research Group

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Special Thanks

John Steinbock; Mark Weber; Washington State Potato Commission; Growers and Industry; Conner Flying Service; Martin Moore; Dennis Johnson; Tom Cummings; Tim Waters; Carrie Wohleb; Brian Clark; Anthony Cortez; Daniel Zommick

On the cover: Industry icon Dr. Robert E. Thornton (center) educates M.S. student Jason Ingram on how to identify diseased potato plants while Allan French (top left) and Mel Martin (top center) look for other diseased plants within the 2008 WSU Seed Lot Trial.

INTRODUCTION

The 2008 Washington "Potato Cultivar Yield and Postharvest Quality Evaluations" annual report provides detailed information about promising new potato clones and cultivars grown in Washington. The data in this report are the result of intensive in-field and postharvest research conducted by the Washington State University (WSU) Potato Variety Development Program. Our objective is to identify new potato varieties that will provide profitable, sustainable production for the grower, improved competitiveness for the Washington potato industry, a healthy, inexpensive food supply for American consumers, and contributions towards a healthy environment.

This book reports potato clone and cultivar performance within five research trials: Red and Specialty, Early-Harvest Tri-State, Early-Harvest Regional, Late-Harvest Tri-State, and Late-Harvest Regional. The Tri-State trials evaluate the newest clones coming from the Tri-State program (Washington, Oregon, and Idaho) and the Regional Trials evaluate advanced clones that have graduated from the Tri-State in addition to advanced clones from other programs. Our goal is to provide meaningful information that can be used by growers, processors, fresh-pack sheds, researchers, and other industry personnel.

The majority of the potato clones and cultivars evaluated in this report came from USDA/ARS funded breeding programs located at Aberdeen, ID and Prosser, WA. Additional clones and cultivars came from Oregon State University, Colorado State University, Texas A&M University, North Dakota State University, University of Minnesota, USDA/ARS Beltsville, and Vauxhall, Alberta, Canada. The WSU Potato Variety Development Program is aided in research, administrative detail, and funding by the Washington State Potato Commission, the Northwest (Tri-State) Potato Variety Development Program (Idaho, Oregon, and Washington, USDA/ARS), the Western Coordinating Committee 27 (WERA-27), and other members of the U.S. potato industry.

Recent Accomplishments: As of January 2009, a total of 32 varieties have been released by the Tri-State program. Pacific Northwest Potato Development Program varieties are now produced on over 137,800 acres (2008) in the Pacific Northwest with value to growers estimated in excess of $325 million. The success and impact of the Tri-State potato breeding program is demonstrated by the adoption of its varieties. Four Tri-State releases, Ranger Russet (R.), Umatilla R., Alturas, and Western R., were the 3rd, 7th, 8th, and 10th most widely grown potato varieties in the United States in 2007, respectively. From 2006 to 2007, Tri-State varieties increased from 15% to 18% of production acreage (123,195- to 152,586-acres) across the eight states that dominate U.S. fall production (=89% of fall production). This acreage increased even further to 20% (157,540 A) in 2008. It is predicted that this impact will continue to increase as commercial seed supplies of the new varieties become available. For example, R. Burbank accounted for 62% (217,000 A) and 39% (63,500 A) of the 2007 Idaho and WA potato crops, respectively. Premier R., a 2006 release with low temperature sweetening resistance and excellent out-of-storage processing quality, will undoubtedly replace a significant proportion of acreage presently devoted to R. Burbank. Replacement of only half the current R. Burbank acreage with Premier equals approximately $393 million based on average processing contracts for R. Burbank. However, this value is likely an underestimate because of the higher quality and proportion of U.S. No. 1's produced by Premier R. Premier R. has been of interest to all of the major potato processing companies. This interest is most evident in the rapid expansion of acreage of Premier R. since its release in 2006. In 2007, approximately 880 acres of this variety were grown nationally (National Agricultural Statistics Service), with 629 acres of seed being grown in ID, ME, MT, MN, NE, and OR. Seed acreage of this magnitude suggests commercial acreage will continue to expand. During 2008, Premier R. was planted on 8,665 acres; a ten fold increase from 2007.

ADVANCED LINES - REGIONAL TRIAL

Fresh Market Value Merit Scores - Washington

(Entries ranked according to performance)

Scores based on 1 to 5 (5 = Best) and are averaged across multiple trials, unless bolded. Values of bolded entries are from one year only.

Rank	Entry	Early Harvest Merit	Rank	Entry	Late Harvest Merit
1	A0008-1TE	4.3	1	A0008-1TE	3.4
2	PA99N2-1	3.4	2	CO97087-2Ru	3.0
3	CO97087-2Ru	3.3	3	Ranger Russet	2.8
4	AOTX95265-2ARu	3.3	4	PA99N2-1	2.8
5	AOTX95265-4Ru	3.2	5	AOTX95265-4Ru	2.7
6	AOTX95265-3Ru	2.8	6	AO96141-3	2.7
7	PA99N82-4	2.7	7	**CO98067-7Ru**	2.3
8	Ranger Russet	2.6	8	A97066-42LB	2.1
9	AO96141-3	2.4	9	AC96052-1Ru	1.5
10	**CO98368-2Ru**	2.0	10	Russet Burbank	1.4
11	Russet Burbank	2.0	11	PA99N82-4	1.2
12	**CO98067-7Ru**	1.9	12	**CO98368-2Ru**	1.0
13	AC96052-1Ru	1.7			
14	A97066-42LB	1.5			

For more information on these cultivars, see the Early and Late Harvest Regional Trial Sections in this book.

*Due to a seed issue, Russet Norkotah was excluded from the 2008 trials.

NEWEST ENTRIES - TRI-STATE TRIAL

Fresh Market Value Merit Scores - Washington

(Entries ranked according to performance)

Scores based on 1 to 5 (5 = Best) and are averaged across multiple trials, unless bolded. Values of bolded entries are from one year only.

Rank	Entry	Early Harvest Merit	Rank	Entry	Late Harvest Merit
1	**AO00057-2**	3.8	1	AO96365-2	3.7
2	AO96365-2	3.1	2	AO96305-3	2.8
3	PA00N14-2	3.0	3	A98345-1	2.8
4	AO96305-3	2.9	4	A96814-65LB	2.4
5	A96814-65LB	2.8	5	Ranger Russet	2.4
6	A98345-1	2.7	6	PA00N14-2	2.4
7	Ranger Russet	2.6	7	**AO98282-5**	2.3
8	**AO98282-5**	2.3	8	**AO00057-2**	2.3
9	Russet Burbank	2.0	9	**PA98NM25-5**	2.2
10	**PA00N32-4**	1.9	10	**A00324-1**	2.0
11	**A00324-1**	1.4	11	Russet Burbank	1.4
12	**PA98NM25-5**	1.4	12	**A00646-4**	1.0
13	**A00646-4**	1.0	13	**PA00N32-4**	0.6

For more information on these cultivars, see the Early and Late Harvest

ADVANCED LINES - REGIONAL TRIAL

Process Market Merit Scores - Washington

(Entries ranked according to WA field performance)

Scores based on 1 to 5 (5 = Best) and are averaged across multiple trials, unless bolded.
Values of bolded entries are from one year only.

				Late Harvest	
Rank	Entry	Early Harvest Merit	Entry	Field Performance Merit	Post-Harvest Processing Merit (3-State)
1	AO96141-3	4.3	CO97087-2Ru	4.0	4.3
2	CO97087-2Ru	3.9	AO96141-3	3.8	4.0
3	A0008-1TE	3.7	PA99N2-1	3.8	3.8
4	**CO98368-2Ru**	3.7	Ranger Russet	3.6	3.5
5	PA99N2-1	3.6	A0008-1TE	3.1	3.4
6	Ranger Russet	3.5	A97066-42LB	2.8	3.6
7	A97066-42LB	2.9	PA99N82-4	2.8	4.0
8	PA99N82-4	2.9	AC96052-1Ru	2.6	4.2
9	**CO98067-7Ru**	2.8	**CO98368-2Ru**	2.5	2.8
10	Russet Burbank	2.8	**CO98067-7Ru**	2.3	2.4
11	AOTX95265-2ARu	2.8	Russet Burbank	1.8	2.5
12	AOTX95265-4Ru	2.6	AOTX95265-4Ru	1.8	1.8
13	AOTX95265-3Ru	2.5			
14	AC96052-1Ru	2.1			

For more information on these cultivars, see the Early and Late Harvest Regional Trial Sections in this book.

NEWEST ENTRIES - TRI-STATE TRIAL

Process Market Merit Scores - Washington

(Entries ranked according to WA field performance)

Scores based on 1 to 5 (5 = Best) and are averaged across multiple trials, unless bolded.
Values of bolded entries are from one year only.

				Late Harvest	
Rank	Entry	Early Harvest Merit	Entry	Field Performance Merit	Post-Harvest Processing Merit (3-State)
1	PA00N14-2	4.9	AO96365-2	4.0	3.8
2	**AO98282-5**	4.8	**AO98282-5**	3.9	4.1
3	**PA00N32-4**	4.0	A98345-1	3.9	4.5
4	A98345-1	3.7	Ranger Russet	3.6	3.5
5	AO96305-3	3.6	**AO00057-2**	3.4	4.3
6	Ranger Russet	3.5	AO96305-3	3.3	4.1
7	**AO00057-2**	3.4	**A00324-1**	3.2	3.9
8	AO96365-2	3.3	PA00N14-2	3.0	3.7
9	A96814-65LB	3.1	A96814-65LB	2.4	4.0
10	Russet Burbank	2.8	**PA98NM25-5**	2.1	4.0
11	**A00646-4**	2.6	**PA00N32-4**	1.9	2.9
12	**A00324-1**	2.4	Russet Burbank	1.8	2.5
13	**PA98NM25-5**	2.1	**A00646-4**	1.0	2.9

For more information on these cultivars, see the Early and Late Harvest Tri-State Trial Sections in this book.

2008 Red & Specialty Potato Clones - Washington State University

RANKED ACCORDING TO 2008 US #1 Yield

	US #1 Yield 2008			US #1 Yield 2007	(See also Red & Specialty Section near end of book)
	US#1 Yield CWT/A	0-6 oz -----%	6-10oz -----	US#1 Yield CWT/A	Comments
Red Skin/White Flesh*					
Dark Red Norland	486	32	47	464	Pink/red, large uniform size, color inconsistent among tubers.
Red LaSoda	485	25	37	570	Deep eyes, very large, irreg shape, ugly.
CO98012-5R	455	91	9	455	Nice bright red, sticky stolons**.
NDA7985-1R	426	53	35	525	Large, red, shallow eyes, shape a bit irreg, poor skin set.
Red or Purple Skin/Yellow Flesh					
A99331-2RY	356	87	12		Pink skin - poor color, nice shape and size. Discard - color!
AC99329-7PW/Y	427	59	35		Attractive multi-color skin, shape a bit irreg, sticky stolons.
AC99330-1P/Y	322	97	3		Purple, nice, uniform size, deep eyes, sticky stolons.
ATTX961014-1R/Y	389	61	35	533	Pink, flat, longer, shape a bit irreg, nice overall appearance.
ATTX98500-2P/Y	356	75	23	409	Purple, uniform size, nice skin, deep eyes.
POR01PG45-5	457	83	16		Purple, some bronzing, poor skin set, shape a bit irreg.
Red Skin/Red Flesh					
CO97222-1R/R	428	88	11	441	Dark red, nice shape and size, some bronzing.
PA96RR1-193	475	87	13		Purple/red skin, nice shape/size, bronzing, sticky stolons.
POR03PG23-1	291	97	3		Nice multi-color skin, attractive, shape a bit irreg.
Purple Skin/Purple Flesh					
Purple Majesty	385	96	4		Dark purple, bronzing, small uniform size and shape.
CO97215-2P/P	318	75	22	304	Dark purple, bronzing, uniform size and shape.
CO97227-2P/PW	298	100	0	401	Dark purple, small, oblong or round, irreg shape, bronzing.
OR00068-11	431	84	13		Dark purple, nice shape and size, bronzing, skin not smooth.
Yellow Flesh - Skin Color/Type Vary					
Yukon Gold	322	35	43	465	Yellow, large, nice shape and skin, some rhizoc.
A00286-3Y	335	76	20		Yellow, nice shape & size, poor skin set, some oblong or irreg.
CO99045-1W/Y	426	81	16		Bright yellow, skin not smooth, nice shape and size, oblong.
POR02PG26-5	382	77	22	446	Looks like small Yukon G. with large red eyes, rhizoc.
POR02PG37-2	429	74	22	475	Small version of Yukon G. with more colorful eyes.

*Skin/Flesh Color: R = Red, W = White, Y = Yellow, P = Purple, Rus = Russet, Buff = off-white with or without light russeting.

**The term "sticky stolons" refers to tubers that stay attached to the plant during harvest. This may not be a problem if plants are vine killed or fully mature prior to harvest, however, it generally indicates late maturation.

At-Harvest Grading Comments & Fresh Market Appearance

Newest Entries - 2008 Tri-State Trials		
Clone	Fresh Market Appearance 1-5 (5 = best)	Comments
Early-Harvest Tri-State		
Ranger Russet	2.8	Mostly typy; some points, knobs, cracks; nice for Ranger.
Russet Burbank	2.5	Shape mostly uniform; a few knobs, points, and dumbbells.
A96814-65LB	3.0	Large, flat, blocky, typy, spotty russeting.
A98345-1	2.8	Typy, blocky, mostly uniform shape, ugly skin.
A00324-1	3.0	Shape a bit irregular like Ranger, many typy ones.
A00646-4	3.3	Small, typy, light russetting, nice.
AO96305-3	3.3	Mostly typy, some irregularly shaped, some minor growth cracks.
AO96365-2	4.0	Typy, blocky, a bit small.
AO98282-5	2.5	Small, shape mostly uniform but a bit pointy.
AO00057-2	3.8	Large, blocky, typy, some pointy and some round.
PA98NM25-5	3.0	Shape mostly uniform, but some with irreg shape, light russet skin.
PA00N14-2	3.0	Long, skinny, pointy, a bit flat.
PA00N32-4	2.5	Light russetting, mostly typy, a few with irreg shape.
Late-Harvest Tri-State		
Ranger Russet	3.3	Large, long, mostly typy.
Russet Burbank	2.3	Mix of shapes, some typy, some rough, knobs.
A96814-65LB	3.0	Large, maybe too large, blocky, a bit round, puffed wheat skin.
A98345-1	2.0	Very large, looks similar to Shepody, a bit round, some rough.
A00324-1	3.0	Large, puffed wheat skin, mostly typy but skin is an issue.
A00646-4	3.0	Small, round, puffed wheat skin, mostly typy.
AO96305-3	3.5	Mostly typy, a few ugly and rough ones, some long and skinny.
AO96365-2	3.8	Mostly typy, round, small, some pointy ends.
AO98282-5	2.7	Lot of knobs, looks like a rough Russet Burbank.
AO00057-2	3.5	Very large - too large for fresh, mostly typy, a few folded ends.
PA98NM25-5	2.5	A bit ugly, some round, some pointy, light skin.
PA00N14-2	3.8	Ugly skin with orange tint, long, skinny, light russet, bit flat
PA00N32-4	1.0	Light skin, ugly, pear shaped, point, rough shape, poor yield.

