

2025 Potato Cultivar Yield and Postharvest Quality Evaluations



WSU Potato Research Group



**WASHINGTON STATE
UNIVERSITY**

2025 Potato Cultivar Yield and Postharvest Quality Evaluations

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Growers and Industry;

Northwest Potato Consortium;

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On the cover: In-season applications.

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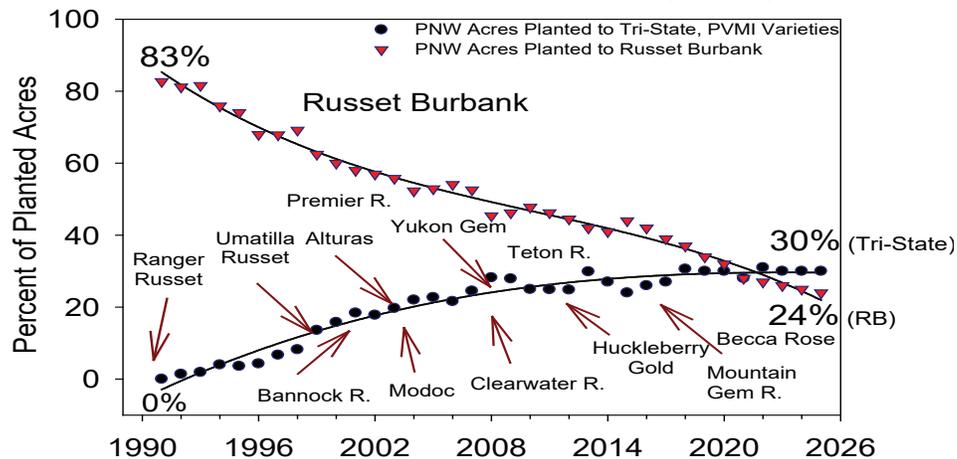


INTRODUCTION

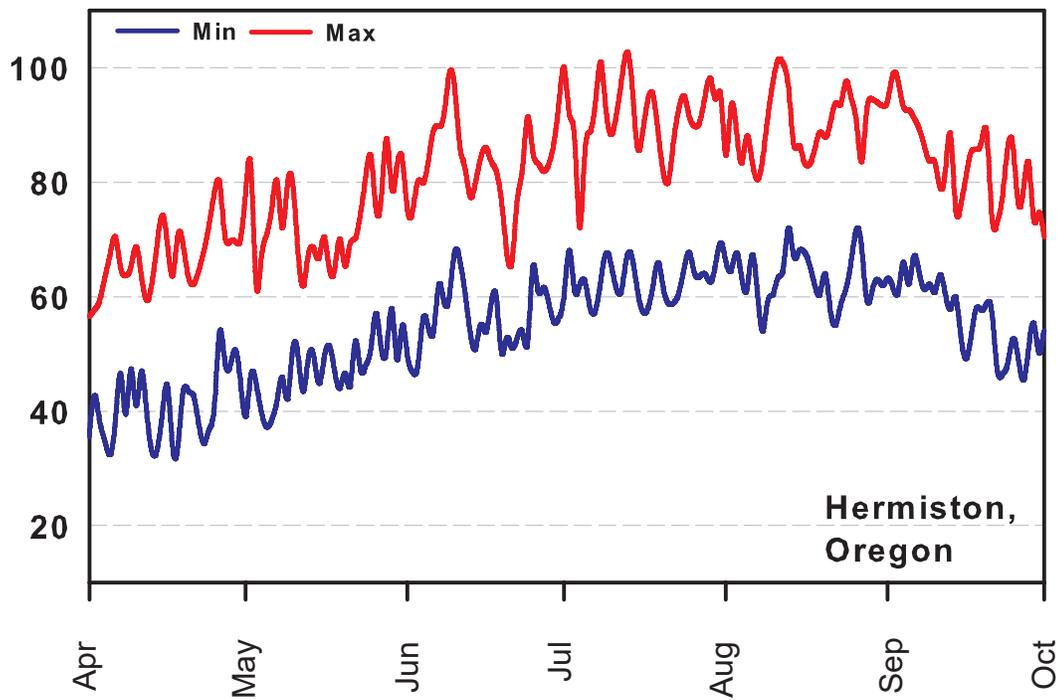
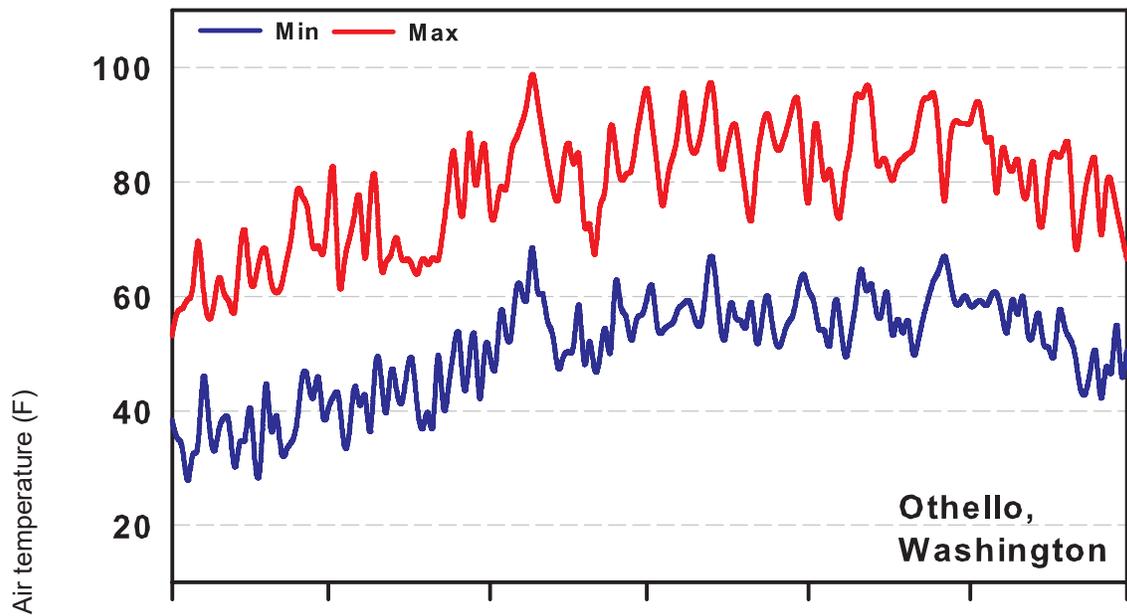
The 2025 Washington “Potato Cultivar Yield and Postharvest Quality Evaluations” is an annual report providing detailed information about promising new potato clones and cultivars grown in Washington conducted by the **Washington State University (WSU) Potato Research Group**. **Our mission:** to identify and release new potato varieties that will provide profitable, sustainable production for the grower, improved competitiveness for the Washington and NW US potato industry, a healthy, inexpensive food supply for American consumers, and contributions towards a healthy environment. **Tri-State trials** include the newest clones which are created and evaluated in ID, OR, and WA by the USDA/ARS of Aberdeen, ID & Prosser, WA, Univ. of ID, OR State U., and WA State U. **Regional trials** include advanced clones from, and evaluated by, ID, OR, WA, CO, TX, and CA. Potato Commissions from the Tri-State area support and fund much of the variety development efforts. **Potato Variety Management Institute (PVMI)** is a nonprofit organization that licenses and promotes Tri-State varieties. PVMI collects royalties from the varieties which are then distributed among the Tri-State research programs to support the ongoing development efforts. Learn more at www.pvmi.org.

Recent Accomplishments: The **Northwest Potato Variety Development Program NWPVD** program has produced a number of widely adopted varieties, among these varieties, **Clearwater Russet (R.), Ranger R., Umatilla R., Alturas, Teton R., and Mountain Gem R.** have greatly benefited the United States and Northwest potato industry and as such, were the **3rd, 4th, 5th, 11th, 14th, and 18th** most widely grown varieties in the United States in 2025 (rankings out of 445 cultivars). They were also the 2nd, 4th, 5th, 6th, 12th, and 34th most widely grown 2025 varieties in the Pacific Northwest (ID, OR, and WA), accounting for over 45% of the PNW planted acreage. Varieties released by the NWPVD Program are now produced on approximately 240,000 acres in the Pacific Northwest with value to growers estimated at approximately \$800 million. NWPVD varieties represented approximately 36%, or 320,000 acres, of the 2025 fall crop nationally. The estimated 2025 US farm-gate value of NWPVD varieties was more than \$1.75 billion (values extrapolated from 2025 certified seed acres (<https://potatoassociation.org/seed-acres-reports/>) and NASS 2025).

Impact of Tri-State Potato Varieties on PNW Production - WA, OR, ID



2025 Growing Season Temperatures



Guide to Clone Designations

Example: ATX91137-1Ru

ATX91137-1Ru	Breeding Program (A berdeen, ID)
ATX91137-1Ru	Selection Site (T exas)
ATX91137-1Ru	Year of Cross (1991)
ATX91137-1Ru	Cross Number (137)
ATX91137-1Ru	Tuber Selection (1)
ATX91137-1Ru	Russet (Ru)

Location Codes

Designation	Breeding Program	Selection Program	Other
A	= Aberdeen, Idaho	Aberdeen, Idaho	
AO	= Aberdeen, Idaho	Oregon	
AOA	= Aberdeen, Idaho	Oregon	Aberdeen, Idaho
ATX	= Aberdeen, Idaho	Texas	
BTX	= Beltsville, Maryland	Texas	
CO	= Colorado		
MWTX	= Madison Wisconsin	Texas	
NDA	= North Dakota	Aberdeen, Idaho	
NY	= New York		
PA	= Prosser, WA	Aberdeen, Idaho	
POR	= Prosser, WA	Oregon	
TC	= Texas	Colorado	
TXA	= Texas	Aberdeen, Idaho	
TXNS	= Texas		Norkotah Strain
OR	= Hermiston, Oregon	Oregon	

Miscellaneous Designations

A93157-6LS	LS	=	Low Sugar
CO94165-3P/P	P/P	=	Purple skin & Purple flesh
A96741-2R	R	=	Red skin
CO94183-1R/R	R/R	=	Red skin / Red flesh
VC0967-2R/Y	R/Y	=	Red skin / Yellow flesh
ATX92230-1Ru	Ru	=	Russet skin
VC1009-1W/Y	W/Y	=	White skin & Yellow flesh
A97066-42LB	LB	=	Late Blight resistance
AC9923PW/Y	PW/Y	=	Purple skin with White eyes/ Yellow flesh
AC9653P/Y	P/Y	=	Purple skin/Yellow flesh
CO977-2P/PW	P/PW	=	Purple skin/Purple & White flesh
A99029-3E	E	=	Early maturing
A0008-1TE	TE	=	TEtonia, ID Selection, Early maturing
A07008-4T	T	=	Tetonia, ID Selection, Late maturing
A06914-3CR	CR	=	Corky Ringspot resistance
A06862-18VR	VR	=	Virus Resistance
A10020-3sto	sto	=	Rysto resistance gene

OVERALL CULTIVAR & CLONE PERFORMANCE

Merit Score Methods

Overview: Overall performance for each entry was rated on a scale of 1 to 5; 5 indicating the best performance possible. The methods are explained below. Economic analysis methods are explained on pages 16 (Fresh) and 17 (Process).

FRESH MARKET MERIT SCORE METHODS:

75% Fresh market economic value

25% Internal quality – blackspot bruise, shatter bruise, hollow heart, internal brown spot, and brown center. An average merit value is taken. Of the five internal categories listed above, the worst internal defect or bruise rating for each cultivar is weighted 50% so serious bruise or defect problems are reflected in the final merit score.

Researcher's Discretion: The overall merit score may be reduced by up to 50% for any unacceptable trait not quantified in the data (e.g. poor appearance or poor flavor).

EARLY PROCESS MARKET MERIT SCORE METHODS:

75% Early harvest process market economic value

25% Internal quality – blackspot bruise, shatter bruise, hollow heart, internal brown spot, and brown center. An average merit value is taken. Of the five internal categories listed above, the worst internal defect or bruise rating for each cultivar is weighted 50% so serious bruise or defect problems are reflected in the final merit score.

Researcher's Discretion: The overall merit score may be reduced by up to 50% for any unacceptable trait not quantified in the data.

LATE PROCESS MARKET MERIT SCORE METHODS:

For the late process market, a merit score is listed for both field and post-harvest performance.

Field/Economic Performance – methods are the same as “Early Process Market Merit Score Methods” shown above, with the exception that a late harvest economic analysis is conducted.

Post-Harvest Performance – see “Postharvest Procedures” section near front of book.

Researcher's Discretion:

The overall merit score may be reduced by up to 50% for any unacceptable trait not quantified in the data.