At-Harvest Grading Comments & Fresh Market Appearance

Advanced Lines - 2008 Regional Trials		
Clone	Fresh Market Appearance 1-5 (5 = best)	Comments
Early-Harvest Regional		
Ranger Russet	3.0	Mostly typy, a bit pointy, poor skin set.
Russet Burbank	2.3	Irregular, inconsistent shape, a bit pointy, knobs, large.
A0008-1TE	4.0	Plump girth, very typy, fresh mkt standout, uniform size.
A97066-42LB	3.0	Bad skin, spotty russeting, blocky, a bit round.
AC96052-1Ru	4.3	Small, typy, looks like Russet Norkotah.
AO96141-3	3.0	Skinny, long, typy, uniform shape.
AOTX95265-2ARu	4.0	Small, typy, uniform size.
AOTX95265-3Ru	3.8	Small, typy, non-uniform russeting.
AOTX95265-4Ru	4.0	Small, typy.
CO97087-2Ru	3.8	Small, typy, some with non-uniform shape.
CO98067-7Ru	3.8	Small, typy, good skin set, light, puffed wheat skin with orange tint.
CO98368-2Ru	3.8	Small, typy, some a bit flat and round.
PA99N2-1	4.0	Many round tubers, typy.
PA99N82-4	4.0	Smaller tubers round, larger ones more oblong, typy.
Late-Harvest Regional		
Ranger Russet	2.8	Long, skinny, mostly typy, some a bit rough, large.
Russet Burbank	2.5	Some typy, some rough, knobs, growth cracks.
A0008-1TE	3.1	Mostly typy, rough, non-uniform shape and russeting.
A97066-42LB	1.5	Spotty russeting, skin cracks, alligator hide, large.
AC96052-1Ru	3.3	Small, typy, dark puffed wheat skin.
AO96141-3	3.0	Pointy ends, long and skinny, some knobs.
AOTX95265-4Ru	3.8	Looks like R. Norkotah, typy, bit flat, uniform shape and size.
CO97087-2Ru	3.7	Some pear shaped, some typy and round, bit flat.
CO98067-7Ru	2.8	Flat, round, some pears, discard?
CO98368-2Ru	3.0	Small, flat, shatter bruise, some curves, bit round.
PA99N2-1	2.5	Round - too round for fries, light puffed wheat skin.
PA99N82-4	1.5	Discard! Round, plump - too round for fries, puffed wheat skin.

2008 Early Harvest Tri-State Trial

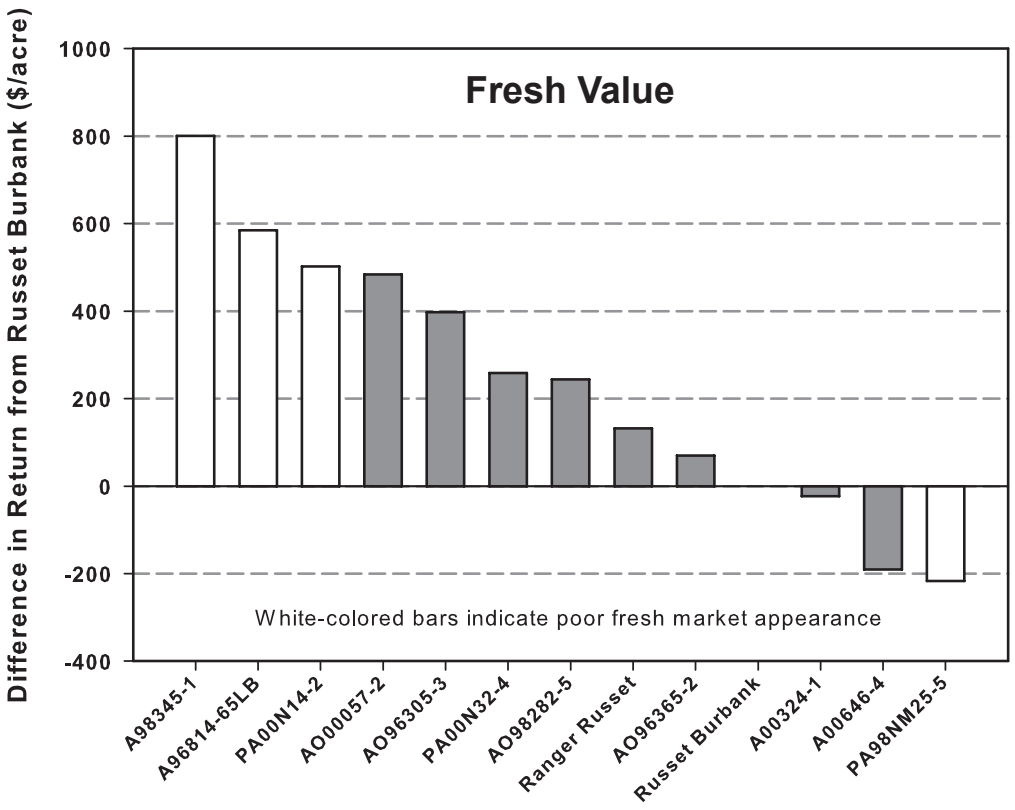
Summaries

ENTRY	TOTAL YIELD			US # 1's* > 4 oz	US # 2's* > 4 oz	Culls* & < 4 oz	CARTON YIELD 100-50 count (US 1's 7-18 oz)		PROCESS YIELD US 1's and 2's > 6 oz	
	CWT/A	STATS**	Tons/A	% of Total Yield			% of Total Yield	Tons/A	% of Total Yield	Tons/A
Ranger Russet	310	*CD*	15.5	84	1	15	49	7.6	64	9.9
Russet Burbank	363	*BC*	18.1	70	2	27	35	6.4	50	9.0
A96814-65LB	376	*B*	18.8	82	1	17	51	9.5	65	12.2
A98345-1	399	*AB*	19.9	87	0	13	53	10.6	67	13.4
A00324-1	301	*D*	15.1	80	2	18	44	6.6	62	9.4
A00646-4	315	*CD*	15.7	79	1	21	34	5.3	49	7.6
AO96305-3	374	*B*	18.7	82	3	16	47	8.8	62	11.6
AO96365-2	399	*AB*	19.9	75	2	24	31	6.1	44	8.8
AO98282-5	433	*A*	21.7	73	3	25	32	6.9	46	10.0
AO00057-2	354	*BCD*	17.7	85	1	14	51	9.1	65	11.6
PA98NM25-5	374	*B*	18.7	74	1	25	23	4.4	37	7.0
PA00N14-2	398	*AB*	19.9	87	0	13	44	8.8	61	12.1
PA00N32-4	401	*AB*	20.1	81	3	16	36	7.3	54	10.7

ENTRY	US # 1 YIELD						> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%) (8-12 oz tubers)		
	> 4 oz CWT/A	STATS**	> 4 oz Tons/A	4-7 oz*	7-14 oz*	> 14 oz*		% HH	% BC	% IBS
				%						
Ranger Russet	260	*CDEF*	13.0	42	57	2	1.086	0	0	0
Russet Burbank	256	*DEF*	12.8	50	49	2	1.082	0	3	5
A96814-65LB	309	*ABC*	15.5	34	54	12	1.098	0	0	3
A98345-1	348	*A*	17.4	34	58	8	1.086	0	0	5
A00324-1	241	*F*	12.0	44	51	5	1.082	0	0	3
A00646-4	248	*EF*	12.4	57	39	4	1.087	0	3	0
AO96305-3	307	*ABCD*	15.3	43	56	1	1.089	0	0	0
AO96365-2	299	*ABCDE*	15.0	59	40	1	1.079	0	0	0
AO98282-5	315	*AB*	15.8	56	43	1	1.093	0	0	0
AO00057-2	302	*ABCD*	15.1	37	53	10	1.082	0	0	0
PA98NM25-5	276	*BCDEF*	13.8	68	32	0	1.105	0	0	0
PA00N14-2	345	*A*	17.3	49	49	2	1.085	0	0	0
PA00N32-4	327	*AB*	16.3	55	44	1	1.083	0	3	0

ENTRY	30 DAY STAND	40 DAY STAND	50 DAY STAND	STEMS PER PLANT	AVERAGE TUBER		SKIN SET	TUBER SHAPE	BRUISE (%) (8-12 oz tubers)	
	% Emerged	% Emerged	% Emerged	Above Ground	WEIGHT Ounces	NUMBER Tubers/Plant	1 = Poor 5 = Good	1 = Round 5 = Long	BLACKSPOT	SHATTER
Ranger Russet	0	9	99	1.7	6.1	5.1	2	4	0	3
Russet Burbank	0	4	90	1.7	5.9	6.2	2	3	3	8
A96814-65LB	0	3	90	1.6	6.3	6.0	1	3	8	10
A98345-1	0	47	100	1.8	6.8	6.0	2	3	8	5
A00324-1	0	3	68	2.3	6.0	5.1	2	3	8	3
A00646-4	0	0	87	1.8	5.2	6.2	2	3	3	23
AO96305-3	0	0	78	2.8	6.2	6.1	2	4	15	10
AO96365-2	0	0	99	1.8	4.9	8.2	1	4	3	5
AO98282-5	0	1	96	2.6	4.9	8.9	1	3	3	13
AO00057-2	0	0	65	2.4	6.1	5.8	2	3	10	0
PA98NM25-5	0	0	79	3.3	4.7	8.0	1	3	11	14
PA00N14-2	0	0	88	2.0	5.8	7.0	2	4	8	3
PA00N32-4	0	0	65	3.1	5.6	7.3	2	3	8	28

* Percent values may not total 100% due to rounding
**Numbers followed by the same letter are not significantly different at the 5% level using Fisher's LSD Test



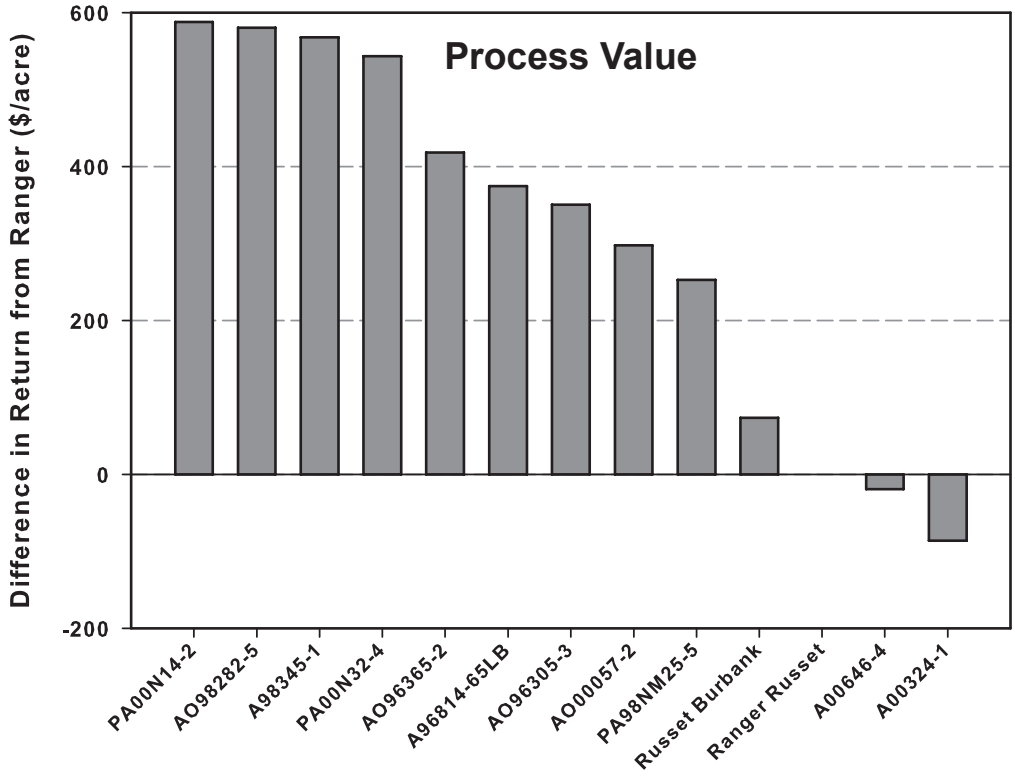


Figure 1 (Top). Difference in gross return per acre (Fresh Market) from Russet Burbank calculated by subtracting the gross return of Russet Burbank ($1816) from the gross return of the particular entry. **Figure 2 (Bottom).** Difference in gross return per acre (Process Market) from Ranger Russet calculated by subtracting the gross return of Ranger Russet ($1822) from the gross return of the particular entry.

2008 Late Harvest Tri-State Trial

Summaries

ENTRY	TOTAL YIELD (CWT/A)	STATS**	TOTAL YIELD (Tons/A)	US # 1's* > 4 oz % of Total Yield	US # 2's* > 4 oz % of Total Yield	Culls* & < 4 oz % of Total Yield	CARTON YIELD 100-50 count (US 1's 7-18 oz) % of Total Yield	CARTON YIELD (US 1's 7-18 oz) (Tons/A)	PROCESS YIELD US 1's and 2's > 6 oz % of Total Yield	PROCESS YIELD US 1's and 2's > 6 oz (Tons/A)
Ranger Russet	626	*DEFG*	31.3	86	4	10	48	15.0	81	25.5
Russet Burbank	696	*CD*	34.8	74	4	22	50	17.4	64	22.4
A96814-65LB	820	*B*	41.0	92	0	8	53	21.7	86	35.3
A98345-1	996	*A*	49.8	90	2	8	49	24.5	87	43.5
A00324-1	662	*CDE*	33.1	87	1	12	52	17.3	78	25.7
A00646-4	522	*GH*	26.1	87	0	13	54	14.1	73	19.0
AO96305-3	545	*FGH*	27.3	84	0	16	56	15.4	70	19.0
AO96365-2	759	*BC*	37.9	88	0	11	60	22.8	77	29.0
AO98282-5	940	*A*	47.0	86	1	13	56	26.2	75	35.4
AO00057-2	635	*DEFG*	31.8	92	1	7	50	15.9	84	26.8
PA98NM25-5	724	*BCD*	36.2	88	0	12	52	18.7	73	26.3
PA00N14-2	552	*EFGH*	27.6	88	1	11	59	16.2	71	19.5
PA00N32-4	495	*H*	24.7	83	3	15	56	13.9	70	17.4

ENTRY	US # 1 YIELD > 4 oz (CWT/A)	STATS**	US # 1 YIELD > 4 oz (Tons/A)	4-7 oz* %	7-14 oz* %	> 14 oz* %	> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%) (8-12 oz tubers) % HH	% BC	% IBS
Ranger Russet	537	*EFG*	26.9	14	36	50	1.083	0	0	3
Russet Burbank	515	*FG*	25.7	26	59	15	1.079	0	10	3
A96814-65LB	756	*BC*	37.8	10	40	50	1.104	0	0	0
A98345-1	897	*A*	44.8	8	38	54	1.085	0	0	0
A00324-1	576	*DEF*	28.8	17	46	36	1.085	0	0	0
A00646-4	452	*GH*	22.6	26	52	22	1.073	3	3	0
AO96305-3	457	*GH*	22.9	28	57	16	1.084	0	0	0
AO96365-2	670	*CD*	33.5	22	53	26	1.082	0	3	0
AO98282-5	809	*AB*	40.5	22	48	30	1.094	0	0	0
AO00057-2	584	*DEF*	29.2	15	36	49	1.089	0	0	0
PA98NM25-5	639	*DE*	31.9	27	45	28	1.106	0	0	0
PA00N14-2	487	*FGH*	24.3	31	58	10	1.082	0	0	3
PA00N32-4	409	*H*	20.5	28	60	12	1.079	0	0	3

ENTRY	% Dead At Vine Kill	30 DAY STAND (% Emerged)	50 DAY STAND (% Emerged)	STEMS PER PLANT (Above Ground)	AVERAGE TUBER WEIGHT (Ounces)	AVERAGE TUBER NUMBER (Tubers/Plant)	SKIN SET 1 = Poor 5 = Good	TUBER SHAPE 1 = Round 5 = Long	BRUISE (%) (8-12 oz tubers) BLACKSPOT	BRUISE (%) (8-12 oz tubers) SHATTER
Ranger Russet	29	0	96	1.4	9.5	5.7	5	4	40	60
Russet Burbank	75	0	93	2.1	7.4	8.2	4	3	13	70
A96814-65LB	21	0	85	1.5	10.8	6.6	4	3	8	43
A98345-1	10	3	98	1.9	11.4	7.7	4	3	23	58
A00324-1	46	0	69	2.6	8.5	6.8	4	3	45	83
A00646-4	50	0	82	1.8	7.1	6.5	4	3	20	90
AO96305-3	49	0	91	2.3	6.8	7.0	5	3	20	38
AO96365-2	34	0	98	1.6	7.4	8.9	4	3	23	20
AO98282-5	55	0	100	2.7	7.6	10.8	4	3	20	70
AO00057-2	30	0	91	1.7	9.7	5.7	4	3	15	63
PA98NM25-5	31	0	86	2.2	8.2	8.2	4	3	18	83
PA00N14-2	50	0	93	1.6	6.6	7.2	4	4	3	33
PA00N32-4	54	0	76	2.0	7.1	6.1	4	2	35	75