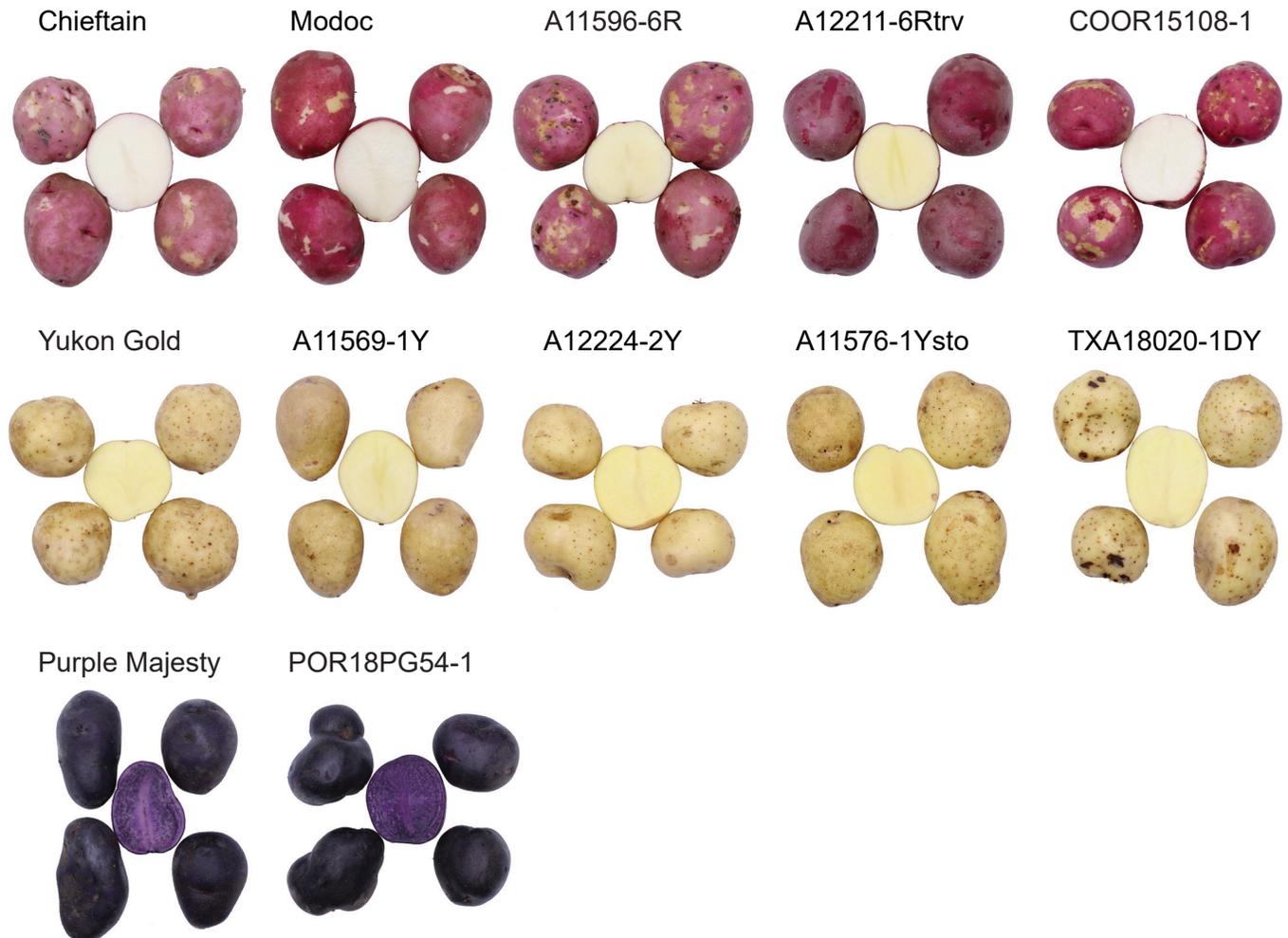
WA Multi-Year Summaries of Graduating Russet Entries and Reference Varieties

Entry	Year	Early/Late* Harvest		Average Tuber				Merit Scores (5 = Best)		
		US # 1 & 2 Total Yield	Yield > 6 oz % of Total	Specific Gravity	Weight/ Number per Plant	Bruise Blackspot/ Shatter	Internal** Issues	Field Performance		Postharvest*** Processing Performance
								Early/Late Fresh	Early/Late Process	
AOR13604-2	2025	CWT/A			oz/number	%				
	2025	724/951	87	1.087	9.4/9.2	46/10	none	4.3/2.7	4.5/3.6	3.6
	2024	711/900	88	1.084	8.4/10.8	33/50	none	2.0/1.2	3.1/3.6	4.0
	2023	667/768	82	1.078	8.8/7.9	0/35	none	3.7/1.2	4.4/1.7	3.9
	2022	426/528	68	1.087	6.9/6.9	0/72	5% IBS	2.0/0.9	2.1/3.1	4.7
	2021	490/962	84	1.079	10.0/8.7	44/39	none	3.4/1.6	4.2/3.8	4.0
Larger, shape often variable, short, oval, points, pears										
Ranger R.	2025	684/1052	74	1.083	8.4/11.2	75/11	none	-	2.6/3.2	1.9
	2024	792/993	81	1.085	8.9/10.1	79/25	none	-	3.4/3.4	2.7
	2023	579/862	77	1.080	8.7/8.9	8/15	none	-	3.9/2.4	3.2
	2022	573/698	73	1.082	7.0/9.0	25/40	none	-	3.0/4.4	3.6
	2021	587/1087	64	1.081	8.1/12.1	24/18	3% IBS	-	2.4/2.8	2.4
Long, shape variable, but often uniform; 7 to 9 tubers per plant typical.										
R. Burbank	2025	684/1061	72	1.082	7.9/12.2	58/40	3% BC 3% IBS	-	2.7/2.6	1.6
	2024	756/973	82	1.080	9.0/9.7	92/58	8% IBS	-	2.1/2.9	1.4
	2023	606/882	71	1.073	7.9/9.4	5/45	10%HH, 3%BC, 5%IBS	-	1.8/0.9	1.9
	2022	614/622	67	1.073	6.9/8.1	8/68	3%HH, 5%BC, 5%IBS	-	1.8/1.0	2.2
	2021	529/1026	59	1.070	8.8/10.5	6/28	6% BC, 3% IBS	-	1.2/1.1	1.4
Shape typically variable, often with many growth cracks and knobs; 7 to 9 tubers per plant typical, long storage variety.										
Clearwater R. (Late Harvest Only)	2025	1041	73	1.086	7.4/12.7	38/33	5% IBS	-	na/3.4	2.7
	2024	928	81	1.088	8.3/10.1	67/55	3% HH	-	na/3.2	2.7
	2023	835	69	1.082	6.9/10.3	0/48	none	-	na/2.7	3.0
	2022	638	60	1.086	5.7/10.1	0/60	none	-	na/4.0	3.9
	2021	1010	74	1.080	7.4/12.3	7/27	7% IBS	-	na/4.2	3.0
Typy, dark russetting, uniform shape, susceptible to fusarium dry rot.										
R. Norkotah (Fresh Market only)	2025	653/914	76	1.072	7.8/10.5	17/8	none	3.0/2.3	-	na
	2024	695/1060	82	1.077	9.1/10.4	25/34	3% IBS	3.3/2.5	-	na
	2023	536/1022	88	1.071	9.8/9.3	0/35	5% IBS	2.6/3.5	-	na
	2022	626/561	66	1.071	6.6/7.6	5/48	none	3.2/2.5	-	na
	2021	563/895	72	1.064	7.3/11.0	0/13	3% IBS	3.4/3.1	-	na
Shape and skin typically very uniform, 7 to 8 tubers per plant typical.										
Shepody (Early Harvest only)	2025	695	52	1.076	5.0/13.6	3/13	none	-	1.7/na	na
	2024	742	59	1.067	6.3/11.6	0/0	none	-	1.7/na	na
	2023	538	48	1.066	5.7/9.3	0/0	none	-	0.8/na	na
	2022	635	83	1.071	11.2/5.6	3/0	none	-	3.0/na	na
	2021	508	46	1.068	5.1/9.9	0/10	3% IBS	-	1.4/na	na
Early-harvest processing variety. Early-harvest post-harvest merit not evaluated as this and most varieties typically produce acceptable fries directly from the field. 5-6 tubers per plant typical.										
*Early Harvest ~ 110 days after planting, Late Harvest ~ 150 DAP. ***na indicates variety not intended for out of storage processing. **HH = Hollow heart, BC = brown center, IBS = internal brown spot. A dash - indicates the variety is not considered for that market.										