* Percent values may not total 100% due to rounding
**Numbers followed by the same letter are not significantly different at the 5% level using Fisher's LSD Test

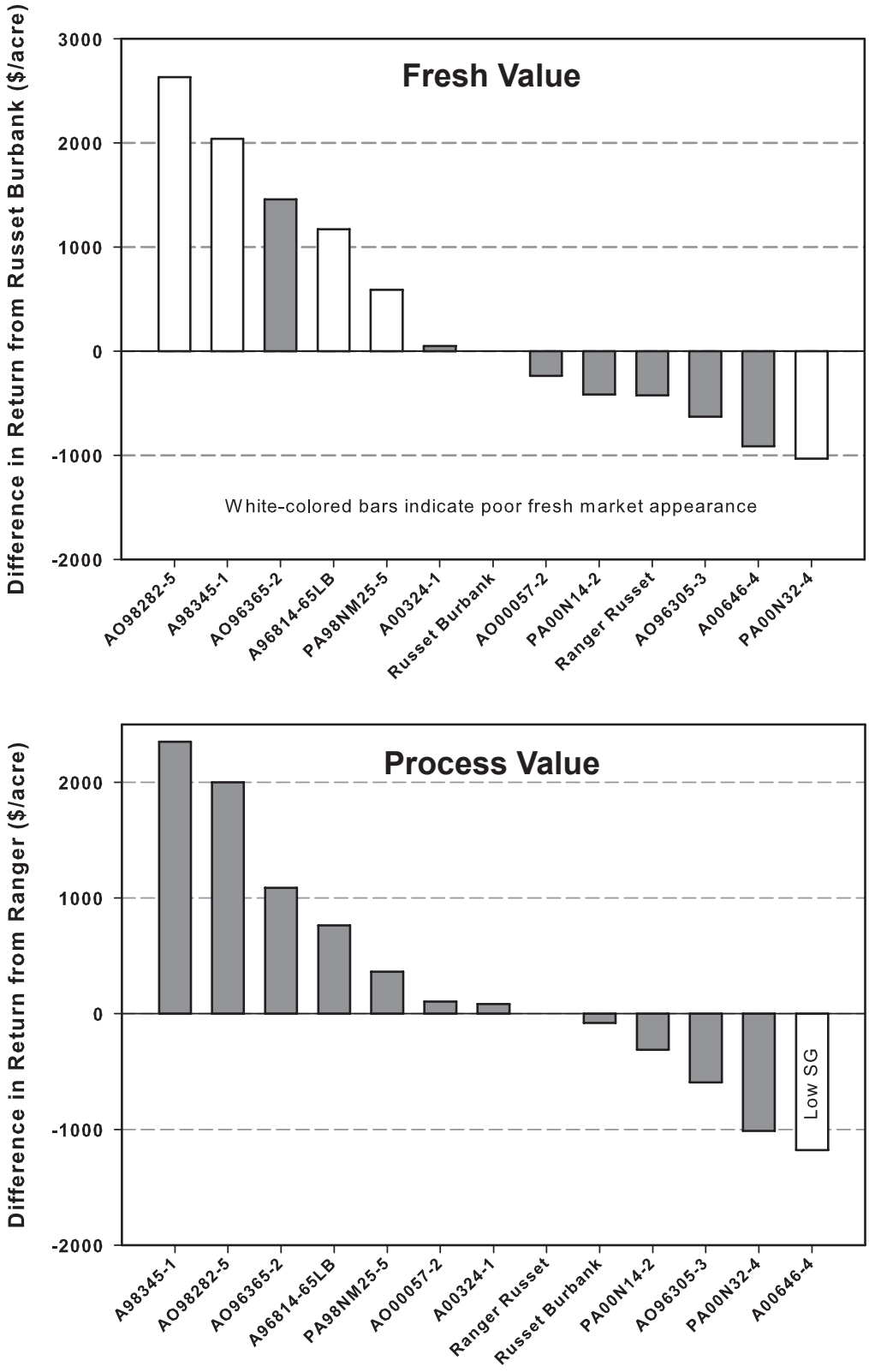
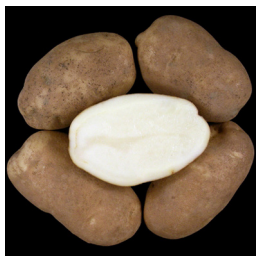
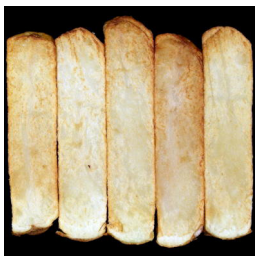
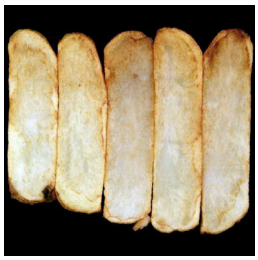
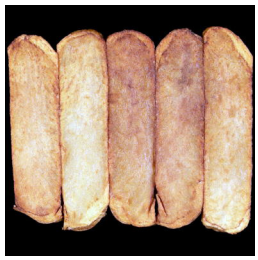
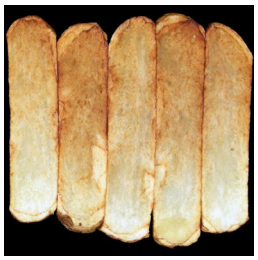
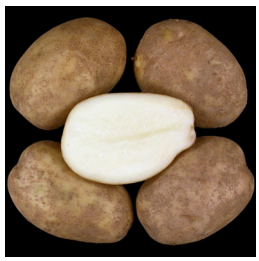
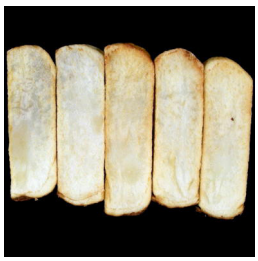
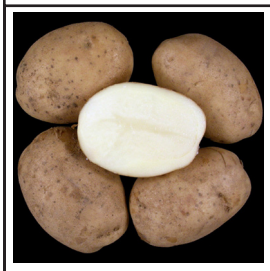
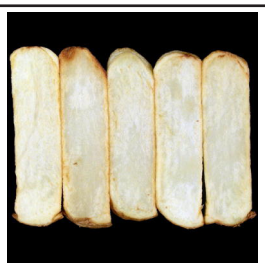
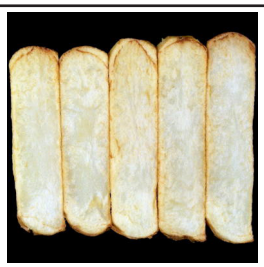
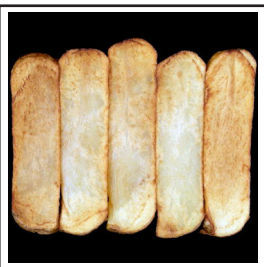
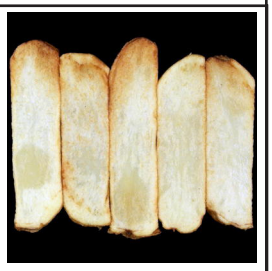
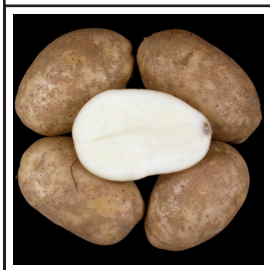
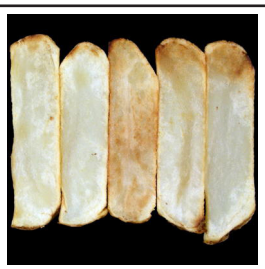
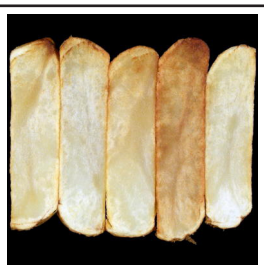
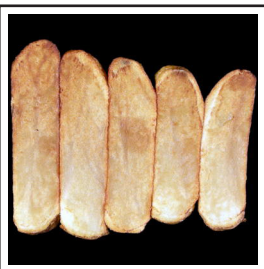
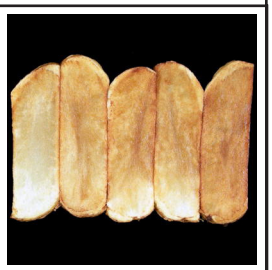
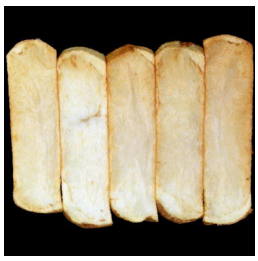
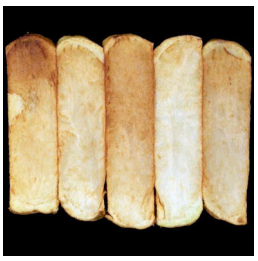
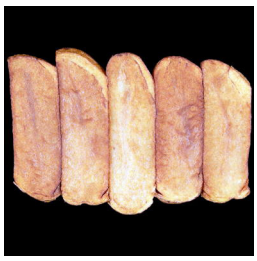
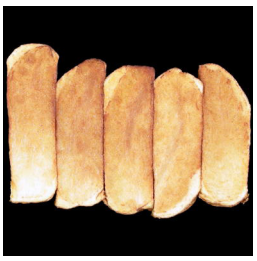
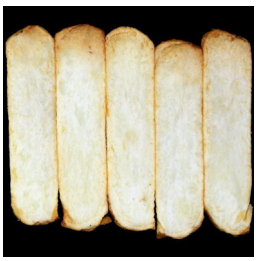
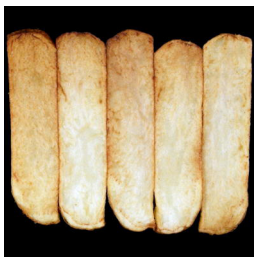
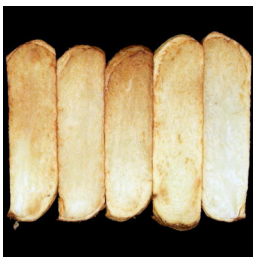
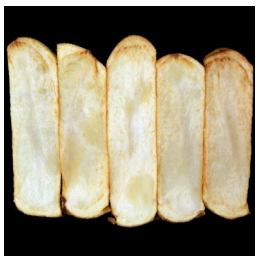
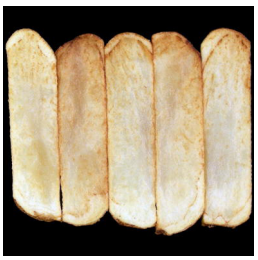
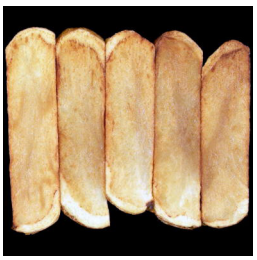
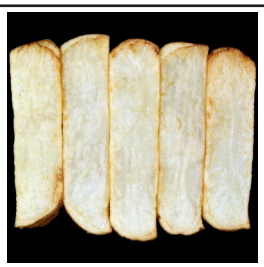
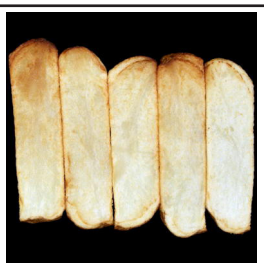
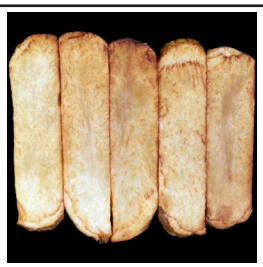
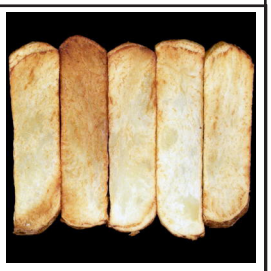
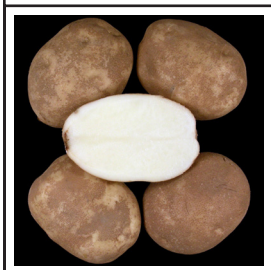
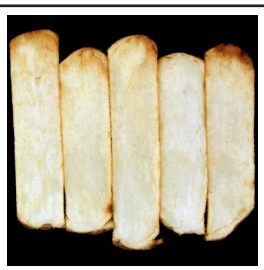
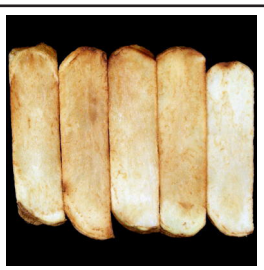
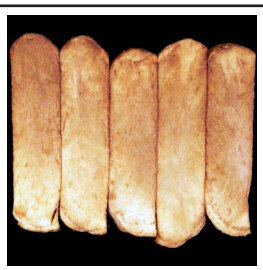
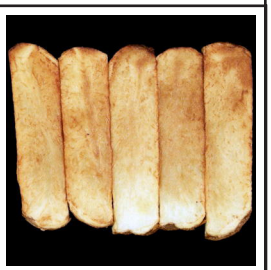
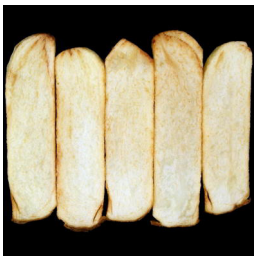
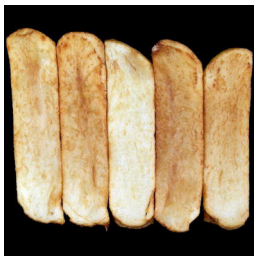
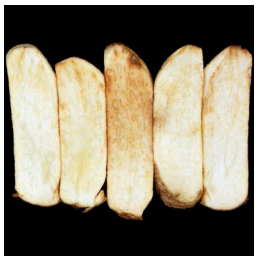
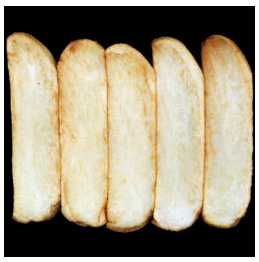
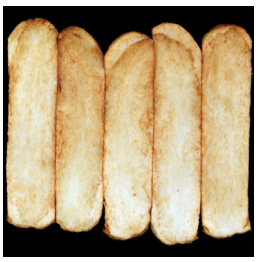
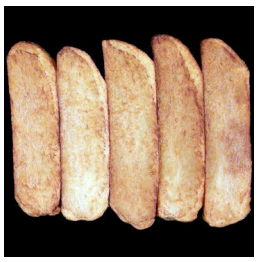
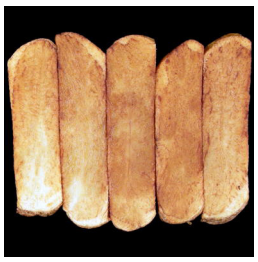
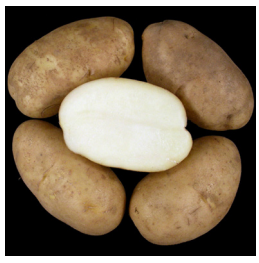
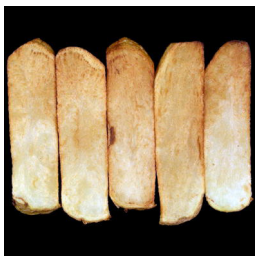
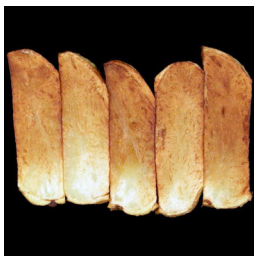


Figure 1 (Top). Difference in gross return per acre (Fresh Market) from Russet Burbank calculated by subtracting the gross return of Russet Burbank ($5028) from the gross return of the particular entry. Entries with the white-colored bars may not appeal to fresh market consumers due to undesirable shape or appearance. **Figure 2 (Bottom)**. Difference in gross return per acre (Process Market) from Ranger Russet calculated by subtracting the gross return of Ranger Russet ($4267) from the gross return of the particular entry. Entries with the white-colored bars would be penalized (under the mock contract parameters) due to a specific gravity less than 1.075.

Tubers	48º F Storage	44º F Storage	40º F Storage	40º F Recon.
Ranger Russet					
Russet Burbank					
A96814-65LB					
A98345-1					
A00324-1					

Tubers	48º F Storage	44º F Storage	40º F Storage	40º F Recon.
A00646-4					
AO96305-3					
AO96365-2					
AO98282-5					
AO00057-2					

Tubers	48º F Storage	44º F Storage	40º F Storage	40º F Recon.
PA98NM25-5					
PA00N14-2					
PA00N32-4					

Jacob Blauer stacks 60 lb burlap sacks onto a trailer, while Daniel Zommick, Lisa Knowles, Josh Rodriguez, and Anthony Cortez help harvest.

2008 Late Harvest Tri-State Trial

Accumulated Total Postharvest Rating of Clones

Clone	WA Rating Total §	WA Discard §§	ID Rating Total §	ID Discard §§	OR Rating Total §	OR Discard §§	3 State av. Rating Total
4 A98345-1	32.7		36.4		31.2		33.4
7 AO96305-3	36.8		31.9		28.7		32.5
10 AO00057-2	34.4		32.2		30.3		32.3
9 AO98282-5	32.4		34.3		27.5		31.4
11 PA98NM25-5	32.7		32.7		26.1		30.5
3 A96814-65LB	32.5		32.5		25.8		30.3
8 AO96365-2	33.3		35.4		21.3		30.0
12 PA00N14-2	35.9		29.1		24.3		29.8
5 A00324-1	33.3		33.3		21.5		29.4
1 Ranger Russet	36.0		31.2		20.4		29.2
2 Russet Burbank	29.3		23.1		16.3		22.9
13 PA00N32-4	26.6		24.0		15.0		21.9
6 A00646-4	25.8		23.5		10.3	Sp. Gr.	19.9

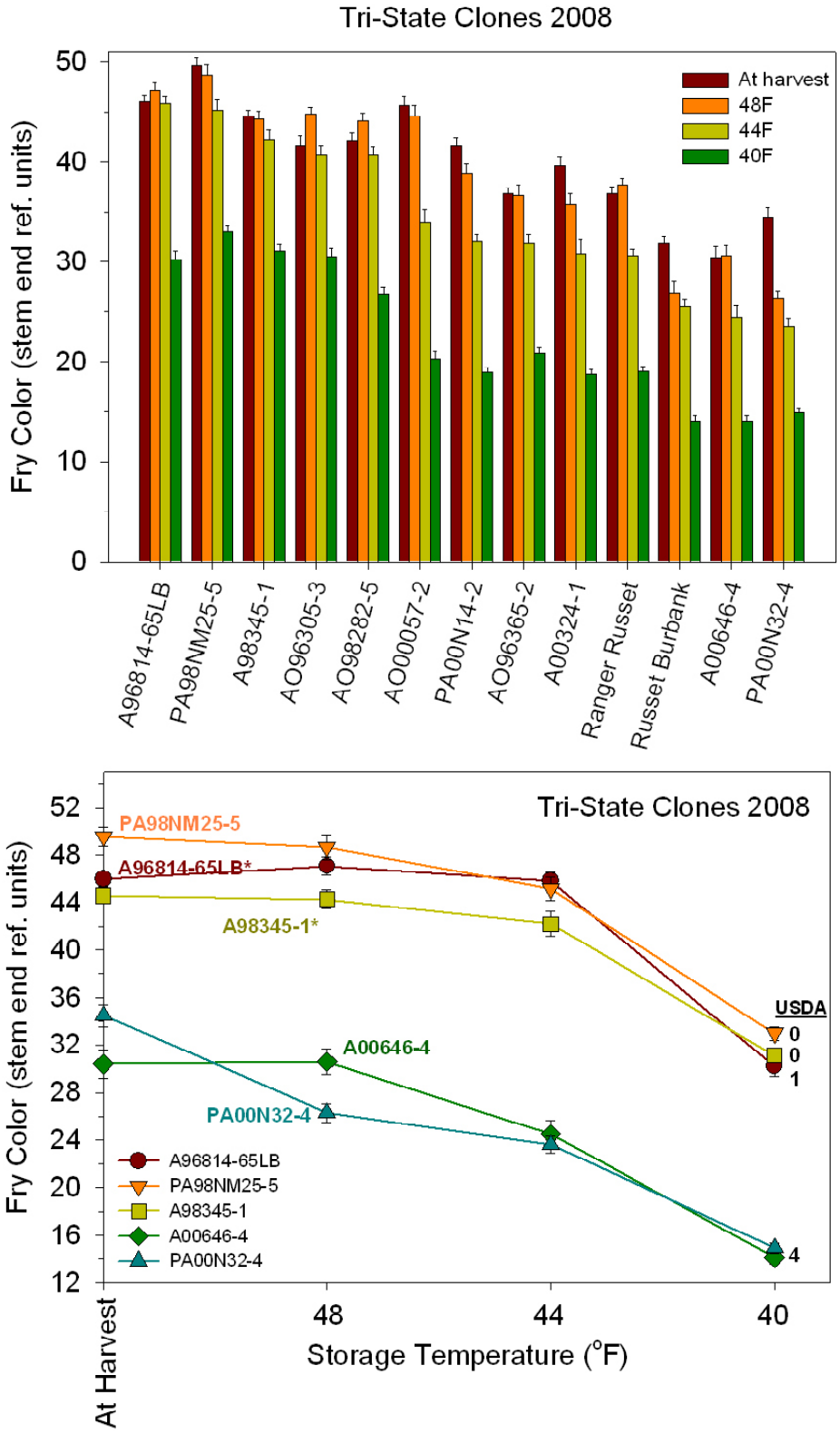
§ Maximum rating possible = 38
§§ Values for the indicated evaluation are lower than the rejection level

Overall Postharvest Performance of Clones Compared to Russet Burbank

Clone	WA	ID	OR	Average
1 Ranger Russet	H	H	H	H
3 A96814-65LB	H	H	H	H
4 A98345-1	H	H	H	H
5 A00324-1	H	H	H	H
6 A00646-4	L	H	L	L
7 AO96305-3	H	H	H	H
8 AO96365-2	H	H	H	H
9 AO98282-5	H	H	H	H
10 AO00057-2	H	H	H	H
11 PA98NM25-5	H	H	H	H
12 PA00N14-2	H	H	H	H
13 PA00N32-4	L	H	L	L

H= Higher than Russet Burbank
S= Same as Russet Burbank
L= Lower than Russet Burbank

2008 Late Harvest Tri-State Trial



Top: At-harvest and after-storage French fry colors (stem end) of clones in the Tri-State Trial. Tubers were stored for 60 days at 48, 44, and 40°F. The clones are ranked from best to worst on fry color of the 44°F-stored tubers. High reflectance values indicate light colored fries.

Bottom: The effects of storage temperature on the change in French fry processing quality (stem end fry color) of the best (PA98NM25-5, A96814-65LB, and A98345-1) and worst (A00646-4, PA00N32-4) performing clones in the Tri-State Trial. *Indicates similar performance of the clones last year.

ALL IN A DAY'S WORK...













2008 Early Harvest Regional Trial

Summaries

ENTRY	TOTAL YIELD			US # 1's* > 4 oz	US # 2's* > 4 oz	Culls* & < 4 oz	CARTON YIELD 100-50 count (US 1's 7-18 oz)		PROCESS YIELD US 1's and 2's > 6 oz	
	CWT/A	STATS**	Tons/A	% of Total Yield			% of Total Yield	Tons/A	% of Total Yield	Tons/A
Ranger Russet	328	*BCD*	16.4	87	1	13	52	8.6	67	11.0
Russet Burbank	363	*ABC*	18.1	71	4	24	41	7.4	54	9.9
A0008-1TE	405	*A*	20.2	81	1	18	39	7.9	53	10.8
A97066-42LB	245	*EF*	12.2	75	0	24	35	4.3	47	5.7
AC96052-1Ru	274	*DE*	13.7	53	0	47	9	1.3	18	2.5
AO96141-3	385	*AB*	19.2	73	0	26	27	5.1	39	7.5
AOTX95265-2ARu	247	*E*	12.4	69	0	30	24	3.0	33	4.1
AOTX95265-3Ru	244	*EF*	12.2	67	0	33	19	2.4	32	4.0
AOTX95265-4Ru	184	*F*	9.2	57	0	43	14	1.3	22	2.0
CO97087-2Ru	381	*AB*	19.0	76	2	21	27	5.1	42	8.0
CO98067-7Ru	335	*BCD*	16.8	53	0	47	8	1.3	16	2.7
CO98368-2Ru	301	*CDE*	15.0	61	3	36	14	2.1	29	4.3
PA99N2-1	407	*A*	20.4	78	1	21	34	6.9	49	10.0
PA99N82-4	420	*A*	21.0	81	1	18	38	8.0	55	11.5

ENTRY	US # 1 YIELD			> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%) (8-12 oz tubers)		
	> 4 oz CWT/A	STATS**	> 4 oz Tons/A		% HH	% BC	% IBS
				4-7 oz* / 7-14 oz* / > 14 oz* %			
Ranger Russet	284	*ABC*	14.2	38 / 57 / 6	1.085	0	0	0
Russet Burbank	258	*C*	12.9	43 / 47 / 10	1.080	0	11	0
A0008-1TE	327	*AB*	16.3	52 / 47 / 1	1.081	0	0	0
A97066-42LB	185	*D*	9.2	53 / 47 / 0	1.090	0	0	0
AC96052-1Ru	144	*DE*	7.2	82 / 18 / 0	1.086	0	0	0
AO96141-3	282	*BC*	14.1	62 / 33 / 4	1.093	0	0	0
AOTX95265-2ARu	172	*D*	8.6	66 / 33 / 1	1.076	0	0	0
AOTX95265-3Ru	162	*DE*	8.1	71 / 28 / 2	1.075	0	0	3
AOTX95265-4Ru	104	*E*	5.2	76 / 24 / 0	1.075	0	0	0
CO97087-2Ru	291	*ABC*	14.6	65 / 34 / 1	1.093	0	0	0
CO98067-7Ru	178	*D*	8.9	86 / 14 / 0	1.078	0	0	0
CO98368-2Ru	185	*D*	9.2	77 / 23 / 0	1.085	0	0	0
PA99N2-1	318	*ABC*	15.9	56 / 44 / 0	1.080	0	0	0
PA99N82-4	342	*A*	17.1	52 / 45 / 4	1.082	0	0	5

ENTRY	30 DAY STAND % Emerged	40 DAY STAND % Emerged	50 DAY STAND % Emerged	STEMS PER PLANT Above Ground	AVERAGE TUBER WEIGHT Ounces	AVERAGE TUBER NUMBER Tubers/Plant	SKIN SET 1 = Poor 5 = Good	TUBER SHAPE 1 = Round 5 = Long	BRUISE (%) (8-12 oz tubers) BLACKSPOT	BRUISE (%) (8-12 oz tubers) SHATTER
Ranger Russet	0	7	96	2.1	6.2	4.6	2	4	25	8
Russet Burbank	0	21	91	2.0	5.9	5.3	2	3	24	16
A0008-1TE	0	0	85	2.7	5.4	6.5	3	3	15	18
A97066-42LB	0	0	38	4.5	5.0	4.2	2	3	17	31
AC96052-1Ru	0	0	71	2.6	3.8	6.2	3	3	8	3
AO96141-3	0	0	90	3.0	4.8	7.0	3	4	3	5
AOTX95265-2ARu	0	9	99	1.9	4.4	4.8	3	3	23	3
AOTX95265-3Ru	0	3	93	2.3	4.3	4.9	3	3	15	10
AOTX95265-4Ru	0	1	88	2.6	3.9	4.1	3	3	5	3
CO97087-2Ru	0	1	94	2.6	4.9	6.7	3	3	25	6
CO98067-7Ru	0	18	99	2.5	3.6	8.1	4	4	11	5
CO98368-2Ru	0	1	85	2.5	4.3	6.1	3	3	27	10
PA99N2-1	0	0	75	3.4	5.2	6.8	2	2	20	8
PA99N82-4	0	0	75	2.6	5.4	6.8	2	2	18	5

* Percent values may not total 100% due to rounding
**Numbers followed by the same letter are not significantly different at the 5% level using Fisher's LSD Test

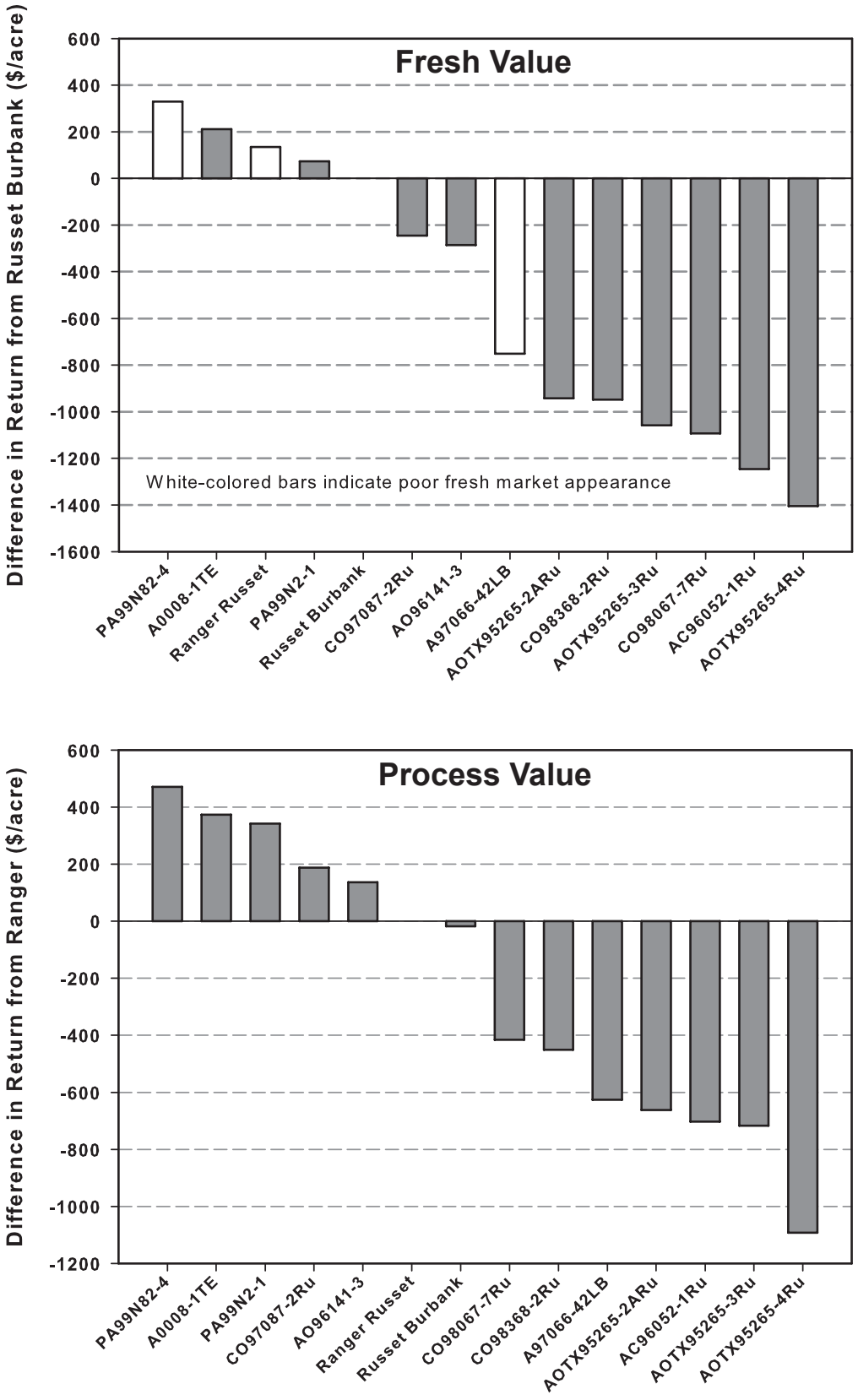


Figure 1 (Top). Difference in gross return per acre (Fresh Market) from Russet Burbank calculated by subtracting the gross return of Russet Burbank ($1969) from the gross return of the particular entry. **Figure 2 (Bottom).** Difference in gross return per acre (Process Market) from Ranger Russet calculated by subtracting the gross return of Ranger Russet ($1978) from the gross return of the particular entry.