2025 Tri-State Specialty Potato Clones - Washington State University

2025 Tri-State Specialty Trial					
US#1	US #1 Yield		Fresh Market Appearance	(See also Tri-State Specialty Section near end of book)	Comments
	2025	2025			
Yield	0-6 oz	6-10oz			
CWT/A	-----%	-----	5 = best		
Red Skin/White Flesh*					
Chieftain	837	11	20	3.0	A bit flat, moderately deep eyes, medium red.
Modoc	678	20	11	4.0	Nice deep red, nice round shape, some bronzing/russetting.
A11596-6R	638	26	5	3.0	Lumpy, rhizoc, nothing special.
A12211-6Rtrv	614	16	13	4.0	Smooth shape, deep red/purple (black cherry). Some Bronzing.
COOR15108-1	641	26	6	4.0	Stand out! Sticky stolons a concern.
Yellow Flesh					
Yukon Gold	578	7	12	3.0	Large, a bit lumpy, yellow, some bronzing.
A11569-1Y	701	34	1	3.0	Many pear shaped, russetting on skin (not smooth), longer.
A12224-2Y	569	24	4	3.5	Round yellow, deeper eyes, sticky stolons, some lumpy, rhizoc.
A11576-1Ysto	797	37	2	3.0	Round yellow, some flat, some lumpy, bronzing, pink eyes.
TXA18020-1DY	737	24	12	2.3	Larger, mishapen, lots of #2's, bronzing, lenticil spot, discard.
Purple/Purple Flesh					
Purple Majesty	581	23	6	3.0	Deep purple, nice smooth shape, bronzing, russetting, lots of #2s.
POR18PG54-1	574	7	13	2.5	Large, lumpy purple, deeper eyes, needs tight in-row spacing.

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



At-Harvest Grading Comments & Fresh Market Appearance

Newest Lines - 2025 Tri-State Trials			
Clone	Fresh Market Appearance 1-5 (5 = Best)		Tuber Appearance Comments*
	2025	2024	
Early Harvest Tri-State			
Ranger Russet	2.7	2.0	Long, skinny, deeper eyes, shape a bit irregular.
Russet Burbank	2.0	2.0	Long, lots of irregular shapes, some typy, some ugly.
A10020-3sto	4.0	3.3	Typy, good length, smaller, ok skin.
A12287-1LB	2.3	-	Smaller, ok length, plump, not early, feathery skin.
A12327-5VR	2.3	2.3	Small, short/round, lumpy, not early, dark russet.
A13085-2	2.3	2.3	Mostly typy, smaller, short, length is inconsistent.
A15082-9	2.7	2.0	Typy, feathery skin, plump, length ok.
A15254-5	2.0	-	Light feathery skin, short, lumpy, flat, irregular shape, discard.
A16023-13	2.3	-	Feathery skin, smaller, not early, good length.
A16051-3	3.0	2.0	Short, plump, smooth shape, feathery skin.
AOR15152-2	3.0	2.0	Large, deeper eyes, long, a bit lumpy.
AOR15194-2	3.0	2.0	Typy, spotty skin, good length, smooth shape.
AOR16066-5	3.0	-	Smaller, length good, feathery skin, shape a bit irregular.
AOR1853-7	3.0	-	Feathery skin, length mostly ok.
Russet Norkotah TX278	3.0	3.3	Smaller, dark russet, typy.
Shepody	1.0	1.0	Light skin, long, irregular shapes, curves.
Late Harvest Tri-State			
Clearwater Russet	3.0	4.0	Shape mostly uniform, medium size, some mishapen.
Ranger Russet	1.0	1.3	Long, skinny, many mishapen.
Russet Burbank	1.5	2.0	Long, skinny, mishapen.
A10020-3sto	3.0	2.8	Uniform shape, a bit flat, nice russet skin, length ok, some round.
A12287-1LB	1.5	-	Light skin with spots, short, some round.
A12327-5VR	2.8	3.3	Nice russet skin, tubers a bit lumpy, some short, some round.
A13085-2	2.5	2.5	Medium russet, good length, shape a bit irregular.
A15082-9	2.0	2.5	Spotty russetting, length ok, but some round.
A15254-5	2.0	-	Length ok, some short, spotty russet, shape mostly uniform.
A16023-13	1.0	-	Ugly, white, bad malforms, cracks, Discard!
A16051-3	1.0	2.0	Severe growth cracks on bud end, light russet, spotty, bad shatter.
AOR15152-2	1.0	2.0	Good length, lots of irregular shapes, medium russet, looks like an ugly RB.
AOR15194-2	2.8	2.5	Good length, some road mapping, some irregular shapes.
AOR16066-5	1.5	-	Smaller, short, some round, some lumpy.
AOR1853-7	1.3	-	Long, larger, medium russet, lots of irregular shapes, deep eyes, lots of curves.
Russet Norkotah TX278	2.5	3.0	Dark russet, shape mostly uniform, bumps and lumps, many curved.

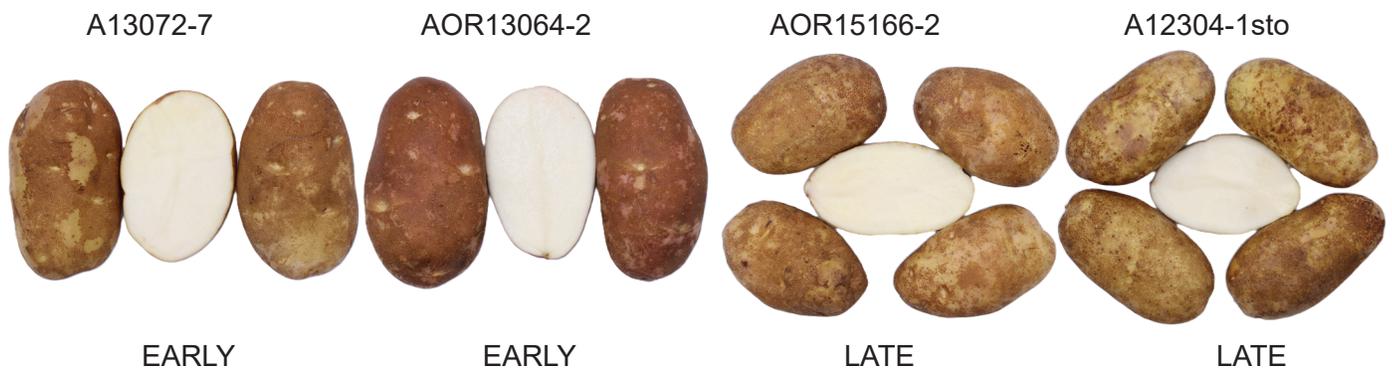
*Typy - Visually appealing, uniform tuber shape.