2008 Late Harvest Regional Trial

Summaries

ENTRY	TOTAL YIELD (CWT/A)	STATS**	TOTAL YIELD (Tons/A)	US # 1's* > 4 oz % of Total Yield	US # 2's* > 4 oz % of Total Yield	Culls* & < 4 oz % of Total Yield	CARTON YIELD 100-50 count (US 1's 7-18 oz) % of Total Yield	CARTON YIELD (Tons/A)	PROCESS YIELD US 1's and 2's > 6 oz % of Total Yield	PROCESS YIELD (Tons/A)
Ranger Russet	598	*CD*	29.9	79	5	16	45	13.4	75	22.4
Russet Burbank	592	*CD*	29.6	71	4	25	52	15.4	64	19.1
A0008-1TE	621	*CD*	31.0	86	2	13	63	19.4	76	23.5
A97066-42LB	647	*BC*	32.4	84	1	15	51	16.5	78	25.2
AC96052-1Ru	605	*CD*	30.2	79	1	20	39	11.8	55	16.6
AO96141-3	634	*C*	31.7	85	3	12	53	16.8	72	22.8
AOTX95265-4Ru	495	*E*	24.8	79	2	19	50	12.4	64	15.9
CO97087-2Ru	615	*CD*	30.7	82	1	17	48	14.9	60	18.3
CO98067-7Ru	738	*A*	36.9	79	3	18	46	17.1	63	23.2
CO98368-2Ru	542	*DE*	27.1	81	2	18	44	11.9	59	15.9
PA99N2-1	775	*A*	38.8	89	2	10	57	22.3	82	31.6
PA99N82-4	725	*AB*	36.2	87	0	13	49	17.9	79	28.8

ENTRY	US # 1 YIELD > 4 oz (CWT/A)	STATS**	US # 1 YIELD > 4 oz (Tons/A)	4-7 oz* %	7-14 oz* %	> 14 oz* %	> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%) (8-12 oz tubers) % HH	% BC	% IBS
Ranger Russet	470	*DEF*	23.5	18	40	42	1.085	0	0	0
Russet Burbank	423	*EFG*	21.1	22	58	21	1.079	5	8	0
A0008-1TE	532	*CD*	26.6	22	56	22	1.081	0	0	3
A97066-42LB	545	*BCD*	27.2	14	42	43	1.095	0	0	0
AC96052-1Ru	480	*DE*	24.0	44	45	10	1.087	0	0	0
AO96141-3	540	*CD*	27.0	27	48	25	1.096	0	0	3
AOTX95265-4Ru	392	*FG*	19.6	31	52	17	1.071	5	0	0
CO97087-2Ru	505	*CDE*	25.2	40	52	8	1.088	0	0	0
CO98067-7Ru	584	*BC*	29.2	36	51	13	1.072	0	0	0
CO98368-2Ru	437	*EFG*	21.9	42	49	10	1.080	0	0	0
PA99N2-1	689	*A*	34.4	17	48	36	1.083	0	0	0
PA99N82-4	630	*AB*	31.5	13	39	48	1.083	0	0	0

ENTRY	% Dead At Vine Kill	30 DAY STAND (% Emerged)	50 DAY STAND (% Emerged)	STEMS PER PLANT (Above Ground)	AVERAGE TUBER WEIGHT (Ounces)	AVERAGE TUBER NUMBER (Tubers/Plant)	SKIN SET 1 = Poor 5 = Good	TUBER SHAPE 1 = Round 5 = Long	BRUISE (%) (8-12 oz tubers) BLACKSPOT	BRUISE (%) SHATTER
Ranger Russet	41	0	93	1.4	9.6	5.4	4	4	53	43
Russet Burbank	90	0	99	1.6	7.2	7.1	4	3	30	55
A0008-1TE	97	0	98	2.2	7.5	7.2	4	3	25	50
A97066-42LB	6	0	84	1.2	9.4	6.0	4	3	28	69
AC96052-1Ru	16	0	92	2.4	5.8	9.1	4	3	38	53
AO96141-3	59	0	96	2.6	7.4	7.5	3	4	28	38
AOTX95265-4Ru	99	0	100	1.8	6.9	6.2	4	4	30	35
CO97087-2Ru	75	0	96	3.2	5.8	9.2	4	3	13	28
CO98067-7Ru	81	0	98	3.3	6.2	10.3	4	2	28	33
CO98368-2Ru	98	0	85	2.5	5.8	8.0	4	3	33	65
PA99N2-1	21	0	84	2.4	8.8	7.6	4	2	23	60
PA99N82-4	30	0	94	1.8	9.4	6.7	4	2	24	95

* Percent values may not total 100% due to rounding
**Numbers followed by the same letter are not significantly different at the 5% level using Fisher's LSD Test

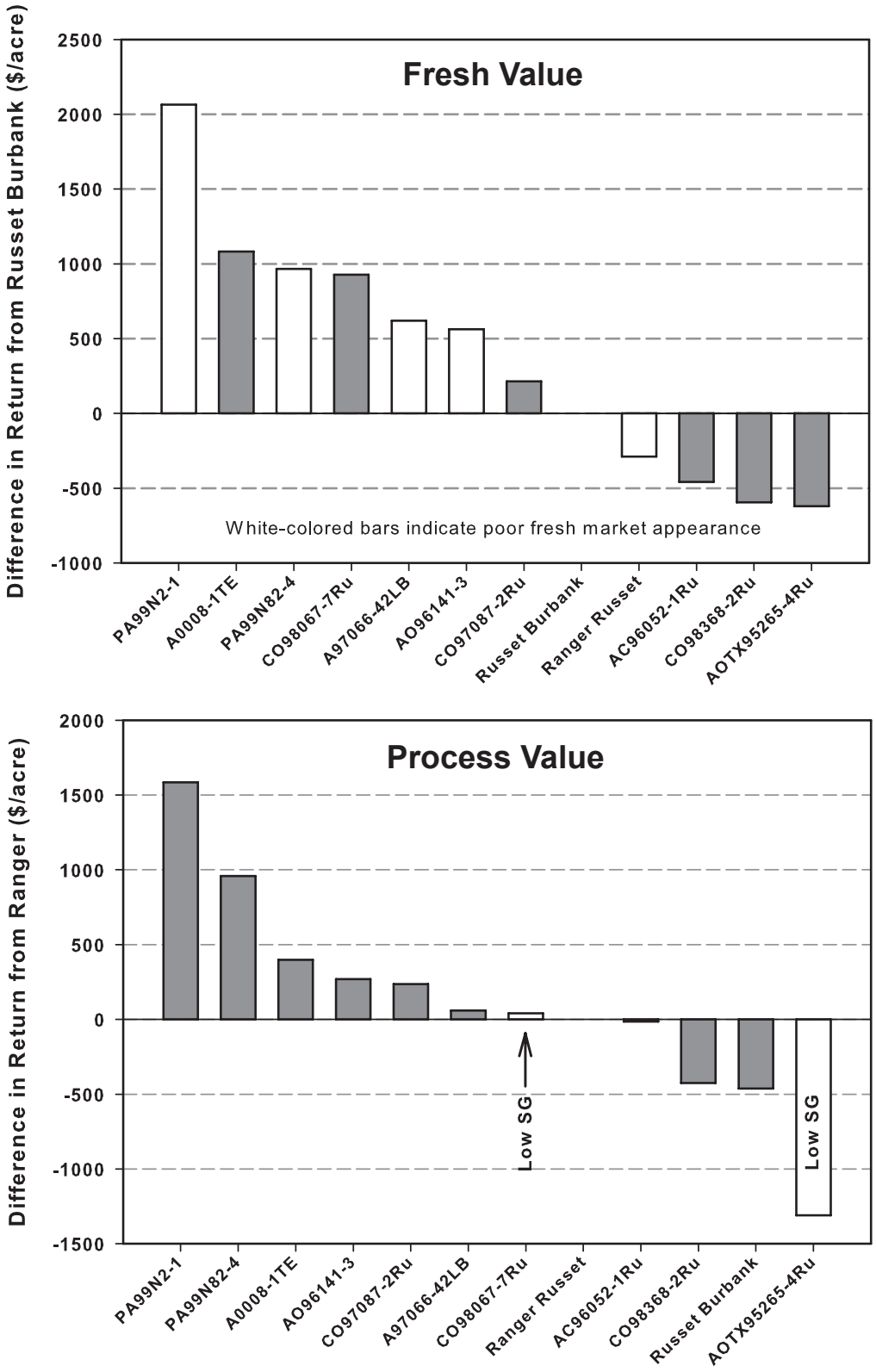
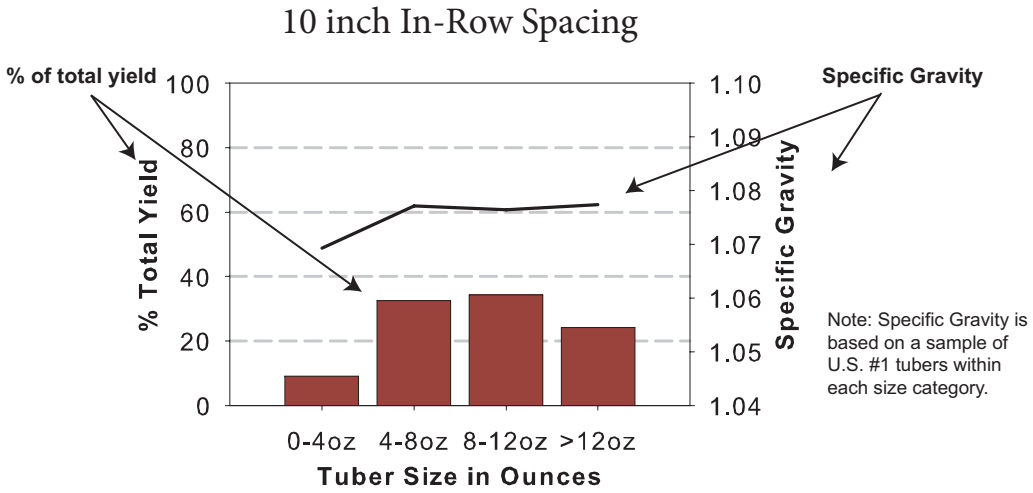
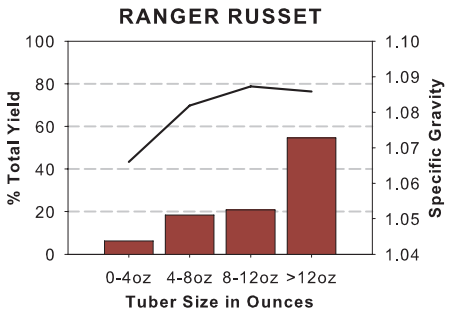


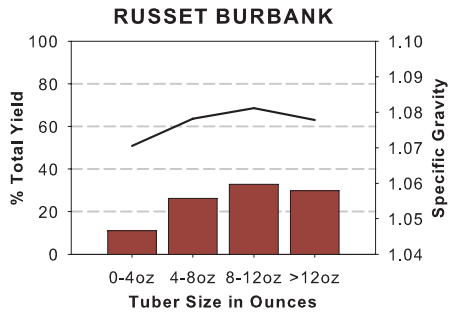
Figure 1 (Top). Difference in gross return per acre (Fresh Market) from Russet Burbank calculated by subtracting the gross return of Russet Burbank ($4382) from the gross return of the particular entry. Entries with the white-colored bars may not appeal to fresh market consumers due to undesirable shape or appearance. **Figure 2 (Bottom)**. Difference in gross return per acre (Process Market) from Ranger Russet calculated by subtracting the gross return of Ranger Russet ($3894) from the gross return of the particular entry. Entries with the white-colored bars would be penalized (under the mock contract parameters) due to a specific gravity less than 1.075.

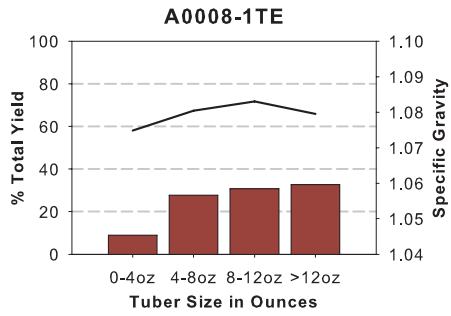
2008 Late Harvest Regional Trial

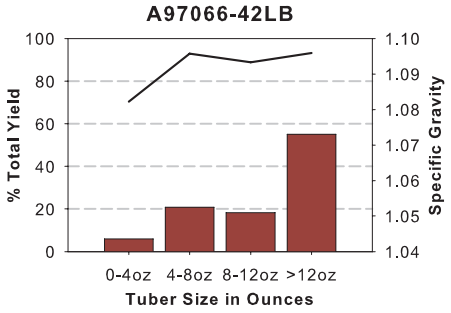
Tuber Yield and Specific Gravity Distributions