At-Harvest Grading Comments & Fresh Market Appearance

Advanced Lines - 2025 Regional Trials				
Clone	Fresh Market Appearance 1-5 (5 = Best)			Tuber Appearance Comments*
	2025	2024	2023	
Early Harvest Regional				
Ranger Russet	2.0	1.7	2.0	Long, skinny, deeper eyes, dark russet, shape irregular
Russet Burbank	1.3	2.0	2.0	Long, lot of points, smaller, irregular shapes.
A12308-3adg	2.3	2.0	2.0	Ok length, tuber shape variable, bad skin, alligator hide.
A13072-7	3.0	3	3	Ok length, smaller ones, short, medium russet.
A13091-5	2.3	2.0	4.0	Flat, many round-smaller round ones, deeper eyes.
AOR13064-2	3.3	2.7	3.0	Larger, ttypy, long, good skin.
AOR15166-2	2.7	2.3	3.0	Length ok, variable shape, ok skin.
AOR15227-2	2.7	2.0	3.0	Good size, mostly ttypy, shape a bit irregular, length mostly ok.
OR11222-4	2.7	2.3	-	Ttypy, medium russet, some pointy, rot/scab spots!
Russet Norkotah TX278	3.0	3.5	-	Smaller, mostly ttypy, shape a bit variable.
Shepody	1.0	1.0	1.0	Light skin, long, irregular shapes, curves.
CO15016-1RUsto	3.7	-	-	Dark russet, ttypy, and smaller.
CO15070-4RU	3.7	-	-	Dark Russet, ttypy, ok length, not an early variety.
CO16238-4RUsto	3.0	-	-	Small, medium russet, very small.
Late Harvest Regional				
Clearwater Russet	3.0	3.3	4.0	Mostly uniform shape, medium to dark russet, ok length.
Ranger Russet	1.0	2.0	2.0	Long, skinny, shape mostly irregular, dark russet, ugly.
Russet Burbank	1.0	2.8	1.8	Long, skinny, mostly irregular shapes, medium russet.
A12304-1sto	3.0	3.0	3.5	Looks like Clearwater, but longer
A12308-3adg	2.0	2.0	2.5	Long, uniform shape, some points. Poor skin set and lots of shatter.
A13072-7	2.0	2.3	2.5	Deep eyes, large tubers, swollen lenticils, shape mostly irregular.
A13091-5	2.3	2.8	3.0	Smaller, many very short and round.
AOR13064-2	3.0	1.3	2.0	Looks like Clearwater, smooth shape, mostly uniform, a bit short.
AOR15166-2	3.8	3.0	3.0	Uniform shape, ok length, larger, nice looking tubers and skin.
AOR15227-2	3.0	2.8	2.3	Uniform shape, deep eyes, length ok, some pointy ends.
OR11222-4	2.0	2.0	-	Lots of growth cracks, long, skinny, greening issue, many culls.
Russet Norkotah TX278	3.5	3.0	-	Dark russet, shape mostly uniform, deeper eyes.
CO15016-1RUsto	4.0	4.0	-	Dark russet, uniform/smooth shape.
CO15070-4RU	4.0	-	-	Dark russet, uniform, smooth shape longer, skinny but smooth.
CO16238-4RUsto	2.0	-	-	Small, lots of growth cracks, discard!

*Ttypy - Visually appealing, uniform tuber shape



FRESH MARKET MERIT - NEWEST LINES 2023-2025

EARLY HARVEST - Fresh Market Merit Scores					
Entry	Mean	2025	2024	2023	
1	Russet Norkotah 278	2.9	1.7	3.5	3.4
2	A10020-3sto	2.6	3.5	2.0	2.2
3	A16051-3	2.2	2.4	2.1	-
4	AOR15152-2	2.1	2.5	1.8	-
5	AOR1853-7	2.0	2.0	-	-
6	AOR16066-5	2.0	2.0	-	-
7	Ranger Russet	1.9	1.3	1.8	2.6
8	A12287-1LB	1.9	1.9	-	-
9	AOR15194-2	1.8	2.9	0.8	-
10	A12327-5VR	1.8	1.3	1.2	2.9
11	A15254-5	1.7	1.7	-	-
12	A13085-2	1.5	1.8	1.2	-
13	A16023-13	1.4	1.4	-	-
14	Russet Burbank	1.2	1.1	1.5	0.9
15	A15082-9	1.1	1.0	1.3	-

LATE HARVEST - Fresh Market Merit Scores					
Entry	Mean	2025	2024	2023	
1	A10020-3sto	2.3	3.0	1.0	2.9
2	Clearwater Russet	2.2	2.0	2.0	2.6
3	A12327-5VR	2.1	1.6	2.9	1.9
4	A15254-5	2.0	2.0	-	-
5	Russet Norkotah 278	1.9	1.2	3.1	1.4
6	A13085-2	1.6	1.7	1.4	-
7	A12287-1LB	1.5	1.5	-	-
8	AOR1853-7	1.3	1.3	-	-
9	Russet Burbank	1.1	0.6	1.7	0.9
10	Ranger Russet	1.0	0.7	1.1	1.4
11	A16023-13	1.0	1.0	-	-
12	A15082-9	1.0	1.0	1.0	-
13	AOR15194-2	1.0	1.3	0.6	-
14	AOR15152-2	0.9	0.5	1.3	-
15	AOR16066-5	0.8	0.8	-	-
16	A16051-3	0.8	0.1	1.4	-

For more information on these cultivars, see the Early and Late Harvest Tri-State Trial Sections in this Book. The dash (" - ") indicates the clone was not yet entered into the trial.

FRESH MARKET MERIT - ADVANCED LINES 2021-2025

EARLY HARVEST - Fresh Market Merit Scores						
Entry	Mean	2025	2024	2023	2022	2021
1 A13072-7	3.1	3.3	3.5	2.6	-	-
2 Russet Norkotah TX278	3.1	3.0	3.3	2.6	3.2	3.4
3 AOR13064-2	3.0	4.3	2.0	3.7	2.0	3.4
4 AOR15227-2	2.3	1.4	1.8	3.8	-	-
5 OR11222-4	1.9	1.7	2.1	-	-	-
6 CO15070-4RU	1.9	1.9	-	-	-	-
7 Ranger Russet	1.9	1.1	2.1	2.1	2.5	1.4
8 CO15016-1RUsto	1.8	2.1	1.5	-	-	-
9 A13091-5	1.8	1.7	1.3	2.9	1.2	-
10 AOR15166-2	1.8	1.2	1.4	2.6	-	-
11 A12308-3adg	1.7	1.9	2.5	0.6	-	-
12 CO16238-4RUsto	1.6	1.6	-	-	-	-
13 Russet Burbank	1.2	1.1	1.8	1.4	1.0	0.7

LATE HARVEST - Fresh Market Merit Scores						
Entry	Mean	2025	2024	2023	2022	2021
1 AOR15166-2	3.6	4.1	3.5	3.3	-	-
2 A12304-1sto	2.9	1.8	3.0	3.1	3.7	-
3 Russet Norkotah TX278	2.8	2.3	2.5	3.5	2.5	3.1
4 AOR15227-2	2.8	4.3	2.1	1.9	-	-
5 A12308-3adg	2.3	2.3	2.3	2.3	-	-
6 Clearwater Russet	2.3	2.4	1.9	2.3	2.3	2.5
7 AOR13064-2	2.1	2.7	1.2	1.2	2.0	3.4
8 CO15070-4RU	2.1	2.1	-	-	-	-
9 CO15016-1RUsto	1.5	2.1	1.0	-	-	-
10 OR11222-4	1.4	0.6	2.1	-	-	-
1 Ranger Russet	1.2	0.8	1.1	1.3	2.2	0.6
12 A13091-5	1.1	1.4	1.4	0.9	0.7	-
13 Russet Burbank	1.0	0.6	1.4	0.8	1.6	0.6
14 A13072-7	0.8	0.8	1.0	0.3	1.2	-
15 CO16238-4RUsto	0.4	0.4	-	-	-	-

For more information on these cultivars, see the Early and Late Harvest Regional Trial Sections in this Book. The dash (" - ") indicates the clone was not yet entered into the trial.