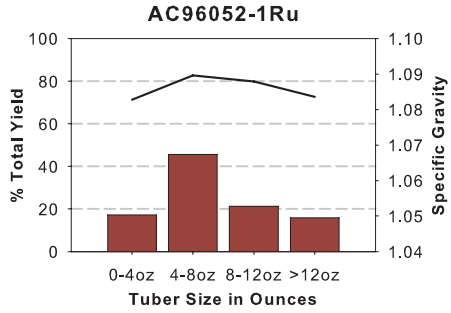


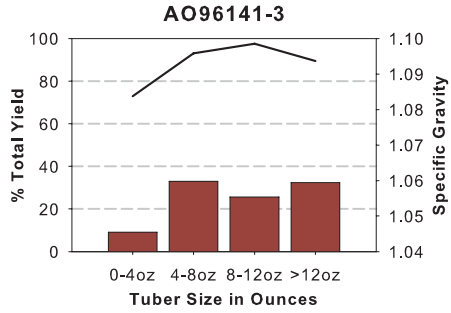


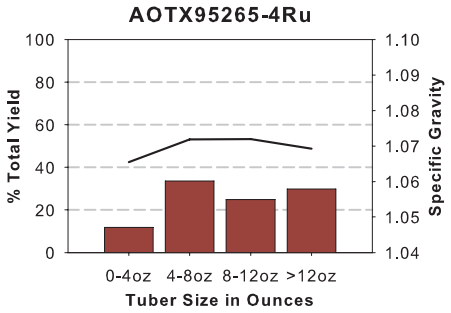


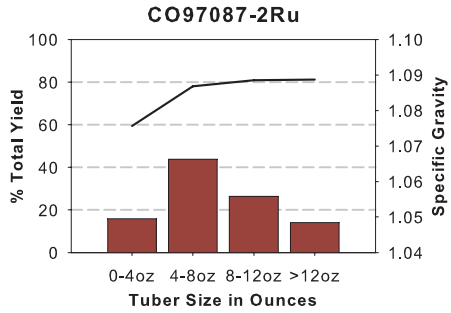


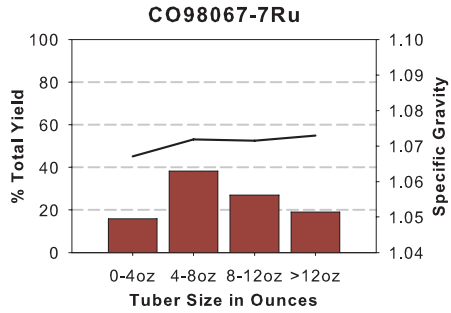


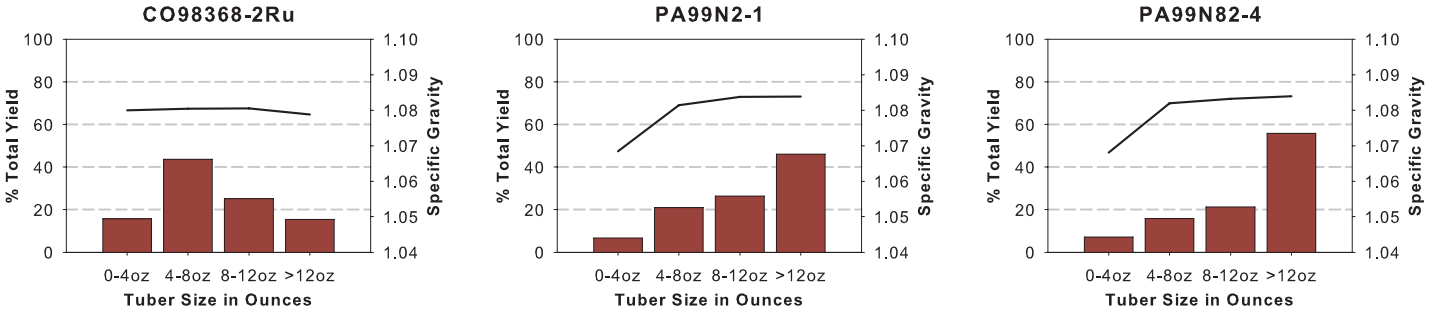








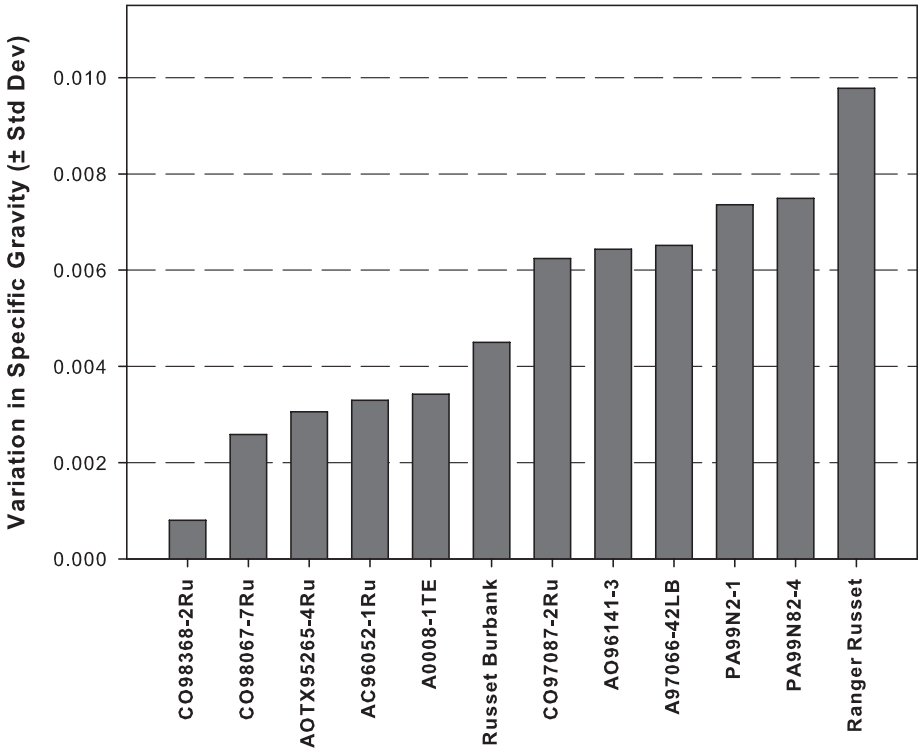




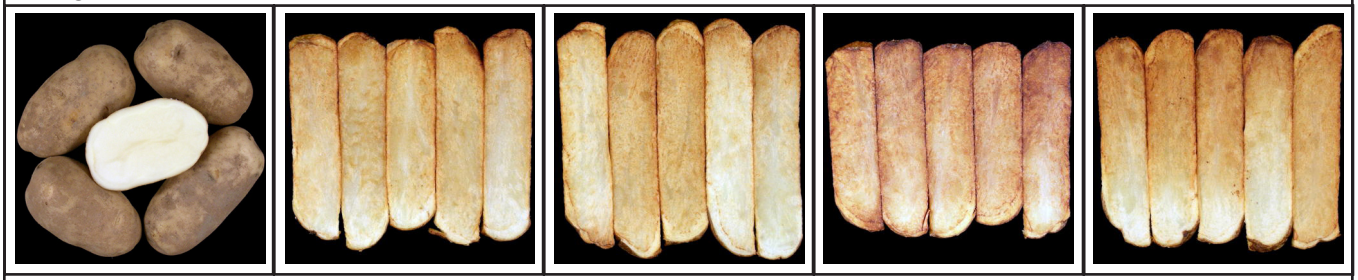
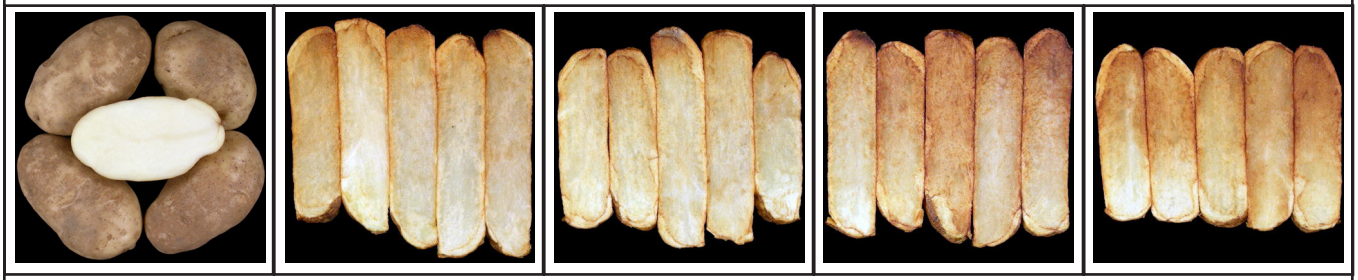
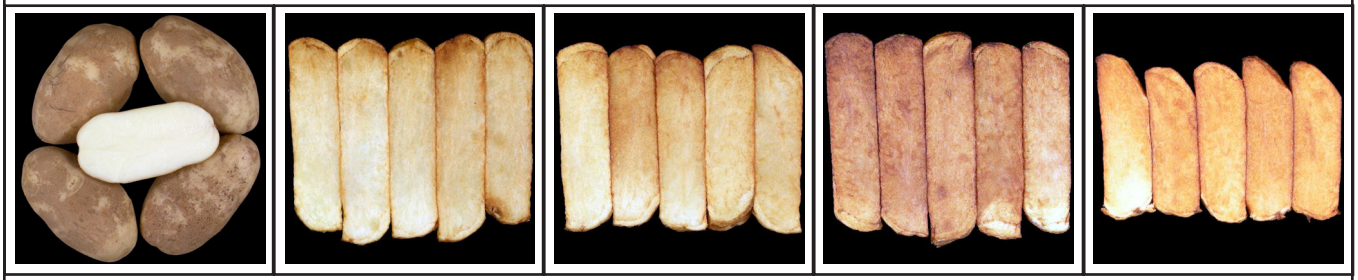
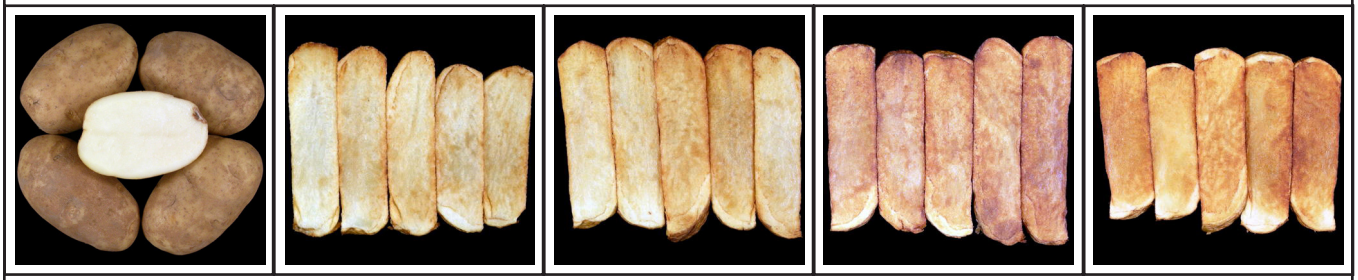
Clone - Dependent Variation in Specific Gravity

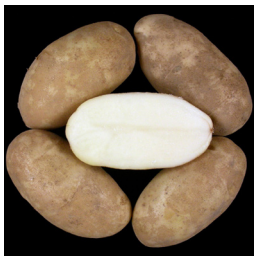
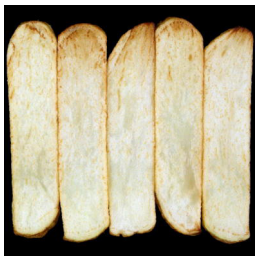
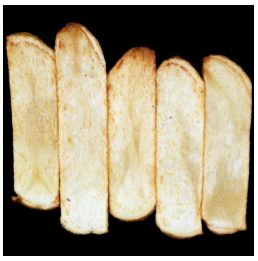
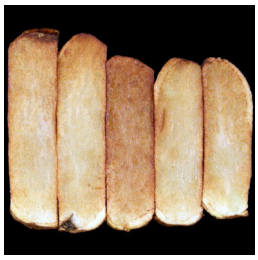
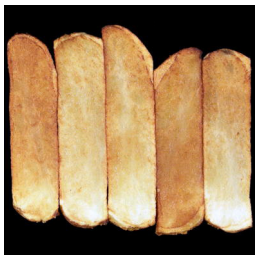
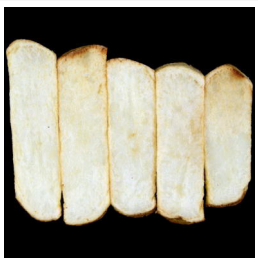
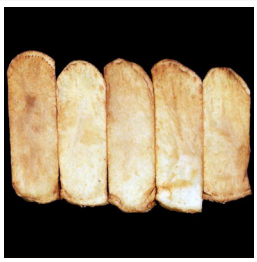
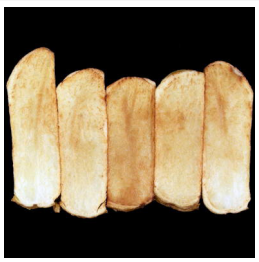
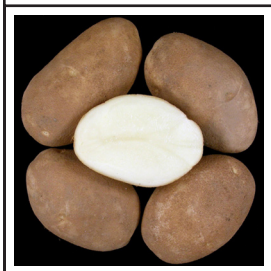
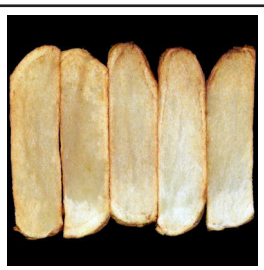
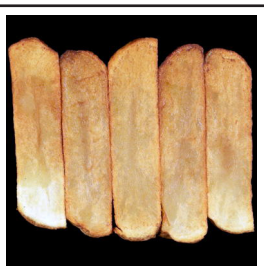
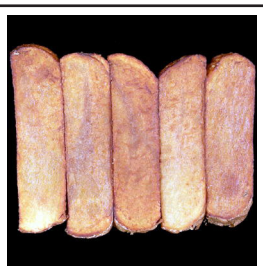
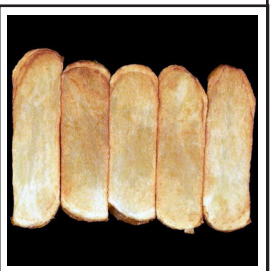
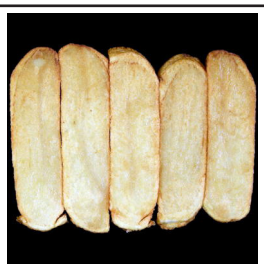
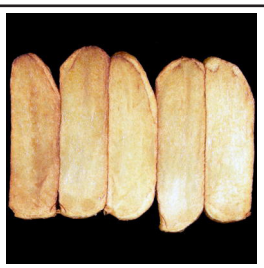
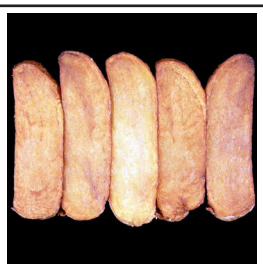
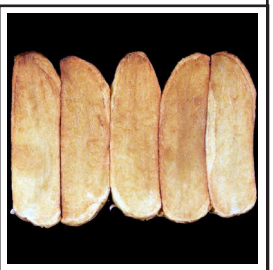
Variability among 16, 10lb samples from each entry (all tuber sizes)

2008 Late-Harvest Regional Trial



"Remember kids, always wear your face and ear protection when out in the field. After all, risk takers are accident makers!"

Tubers	48º F Storage	44º F Storage	40º F Storage	40º F Recon.
Ranger Russet				
Russet Burbank				
A0008-1TE				
A97066-42LB				
AC96052-1Ru				

Tubers	48º F Storage	44º F Storage	40º F Storage	40º F Recon.
AO96141-3					
AOTX95265-4Ru					
CO97087-2Ru					
CO98067-7Ru					
CO98368-2Ru					

Tubers	48º F Storage	44º F Storage	40º F Storage	40º F Recon.
PA99N2-1				
PA99N82-4				

Top: Tom Cummings and Bob Thornton help with the disease reading in the 2008 Seed Lot Trial.
Bottom: Some new faces helping out with the disease readings are Tim Waters (left) and Carrie Wohleb (middle); both with WSU Extension.

2008 Late Harvest Regional Trial

Accumulated Total Postharvest Rating of Clones

Clone	WA Rating Total §	WA Discard §§	ID Rating Total §	ID Discard §§	OR Rating Total §	OR Discard §§	3 State av. Rating Total
5 AC96052-1Ru	36.7		36.6		32.3		35.2
8 CO97087-2Ru	36.4		34.3		33.8		34.8
12 PA99N82-4	36.8		35.9		22.4		31.7
6 AO96141-3	32.7		32.2		30.0		31.6
11 PA99N2-1	33.8		35.0		23.4		30.7
3 A0008-1TE	34.6		26.7		25.6		29.0
4 A97066-42LB	31.3		30.6		20.5		27.5
1 Ranger Russet	28.2		33.3		20.2		27.2
10 CO98368-2Ru	27.9		19.6		16.1		21.2
2 Russet Burbank	20.9		26.2	Sp. Gr.	16.0		21.0
9 CO98067-7Ru	20.3	Sp.Gr.	23.6	Sp. Gr.	11.6	Sp. Gr.	18.5
7 AOTX95265-4Ru	17.6	Sp. Gr.	19.2		6.3		14.4
Average	29.8		29.4		21.5		

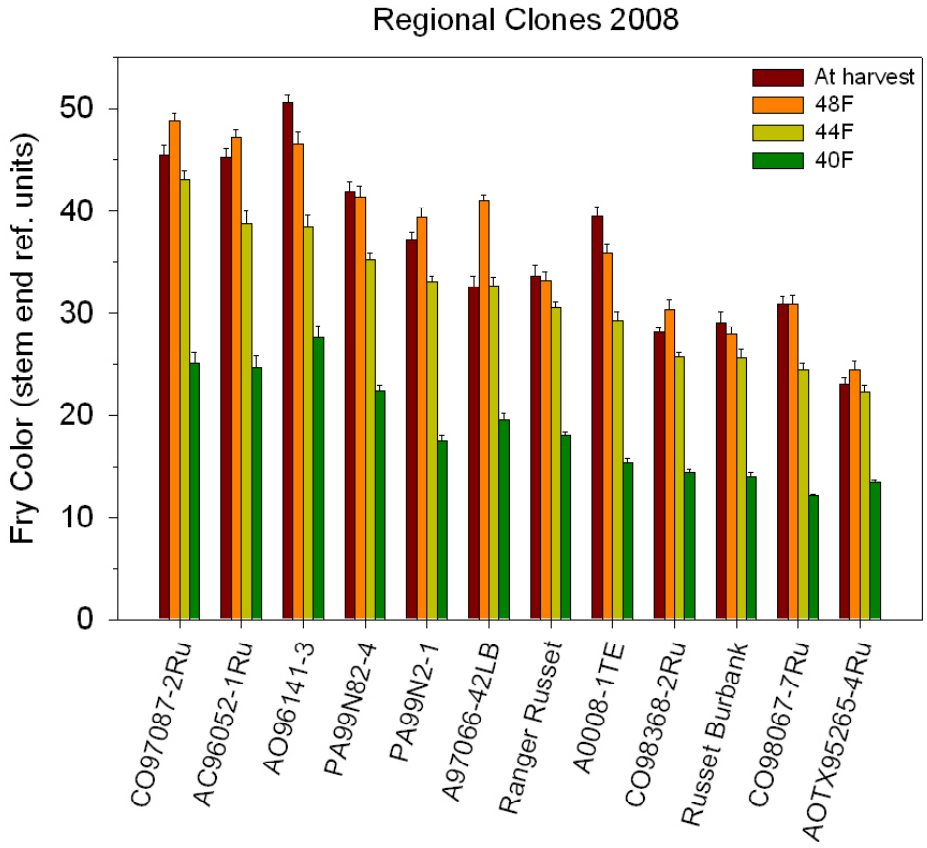
§ Maximum rating possible = 38
§§ Values for the indicated evaluation are lower than the rejection level

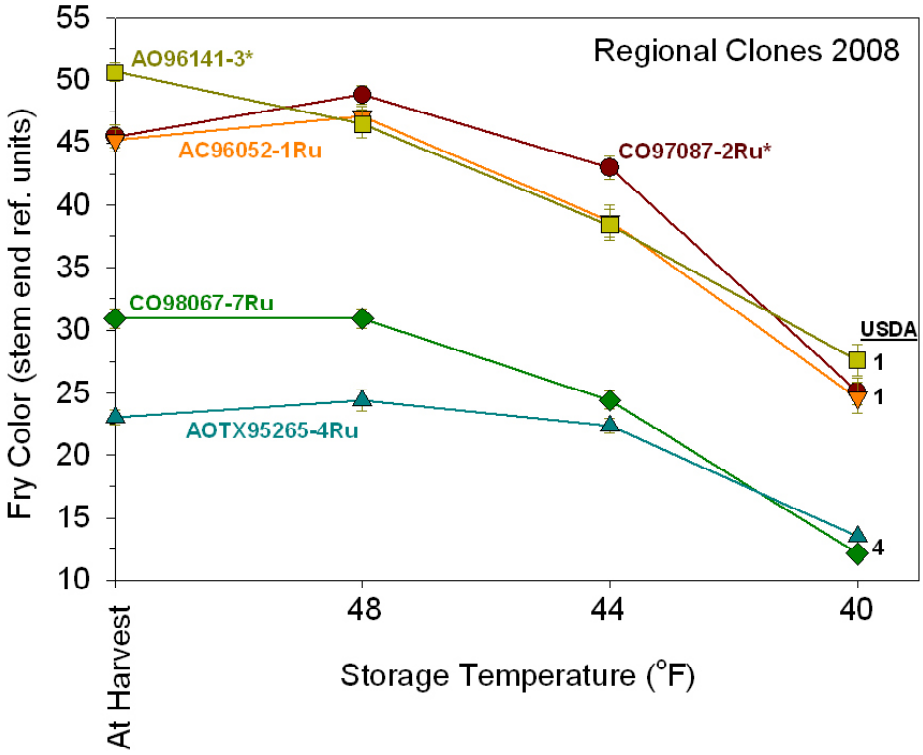
Overall Postharvest Performance of Clones Compared to Russet Burbank

Clone	WA	ID	OR	Average
1 Ranger Russet	H	H	H	H
3 A0008-1TE	H	H	H	H
4 A97066-42LB	H	H	H	H
5 AC96052-1Ru	H	H	H	H
6 AO96141-3	H	H	H	H
7 AOTX95265-4Ru	L	L	L	L
8 CO97087-2Ru	H	H	H	H
9 CO98067-7Ru	L	L	L	L
10 CO98368-2Ru	H	L	H	H
11 PA99N2-1	H	H	H	H
12 PA99N82-4	H	H	H	H

H= Higher than Russet Burbank
L= Lower than Russet Burbank
S = Same as Russet Burbank

2008 Late Harvest Regional Trial





Top: At-harvest and after-storage French fry colors (stem end) of clones in the Regional Trial. Tubers were stored for 60 days at 48, 44 and 40°F. The clones are ranked from best to worst based on fry color of the 44°F-stored tubers. High reflectance values indicate light colored fries.

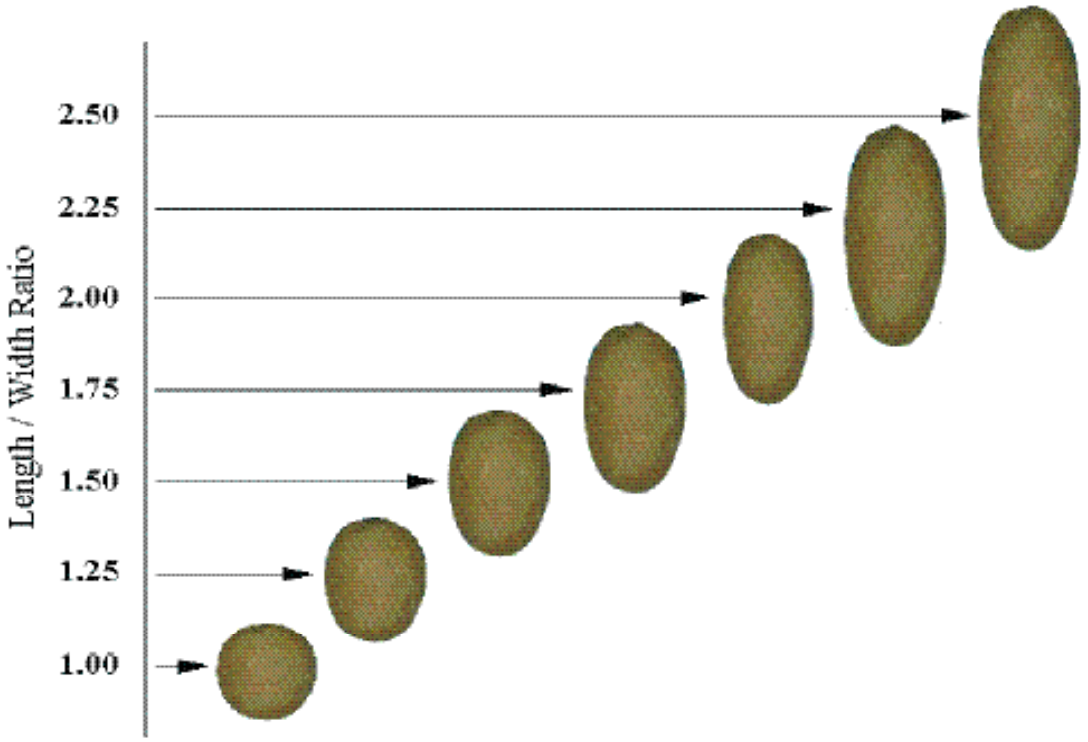
B**ottom:** The effects of storage temperature on the change in French fry processing quality (stem end fry color) of the best (AO96141-3, CO97087-2Ru, and AC96052-1Ru) and worst (CO98067-7Ru, AOTX95265-4Ru) performing clones in the Regional Trial. *Indicates similar performance of the clones last year.

2008 Late Harvest Regional Trial

Tuber Shape and Associated French Fry Yields

(8- to 10-oz Tubers)

	Clone	Length to width ratio			Yield of 3" or longer fries (% by number)		
		WA	ID	OR	WA	ID	OR
1	Ranger Russet	1.82	2.39	1.86	72	75	72
2	Russet Burbank	1.71	1.97	1.83	70	76	73
3	A0008-1TE	1.68	1.87	1.78	70	75	73
4	A97066-42LB	1.51	1.67	1.48	64	70	62
5	AC96052-1Ru	1.54	1.74	1.62	65	72	68
6	AO96141-3	1.95	2.34	2.18	76	76	77
7	AOTX95265-4Ru	1.80	2.13	1.79	74	77	73
8	CO97087-2Ru	1.47	1.88	1.58	62	74	66
9	CO98067-7Ru	1.52	2.06	1.64	64	77	68
10	CO98368-2Ru	1.63	1.76	1.58	65	72	66
11	PA99N2-1	1.22	1.39	1.41	49	59	59
12	PA99N82-4	1.20	1.45	1.34	48	61	56
	Average	1.59	1.89	1.67	65	72	68



Entries Retained from the 2007 Trials Currently in the Regional Trial

Harvested fall of 2007 Held at 48°F until December 7 Stored at 44°F until analysis

A0008-1TE, A97066-42LB, PA99N2-1, and PA99N82-4 were advanced from the 2007 Tri-State Trial to the 2008 Regional Trial. AC96052-1Ru, AO96141-3, and CO97087-2Ru were retained in the Regional Trial. On average, A97066-42LB, AC96052-1Ru, AO96141-3, CO97087-2Ru, and PA99N82-4 produced lighter fries than Ranger Russet and Russet Burbank. A0008-1TE, A97066-42LB, PA99N2-1, and PA99N82-4 produced the most uniform colored fries when grown in WA and ID. Sprout lengths ranged from 2 to 10 inches.

		PHOTOVOLT READING				USDA	% REDUCING SUGAR			Sprouting	
	Clone	stem	bud	avg	DIFF	COLOR	stem	bud	avg	percent	length
	Washington										
1	Ranger Russet	24.0	33.9	29.0	10.2	2	2.1	1.1	1.6	100	6"
2	Russet Burbank	33.9	37.7	35.8	5.8	0	1.1	0.8	1.0	100	7"
3	A0008-1TE §	34.0	37.0	35.5	4.3	0	1.1	0.9	1.0	100	7"
4	A97066-42LB §	41.4	50.0	45.7	8.6	0	0.7	0.5	0.6	100	5"
5	AC96052-1Ru	42.0	52.2	47.1	10.3	0	0.7	0.5	0.6	100	4"
6	AO96141-3	41.2	48.7	44.9	7.6	0	0.7	0.5	0.6	100	5"
7	CO97087-2Ru	40.5	49.5	45.0	9.0	0	0.7	0.5	0.6	100	3"
8	PA99N2-1 §	26.4	32.9	29.6	6.5	1	1.8	1.1	1.5	100	10"
9	PA99N82-4 §	41.9	45.7	43.8	4.7	0	0.7	0.6	0.6	100	9"
			LSD 0.05	*4.0*	*3.8*						
	Average	36.1	43.0	39.6	7.4	0	0.9	0.7	0.9	100	
	Idaho										
1	Ranger Russet	35.3	45.1	40.2	10.4	0	1.0	0.6	0.8	100	6"
2	Russet Burbank	25.9	40.0	32.9	15.3	1	1.8	0.7	1.3	100	2"
3	A0008-1TE §	27.4	25.6	26.5	8.7	1	1.7	1.9	1.8	100	5"
4	A97066-42LB §	45.8	47.8	46.8	3.7	0	0.6	0.5	0.5	100	4"
5	AC96052-1Ru	33.7	47.6	40.6	15.4	0	1.1	0.5	0.8	100	3"
6	AO96141-3	36.8	48.2	42.5	14.1	0	0.9	0.5	0.7	100	3"
7	CO97087-2Ru	36.7	49.2	42.9	13.5	0	0.9	0.5	0.7	100	3"
8	PA99N2-1 §	38.1	38.6	38.4	3.9	0	0.8	0.8	0.8	100	5"
9	PA99N82-4 §	41.2	45.1	43.1	4.9	0	0.7	0.6	0.6	100	7"
			LSD 0.05	*3.3*	*5.7*						
	Average	35.6	43.0	39.3	10.0	0	1.0	0.7	0.9	100	
	Oregon										
1	Ranger Russet	22.1	38.4	30.2	16.3	2	2.4	0.8	1.6	100	4"
2	Russet Burbank	22.2	40.0	31.1	17.8	2	2.3	0.7	1.5	100	5"
3	A0008-1TE §	21.3	32.2	26.7	11.2	2	2.5	1.2	1.8	100	5"
4	A97066-42LB §	34.3	43.4	38.9	10.1	0	1.0	0.6	0.8	100	8"
5	AC96052-1Ru	37.1	51.2	44.2	14.1	0	0.9	0.5	0.7	100	4"
6	AO96141-3	43.6	45.2	44.4	5.2	0	0.6	0.6	0.6	100	2"
7	CO97087-2Ru	32.1	50.1	41.1	17.9	0	1.2	0.5	0.9	100	4"
8	PA99N2-1 §	19.4	28.0	23.7	8.6	3	2.8	1.6	2.2	100	8"
9	PA99N82-4 §	29.3	42.1	35.7	16.0	1	1.5	0.6	1.1	100	9"
			LSD 0.05	*4.1*	*5.1*						
	Average	29.0	41.2	35.1	13.0	1	1.7	0.8	1.2	100	

§ Advanced from 2007 Tri-State Trial

Date test performed:

Washington	May 5
Idaho	May 7
Oregon	May 9

Andy Jensen, Washington State Potato Commission, demonstrates proper use of insect-monitoring traps at the 2008 WSU Potato Field Day.

Andy Jensen interacts with the audience during his insect-monitoring seminar at the 2008 WSU Potato Field Day. Visit www.potatoes.com for information on insects and other Washington potato-related items.

"Defining N rates that maximize profits: Alturas and Premier Russet" was one of the talks given by Chris Hiles, WSU grad student, at the 2008 WSU Potato Field Day.

We're in the Army now. Anthony Cortez (left) and Zach Holden (right) peel potatoes to look for internal defects of new varieties.

Jeanne Debons from the PVMI (Potato Variety Management Institute) talks about promising new varieties now available to the potato industry.

Rudy Garza applies Nitrogen to a plot. Different total in-season rates were applied to Premier Russet, Alturas, and Ranger Russet this year.