PROCESS MARKET MERIT - NEWEST LINES 2023-2025

EARLY HARVEST - Process Market Merit Scores					
Entry	Field Performance		Field Performance Only*		
	Mean		2025	2024	2023
1	AOR15152-2	3.8	4.5	3.1	-
2	A15254-5	3.8	3.8	-	-
3	AOR16066-5	3.4	3.4	-	-
4	AOR1853-7	3.4	3.4	-	-
5	Ranger Russet	3.3	3.3	3.9	2.8
6	A12287-1LB	3.2	3.2	-	-
7	A15082-9	3.1	2.9	3.3	-
8	AOR15194-2	3.0	3.9	2.1	-
9	Russet Burbank	2.9	3.5	3.9	1.2
10	A12327-5VR	2.7	2.5	2.5	3.1
11	A16051-3	2.5	1.7	3.3	-
12	A10020-3sto	2.4	3.0	1.6	2.7
13	A16023-13	2.2	2.2	-	-
14	A13085-2	1.9	2.5	1.4	-
15	Shepody	1.6	1.6	1.6	1.4

Postharvest values are not given for the Early Harvest Trial because all varieties typically fry well when delivered directly from the field and cold storage is not typical. The dash (" - ") indicates the clone was not yet entered into the trial.

LATE HARVEST - Process Market Merit Scores									
Field & Postharvest Processing Performance									
Entry		All Years							
		Post		2025		2024		2023	
		Field Mean	Harvest Mean	Field	Post Harv	Field	Post Harv	Field	Post Harv
1	Clearwater Russet	3.8	3.1	3.4	3.1	3.9	3.0	4.1	-
2	AOR1853-7	3.1	1.7	3.1	1.7	-	-	-	-
3	AOR16066-5	3.0	1.3	3.0	1.3	-	-	-	-
4	A12287-1LB	3.0	3.1	3.0	3.1	-	-	-	-
5	Ranger Russet	2.9	2.4	2.6	2.0	2.4	2.8	3.7	-
6	A10020-3sto	2.3	1.9	2.2	2.0	2.0	1.7	2.6	-
7	A15254-5	2.2	3.3	2.2	3.3	-	-	-	-
8	A12327-5VR	2.1	2.0	3.0	2.0	2.5	2.0	1.0	-
9	A13085-2	2.1	1.6	3.0	1.7	1.2	1.5	-	-
10	AOR15194-2	2.0	2.6	3.0	2.6	1.1	2.6	-	-
11	Russet Burbank	1.9	1.6	1.8	1.5	2.3	1.7	1.7	-
12	AOR15152-2	1.9	1.6	1.8	1.5	1.9	1.7	-	-
13	A15082-9	1.4	3.0	2.0	3.3	0.9	2.6	-	-
14	A16023-13	1.2	2.6	1.2	2.6	-	-	-	-
15	A16051-3	1.1	1.3	0.4	1.5	1.8	1.1	-	-

The dash (" - ") indicates the clone was not yet entered into the trial or data were not available. For more information on these cultivars, see the Early and Late Harvest Tri-State Trial sections in this book.

PROCESS MARKET MERIT - ADVANCED LINES 2021-2025

(5 = best) - Entries ranked by Field Performance means

EARLY HARVEST - Process Market Merit Scores							
Entry	Field Performance		Field Performance Only*				
	Mean		2025	2024	2023	2022	2021
1	AOR13064-2	3.7	4.5	3.1	4.4	2.1	4.2
2	AOR15227-2	3.6	3.5	3.1	4.3	-	-
3	AOR15166-2	3.3	3.1	3.1	3.9	-	-
4	A13072-7	3.2	3.0	3.8	3.2	3.0	-
5	Ranger Russet	3.1	2.6	3.4	3.9	3.0	2.4
6	A12308-3adg	3.0	4.0	3.4	1.6	-	-
7	A13091-5	2.8	3.6	2.1	3.3	2.4	-
8	OR11222-4	2.6	2.5	2.7	-	-	-
9	CO15070-4RU	2.2	2.2	-	-	-	-
10	Russet Burbank	1.9	2.7	2.1	1.8	1.8	1.2
11	Shepody	1.7	1.7	1.7	0.8	3.0	1.4
12	CO16238-4RUsto	1.5	1.5	-	-	-	-
13	CO15016-1RUsto	1.4	1.4	-	-	-	-

Postharvest values are not given for the Early Harvest Trial because all varieties typically fry well when delivered directly from the field and cold storage is not typical. The dash (" - ") indicates the clone was not yet entered into the trial.

LATE HARVEST - Process Market Merit Scores													
Field & Postharvest Processing Performance													
Entry	All Years		2025		2024		2023		2022		2021		
	Field Mean	Post Harvest Mean	Field	Post Harv									
1	AOR15227-2	4.3	3.2	3.9	3.0	4.4	2.9	4.7	3.7	-	-	-	-
2	AOR15166-2	4.1	3.5	4.3	3.2	3.4	3.1	4.6	4.3	-	-	-	-
3	A12308-3adg	3.6	1.8	3.7	1.6	3.4	2.0	3.7	-	-	-	-	-
4	Clearwater Russet	3.5	3.0	3.4	2.7	3.2	2.7	2.7	3.0	4.0	3.9	4.2	3.0
5	A13072-7	3.4	3.2	3.6	2.9	2.8	3.1	1.8	3.2	4.4	3.4	4.4	3.4
6	Ranger Russet	3.2	2.8	3.2	1.9	3.4	2.7	2.4	3.2	4.4	3.6	2.8	2.4
7	AOR13064-2	3.1	4.1	3.6	3.6	3.6	4.0	1.7	3.9	3.1	4.7	3.8	4.0
8	A12304-1sto	3.1*	2.7	1.0*	1.9	1.0*	2.1	3.6	2.4	4.9	3.5	4.9	3.5
9	A13091-5	2.4	3.7	2.8	3.0	3.4	3.8	1.2	3.9	2.4	3.9	2.4	3.9
10	CO15070-4RU	1.8	3.0	1.8	3.0	-	-	-	-	-	-	-	-
11	Russet Burbank	1.7	1.7	2.6	1.6	2.9	1.4	0.9	1.9	1.0	2.2	1.1	1.4
12	OR11222-4	1.2	1.9	0.8	1.8	1.7	2.0	-	-	-	-	-	-
13	CO15016-1RUsto	1.2	2.2	1.2	2.2	-	-	-	-	-	-	-	-
14	CO16238-4RUsto	0.9	2.8	0.9	2.8	-	-	-	-	-	-	-	-

The dash (" - ") indicates the clone was not yet entered into the trial. For more information on these cultivars, see the Early and Late Harvest Regional Trial sections in this book.

*A12304-1sto developed 41%, 35%, and 3% Internal Brown Spot (IBS) in WA during 2025, 2024, and 2023, respectively.

Fresh Market Value - Methods

Economic Potential

The gross return in U.S. dollars per acre for each trial entry was calculated using WA (Columbia Basin) four-year average fresh potato prices. Production costs per acre were not applied. All assumptions are listed in the table below. Assessing the fresh value of a given lot of potatoes is difficult because the actual market allows fresh-pack sheds to utilize a mix of tuber sizes, packaging, and marketing opportunities to maximize income potential. Following discussions with actual pack-sheds and complying with USDA standards, the packaging and size ranges described below provide a good base for variety comparison. A packaging and handling fee (pack-shed operating fee) of \$4.00 was assessed on each CWT of potatoes. This economic evaluation does not fully account for consumer preferences for each trial entry.