2008 Regional Red and Specialty Trial

Summaries

ENTRY	TOTAL YIELD			US # 1's* > 0 oz	US # 2's* > 0 oz	Culls* > 0 oz	EXTERNAL DEFECTS (%)				SPECIFIC GRAVITY
	CWT/A	STATS**	Tons/A	% of Total Yield			Knobs	Malformed	Growth Cracks	Green	
Red Skin/White Flesh											
Dark Red Norland	486	*A*	24.3	100	0	0	0	0	0	0	1.072
Red LaSoda	485	*A*	24.2	100	0	0	0	0	0	0	1.072
CO98012-5R	455	*ABC*	22.8	100	0	0	0	0	0	0	1.080
NDA7985-1R	432	*BCD*	21.6	99	0	1	1	0	0	0	1.072
Red-Purple Skin/Yellow Flesh											
A99331-2RY	358	*EFG*	17.9	99	0	1	0	0	0	0	1.077
AC99329-7PW/Y	432	*BCD*	21.6	99	0	1	0	0	0	1	1.084
AC99330-1P/Y	322	*GH*	16.1	100	0	0	0	0	0	0	1.077
ATTX961014-1R/Y	396	*DE*	19.8	98	0	2	2	0	0	0	1.079
ATTX98500-2P/Y	359	*EFG*	17.9	99	0	1	1	0	0	0	1.071
POR01PG45-5	460	*ABC*	23.0	99	0	0	0	0	0	0	1.085
Red Skin/Red Flesh											
CO97222-1R/R	429	*BCD*	21.4	100	0	0	0	0	0	0	1.072
PA96RR1-193	476	*AB*	23.8	100	0	0	0	0	0	0	1.091
POR03PG23-1	293	*H*	14.6	99	0	0	0	0	0	0	1.078
Purple Skin/Purple Flesh											
Purple Majesty	387	*DE*	19.4	99	0	0	0	0	0	0	1.090
CO97215-2P/P	319	*GH*	15.9	100	0	0	0	0	0	0	1.087
CO97227-2P/PW	299	*H*	14.9	100	0	0	0	0	0	0	1.088
OR00068-11	431	*BCD*	21.6	100	0	0	0	0	0	0	1.099
Yellow Flesh											
Yukon Gold	328	*GH*	16.4	98	1	1	0	0	1	0	1.091
A00286-3Y	335	*FGH*	16.8	100	0	0	0	0	0	0	1.079
CO99045-1W/Y	426	*CD*	21.3	100	0	0	0	0	0	0	1.085
POR02PG26-5	383	*DEF*	19.2	100	0	0	0	0	0	0	1.087
POR02PG37-2	432	*BCD*	21.6	99	0	1	0	0	0	1	1.089

ENTRY	US # 1 YIELD			0-2 oz*	2-4 oz*	4-6 oz*	6-10 oz*	> 10 oz*	INTERNAL DEFECTS (%) (6-10 oz tubers)		
	CWT/A	STATS**	Tons/A	%					% HH	% BC	% IBS
Red Skin/White Flesh											
Dark Red Norland	486	*A*	24.3	1	10	21	47	21	0	0	0
Red LaSoda	485	*A*	24.2	1	8	15	37	38	0	0	0
CO98012-5R	455	*AB*	22.8	9	44	38	9	0	0	0	0
NDA7985-1R	426	*BC*	21.3	3	17	33	35	12	0	0	0
Red-Purple Skin/Yellow Flesh											
A99331-2RY	356	*DEF*	17.8	14	44	28	12	1	0	0	0
AC99329-7PW/Y	427	*BC*	21.4	5	23	31	35	6	0	0	0
AC99330-1P/Y	322	*FG*	16.1	20	56	21	3	0	0	0	0
ATTX961014-1R/Y	389	*CD*	19.4	3	23	35	35	4	0	0	0
ATTX98500-2P/Y	356	*DEF*	17.8	8	32	35	23	2	0	0	0
POR01PG45-5	457	*AB*	22.9	5	41	37	16	0	0	0	0
Red Skin/Red Flesh											
CO97222-1R/R	428	*BC*	21.4	13	46	30	11	1	0	0	0
PA96RR1-193	475	*AB*	23.7	5	40	41	13	0	0	0	0
POR03PG23-1	291	*G*	14.6	14	60	23	3	0	0	0	0
Purple Skin/Purple Flesh											
Purple Majesty	385	*CDE*	19.2	22	56	18	4	0	0	0	0
CO97215-2P/P	318	*FG*	15.9	8	31	36	22	2	0	0	0
CO97227-2P/PW	298	*G*	14.9	35	55	10	0	0	0	0	0
OR00068-11	431	*BC*	21.5	9	45	31	13	3	0	0	0
Yellow Flesh											
Yukon Gold	322	*FG*	16.1	3	13	19	43	23	0	0	13
A00286-3Y	335	*EFG*	16.8	4	34	39	20	4	0	0	0
CO99045-1W/Y	426	*BC*	21.3	6	41	34	16	2	0	3	23
POR02PG26-5	382	*CDE*	19.1	8	38	31	22	2	0	0	0
POR02PG37-2	429	*BC*	21.4	6	35	33	22	4	0	0	3

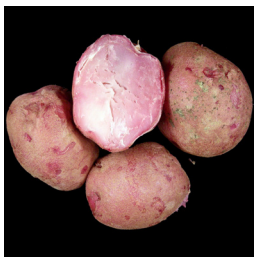
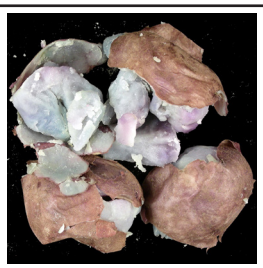
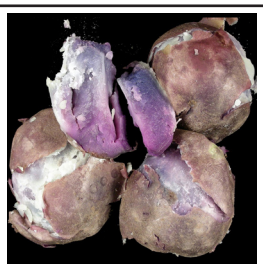
* Percent values may not total 100% due to rounding
**Numbers followed by the same letter are not significantly different at the 5% level using Fisher's LSD Test

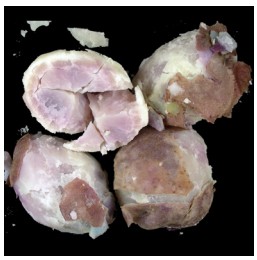
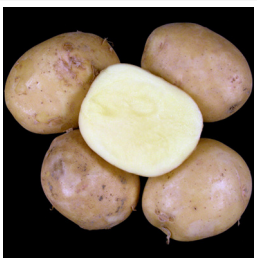
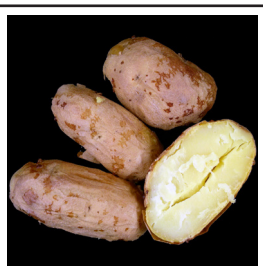
ENTRY	% Dead Vines prior to Vine Kill	40 DAY STAND % Emerged	50 DAY STAND % Emerged	STEMS PER PLANT Above Ground	AVERAGE TUBER WEIGHT Ounces	AVERAGE TUBER NUMBER Tubers/Plant	SKIN SET 1 = Poor 5 = Good	TUBER SHAPE 1 = Round 5 = Long	BRUISE (%) (6-10 oz tubers) BLACKSPOT	BRUISE (%) (6-10 oz tubers) SHATTER	Length to Width Ratio 1 = Round 2 = Oblong
Red Skin/White Flesh											
Dark Red Norland	30	7	77	2.9	6.2	5.3	4	2	0	18	1.3
Red LaSoda	13	18	70	2.3	7.2	4.8	3	2	6	14	1.2
CO98012-5R	9	0	74	3.6	3.4	9.3	4	1	0	10	1.0
NDA7985-1R	21	5	56	3.0	5.0	6.0	3	1	5	10	1.3
Red-Purple Skin/Yellow Flesh											
A99331-2RY	3	26	71	3.2	3.1	8.3	4	1	6	9	1.1
AC99329-7PW/Y	8	9	84	3.3	4.6	6.8	4	1	5	0	1.1
AC99330-1P/Y	26	1	80	4.0	2.6	8.5	4	1	0	0	1.1
ATTX961014-1R/Y	24	20	78	2.4	4.7	5.8	4	2	10	15	1.2
ATTX98500-2P/Y	1	14	82	2.7	3.8	6.8	4	1	18	10	1.2
POR01PG45-5	0	4	75	2.4	3.8	8.3	2	1	5	13	1.3
Red Skin/Red Flesh											
CO97222-1R/R	6	17	81	3.4	3.1	9.5	4	2	0	34	1.2
PA96RR1-193	6	8	77	3.2	3.7	9.0	4	1	0	28	1.1
POR03PG23-1	51	1	74	3.7	2.8	7.3	4	1	13	15	1.3
Purple Skin/Purple Flesh											
Purple Majesty	25	16	84	3.7	2.6	10.8	4	1	0	0	1.2
CO97215-2P/P	5	0	72	2.9	3.8	6.0	4	1	0	13	1.1
CO97227-2P/PW	6	18	79	3.5	2.2	9.5	4	2	0	8	1.5
OR00068-11	9	15	88	3.1	3.5	8.8	4	1	0	30	1.2
Yellow Flesh											
Yukon Gold	14	8	77	2.0	5.8	4.0	3	2	8	23	1.2
A00286-3Y	9	15	77	2.0	4.1	5.8	2	2	15	0	1.2
CO99045-1W/Y	6	0	81	3.4	3.7	8.3	4	3	0	3	1.6
POR02PG26-5	8	3	75	3.0	3.6	7.3	4	1	8	18	1.3
POR02PG37-2	16	6	77	4.0	3.9	7.8	4	1	10	13	1.1

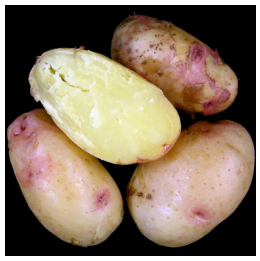
"The Othello Chain Gang" (From left to right: Mark Pavek, Josh Rodriguez, Chris Hiles, Zach Holden, Daniel Zommick, Anthony Cortez, and Rudy Garza.)

Tubers	Chips	Baked	Boiled	Microwaved
Dark Red Norland				
				
Red LaSoda				
				
CO98012-5R				
				
NDA7985-1R				
				
A99331-2RY				
				

Tubers	Chips	Baked	Boiled	Microwaved
AC99329-7PW/Y				
				
AC99330-1P/Y				
				
ATTX961014-1R/Y				
				
ATTX98500-2P/Y				
				
POR01PG45-5				
				

Tubers	Chips	Baked	Boiled	Microwaved
CO97222-1R/R				
				
PA96RR1-193				
				
POR03PG23-1				
				
Purple Majesty				
				
CO97215-2P/P				
				

Tubers	Chips	Baked	Boiled	Microwaved
CO97227-2P/PW				
				
OR00068-11				
				
Yukon Gold				
				
A00286-3Y				
				
CO99045-1W/Y				
				

Tubers	Chips	Baked	Boiled	Microwaved
POR02PG26-5				
				
POR02PG37-2				
				

Postharvest Evaluation

Fried (3/8 x 1 1/8" slices) **(Chips)**

	Clone	Raw				After Frying					Av of 6 raters
		Stem	Bud	Average	Difference	Stem	Bud	Average	Difference	USDA	SFA
1	Dk Red Norland	57.8	57.0	57.4	2.2	34.0	41.7	37.9	7.9	0	2.7
2	Red LaSoda	57.3	58.8	58.1	2.7	31.5	35.8	33.7	4.8	0	4.3
3	CO98012-5R	54.4	55.2	54.8	1.7	36.9	40.8	38.9	6.4	0	3.7
4	NDA7985-1R	55.5	56.0	55.7	2.5	32.8	32.4	32.6	5.9	0	4.8
5	A99031-2RY	53.9	54.0	54.0	1.5	39.6	41.9	40.8	3.1	0	3.2
6	AC99329-7P/WY	57.3	57.8	57.5	1.4	36.4	42.7	39.5	6.8	0	4.7
7	AC99330-1P/Y	52.7	52.5	52.6	1.3	32.0	35.7	33.8	5.1	0	3.8
8	ATTX961014-1R/Y	56.9	56.4	56.6	2.4	40.3	40.1	40.2	2.9	0	4.0
9	ATTX98500-2P/Y	54.1	54.2	54.2	1.2	45.6	45.6	45.6	2.6	0	3.3
10	POR01PG45-5	57.0	57.9	57.4	1.7	38.9	40.9	39.9	3.3	0	3.5
11	CO97222-1R/R	13.3	14.8	14.0	2.1	14.1	13.9	14.0	1.7	4	2.8
12	PA96RR1-193	26.4	34.6	30.5	8.2	25.3	29.5	27.4	5.0	1	2.7
13	POR03PG23-1	14.0	14.4	14.2	1.6	15.3	14.6	15.0	2.9	3	3.0
14	Purple Majesty	6.5	6.9	6.7	1.1	14.5	13.7	14.1	2.5	4	3.0
15	CO97215-2P/P	4.9	5.1	5.0	0.5	9.6	9.0	9.4	1.8	4	4.2
16	CO97227-2P/PW	4.1	3.0	3.5	1.2	7.9	6.0	7.0	2.0	4	3.4
17	OR00068-11	9.8	11.8	10.8	2.2	19.1	17.6	18.4	2.5	3	3.7
18	Yukon Gold	54.7	54.9	54.8	1.2	28.5	39.2	33.9	10.7	1	4.2
19	A00286-3Y	54.0	52.3	53.1	2.5	42.9	44.3	43.6	4.0	0	2.5
20	CO99045-1W/Y	52.3	52.8	52.5	1.4	21.6	30.7	26.2	9.1	2	4.8
21	POR02PG26-5	57.3	56.0	56.6	1.8	35.9	37.5	36.7	4.4	0	4.2
22	POR02PG37-2	54.3	54.7	54.5	1.4	45.1	44.9	45.0	2.3	0	2.9
	LSD 0.05 *			1.3	1.2			3.3	3.7		
	Average	41.3	41.9	41.6	2.0	29.5	31.8	30.6	4.4	1	3.6

*Differences between clones equal to or greater than the LSD 0.05 are significant. Entries with red (CO97222-1R/R, PA96RR1-193 & POR03PG23-1) or purple (Purple Majesty, CO97215-2P/P, CO97227-2P/PW & OR00068-11) flesh were not included in the ANOVA. All other entries have white or yellow flesh.

2008 Washington Regional Red and Specialty Trial

Postharvest Evaluation Summary

	Clone	Boiled (25 max)	Baked (25 max)	Microwaved (25 max)	Total (75 max)
18	Yukon Gold	19.7	21.8	19.6	61.0
20	CO99045-1W/Y	20.2	19.7	19.9	59.7
6	AC99329-7PW/Y	18.2	21.4	20.0	59.5
3	CO98012-5R	18.3	20.5	20.2	59.0
2	Red LaSoda	18.5	20.4	19.3	58.2
19	A00286-3Y	18.7	19.7	19.6	57.9
22	POR02PG37-2	17.8	20.2	19.4	57.4
1	Dk Red Norland	18.8	20.1	18.3	57.3
8	ATTX961014-1R/Y	18.5	20.4	18.3	57.2
10	POR01PG45-5	18.2	20.5	18.3	57.0
17	OR00068-11	18.2	18.4	19.6	56.2
11	CO97222-1R/R	16.7	20.8	18.7	56.2
5	A99331-2RY	17.8	19.8	18.3	55.9
4	NDA7985-1R	17.0	19.8	19.2	55.9
12	PA96RR1-193	17.0	19.0	19.4	55.4
16	CO97227-2P/PW	17.5	18.7	19.1	55.3
7	AC99330-1P/Y	16.3	18.8	19.0	54.1
14	Purple Majesty	15.0	19.7	19.4	54.0
21	POR02PG26-5	16.8	18.8	18.1	53.8
13	POR03PG23-1	16.8	18.7	17.9	53.4
15	CO97215-2P/P	16.5	18.7	18.1	53.3
9	ATTX98500-2P/Y	16.8	17.5	18.3	52.7

Planted:	April 1
Harvested:	Aug. 6
French Fried:	Aug. 7
Chipped:	Aug. 7
Boiled:	Aug. 13
Microwaved:	Aug. 11
Baked:	Aug. 7 & 12

Index of Clones and Cultivars