Fresh-pack market 4-year average shipping point prices per tuber size and grade with associated pack-fees.

Markets/Packaging ^a	Range of Tuber Sizes for Each Package Type and USDA Grade		Four Year WA State Columbia Basin Average Prices ^c	Pack-Shed Fee: Packaging and Handling	Adjusted Value
	U.S. No. 1 ^b	U.S. No. 2			
	oz	oz	\$/CWT	\$/CWT	\$/CWT
<u>50 lb cartons</u>					
100 Count	7 to 8.5		\$13.54	\$4.00	\$9.54
90 Count	8.5 to 9.5		\$14.71	\$4.00	\$10.71
80 Count	9.5 to 10.5		\$17.02	\$4.00	\$13.02
70 Count	10.5 to 12.5		\$17.62	\$4.00	\$13.62
60 Count	12.5 to 14		\$17.61	\$4.00	\$13.61
50 Count	14 to 18		\$17.06	\$4.00	\$13.06
<u>10 lb Film Bags</u>					
Non-size A	4 to 7		\$9.15	\$4.00	\$5.15
<u>100 lb Burlap Sacks</u>					
10 oz Min. Size U.S. No. 2		10 to 20	\$8.60	\$4.00	\$4.60
10 oz Min. Size U.S. No. 2	18 to 20		\$8.60	\$4.00	\$4.60
<u>Bulk</u>					
Process-Culls	< 4	< 10	\$4.00	\$4.00	\$0.00
Process-Culls	> 20	> 20	\$4.00	\$4.00	\$0.00

^aCount = tuber number per 50 lb carton.

^b18 to 20 oz U.S. No. 1 tubers are typically of marginal value on the fresh market due to their large size. They were therefore priced as U.S. No. 2, 10 oz minimum size.

^cSales F.O.B. Shipping Point, market periods 2008-2011 (USDA Federal-State Market News Service 2008-2011). Process-culls priced at regional process-cull market value.

Process Value - Methods

Early Harvest

Economic Potential

The gross return in U.S. dollars per acre for each trial entry was calculated using an early harvest mock processing contract similar to those used by Washington State processors. All assumptions are listed below.

Contract Assumptions:

1. Base price of \$160/ton.
 - a. Base price is an average of early-harvest Ranger Russet contracts from Washington processors.
2. To compensate for yield loss due to early harvest, the base price was increased by \$1.00/ton per day for each day potatoes were harvested earlier than Sept. 1.
3. Early harvest quality parameters were identical to those mentioned below in the Late Harvest Process Value – Methods.

Late Harvest

Economic Potential

The gross return in U.S. dollars per acre for each trial entry was calculated using a late-harvest mock processing contract. Process-market values are based on criteria (below) similar to that used by WA potato processors. Production costs per acre were not applied. Direct delivery contract assumptions are listed below.

Contract Assumptions:

1. **Base price:** \$160/ton for market (U.S. #1 & 2) grade tubers.
2. **Six oz clause:** Premiums for market grade tubers 6 oz or greater of \$0.80/ton for each percentage point >53% of the total tuber yield composite, with premium maximum not to exceed a total of \$12.00/ton. Penalties were \$1.00/ton for each percentage point below 53% > 6 oz tubers; below 40% > 6 oz, lots were penalized \$20/ton.
3. **US #1 clause:** Premiums for US #1 grade tubers 6 oz or greater of \$0.40/ton for each percentage point >60% of the total tuber yield composite, with premium maximum not to exceed a total of \$10.00/ton. Penalties were \$0.20/ton for each percentage point below 60% > 6 oz US #1 tubers, with the penalty maximum not to exceed a total of \$4.20/ton.
4. **Undersized clause:** Market grade potatoes <4 oz (process culls) were valued at \$60.00/ton.
5. **Specific Gravity clause:** Premiums per ton were \$1.00 at 1.078, \$3.00 at 1.079, \$5.00 at 1.080, \$7.00 at 1.081, \$8.00 at 1.082, \$9.00 at 1.083, with a maximum of \$10.00 for 1.084 through 1.088. Above 1.088 premiums were as follows: \$9.00 at 1.089, \$8.00 at 1.090, \$7.00 at 1.091, \$6.00 at 1.092, \$5.00 at 1.093, \$4.00 at 1.094, \$3.00 at 1.095, \$2.00 at 1.096, \$1.00 at 1.097. \$0.00 at 1.098 and \$0.00 at 1.099. Above 1.099, lots were penalized \$1.00/ton with no ceiling. No premium or penalty for a value of 1.077. Penalties per ton were \$5.00 at 1.076, \$10.00 at 1.075, and \$15.00 at 1.074. Below 1.074, lots were penalized \$20.00/ton with no rejection minimum.
6. No premiums or penalties were applied for bruise, tuber fry color, sugar content, or internal defects.

2025 Postharvest Procedures

Early Harvest

Culinary and quality characteristics of clones from the Red/Specialty Trial were evaluated after oven-baking, microwaving and boiling. Four- to six-ounce tubers were selected for the cooking protocols described below. After cooking, each tuber was halved from stem to bud end. One half was immediately tasted and evaluated on a scale from 1 to 5 (5 is best) for texture, flavor, tuber center, and skin characteristics. The remaining half was incubated for 30 minutes at room temperature and after-cooking-darkening was then graded on a 1 to 5 scale based on a color chart for white- and yellow-fleshed clones (1 = excessive graying, 5 = no discoloration).

Oven Baking - Tubers were pierced twice with a fork on each side and baked at 400°F for 1 hour.

Boiling - Tubers were cooked in a sieved double-boiler for 1 hour after coming to a boil.

Microwaving - Tubers were pierced twice with a fork on each side and cooked for 10 minutes at the outer edge of a microwave oven (high setting). The tubers were then turned over and moved to the center of the microwave where they were cooked an additional 10 minutes. Four-tuber samples from each of two clones (eight tubers total) were cooked simultaneously.

Cooking Time – was determined on 0.5-inch x 0.5-inch cores of tuber tissue cut from the stem (2 cores) and bud (2 cores) ends of 4 tubers of each clone. To prepare the cores, a 0.5-inch-thick longitudinal section was removed from the center of each tuber. Two cores were then cut from each end, one from the cortical area just beneath the periderm and one from the center region. The cores were placed in boiling water and timed until a weighted (90-g) pin penetrated the tissue.

Chipping - Tubers were cut longitudinally from stem to bud end. One half was sliced into 0.05-inch thick chips. The first slice was discarded to ensure uniform thickness of the second slice, which was processed as a chip. The chip samples (12 tubers/clone; 1 chip per tuber) were rinsed with water and fried in 375°F vegetable oil for 2.5 minutes. The chips were drained on paper towels and chip color was graded using the potato chip Snack Food Association (SFA) color chart (1 = light, 5 = dark).

Late Harvest

Testing of clones in the late harvest trials involved the following postharvest quality evaluations. As soon as possible after harvest, tuber specific gravity and fry color (Photovolt readings) were measured on 12 tubers from each clone. Clones designated as fresh processing were French fried and Photovolt readings compared at harvest only. Additional tubers of each clone were placed in storage at 40, 44 and 48°F. Tubers stored at 48°F were evaluated for bruise potential, consumer acceptance of French fries, and cooking time in October and November. Reducing sugar content and French fry color were assessed in early December. The extent of sprouting was recorded in late December. Tubers stored at 44°F were also evaluated for sugar accumulation in December. Storage of tubers at 40°F until mid December was done to determine the “cold-frying” potential of clones. Fry color was assessed as described below.

Statistical Analysis

Least significant difference (LSD) values are included in the tables to facilitate evaluation of differences in fry color (Photovolt readings), specific gravity, taste panel ratings, bruise, soft rot, and sprouting. Any two means whose difference is greater than or equal to the LSD value are significantly different.

Evaluation of Rated Characteristics

Specific gravity - was measured on a 12-tuber sample from each clone prior to storage by the weight-in-air/weight-in-water method and values were transformed into a 5-point scale as shown below. These same tubers were then used for French fry quality evaluation.

- 5 = 1.083–1.088
- 4 = 1.081–1.082 and 1.089–1.091
- 3 = 1.080 and 1.092–1.093
- 2 = 1.078–1.079 and 1.094–1.095
- 1 = 1.076–1.077 and 1.096 or higher
- 0 = 1.075 or lower

Tuber shape - The lengths and widths of up to twenty five 8- to 10-ounce tubers from each clone were measured and length:width (L/W) ratios reported. This was done to reveal the effects (if any) of growing location on tuber shape and to estimate the yield (% by number) of ≥ 3 -inch long fries for each clone. Fry yields were calculated based on algorithms relating tuber shape (L/W) to the number and weight of fries. The following table reflects these relationships.

Visual Shape	Tuber L/W ratio	Percentage of French Fries (≥ 3 in.) (by weight)	(by number)
Round	1.00	53.9	35.2
	1.25	70.3	51.6
Blocky	1.50	82.6	64.1
	1.75	90.8	72.8
	2.00	95.0	77.6
Elongated	2.25	95.1	78.5

A L/W ratio close to one indicates a round tuber which is not ideally suited for French fry production. A ratio in the 1.5-1.8 range represents an oblong, blocky tuber, which is more desirable for processing. A typical L/W ratio for Russet Burbank is about 1.80. A schematic illustrating the relative sizes of potatoes having various ratios is included in the postharvest sections for the Tri-State and Regional Trials. Blocky and elongated tubers result in high French fry yield with less waste. Length to width ratios were transformed into a 5-point rating scale as shown below:

- 5 = 1.8 L/W and above
- 4 = 1.65-1.79 L/W
- 3 = 1.5-1.64 L/W
- 2 = 1.35-1.49 L/W
- 1 = 1.2-1.34 L/W
- 0 = Less than 1.2 L/W

French fries - were processed by frying tuber slices (3/8" x 1 1/8" x length of tuber) in 375°F oil for 3.5 minutes. Fry color was measured with a Photovolt meter within 3 minutes of frying. A Photovolt reading of 19 or less was considered unacceptably dark. The stem and bud end Photovolt readings were reported along with the USDA color class (see below). A difference of 9 Photovolt units or more between bud and stem end constitutes non-uniform fry color. A point was either added or subtracted from the total score, based on the uniformity of fry color. A (+) or (-) symbol is included with the Photovolt ratings to indicate that a point has been added or subtracted during tabulation of the total score. The USDA color classes assigned to French fries were based upon Photovolt readings of the darkest ends (usually the stem end) and are for information only; they were not used in determining the final rating.

<u>Photovolt</u>	<u>USDA color</u>	<u>Rating</u>	<u>Photovolt reading</u>
>31	0	5	= 41 or higher
25-30	1	4	= 36 thru 40
20-24	2	3	= 31 thru 35
15-19	3	2	= 25 thru 30
<14	4	1	= 20 thru 24
		0	= 19 or less

Taste panels - were used to determine the consumer acceptance of French fries prepared from tubers of each clone. All of the clones evaluated by the taste panels were produced through classical breeding techniques. Slices (3/8" x 3/8" x length of tuber) from tubers stored at 48°F were fried in 375°F oil for 4.5 minutes. Approximately 12 untrained panelists rated the fries on a 1 to 5 (5=best) scale for taste, texture, internal flesh color, and weak units (limpness). The average rating of the four fry characteristics is reported and was used in calculating the total rating score for each clone.

Calculation of Total Score - The overall postharvest rating for each clone is equal to the sum of the individual ratings for each of the following quality characteristics:

Quality Parameter	Maximum Rating*
Fry color prior to storage (0-5 ±1 uniformity)	6**
Specific gravity (0-5)	5
Length to Width Ratio (0-5)	5
(Phase 2) Taste panel (avg of 5 pts for taste, texture, internal flesh color and limpness of cooked fries) (1-5)	5
Fry color after 60 days storage at:	
48°F fry color (0-5 ±1 uniformity)	6**
(Phase 2) 44°F fry color (0-5 ±1 uniformity)	6**
40°F fry color (0-5)	5
Postharvest rating =	38 (Phase 2)
	27 (Phase 1)

*All characteristics are rated from 0-5 or 1-5 as indicated. A rating of 5 is best. **Uniformity of color from bud to stem end is also evaluated. The fry color ratings of samples prior to storage and after 60 days at 44 (Phase 2 only) and 48°F will gain or lose a point, depending on uniformity. For example, if the difference between stem and bud end fry color is <9 photovolt reflectance units, indicating highly uniform fry color, a point is added to determine the overall score. On the other hand, if the difference between stem and bud end fry color is ≥9 photovolt reflectance units (non-uniform fry color), a point is subtracted to end up with the final score. Hence, a clone can receive a maximum of 27 points in Phase 1 or 38 points in Phase 2.

Evaluations of Non-Rated Characteristics

Reducing sugars - percent reducing sugars in tuber stem and bud ends were estimated via linear regression based on historical data for photovolt and reducing sugar correlations. Reducing sugars are estimated for fry color in tubers stored at 40°, 44°, and 48°F.

Bruise potential and severity - For each clone, 12 tubers were warmed to room temperature for one day. Each tuber was then held under a device that dropped a 4-ounce weight from a height of 23 inches. Each tuber received four such impacts, two on the stem end and two on the bud end (Phase 2). After 24 hours, the tubers were peeled and the percentage of impacts resulting in a blackspot or shatter bruise was calculated. In addition, the severity of bruise was also rated on a 1-5 scale as indicated below. Bruises that rated 3, 4, or 5 were used in the overall percentage calculation.

Bruise Severity Ratings:

- 1 = No bruise
- 2 = White knot bruise
- 3 = Less than 50% of the impact area darkened
- 4 = Greater than 50% of the impact area darkened, or the whole impact area is light brown
- 5 = 100% of the impact area is dark

Reconditioning potential - Reconditioning ability of tubers stored at 40°F for approximately 60 days was determined by subsequently storing the tubers at 60°F for 21 days. The change in fry color over the reconditioning interval provides a relative measure of the reconditioning potential for each clone. Reconditioning not done on 2025 crop.

Blanching potential - Blanching ability of tubers stored at 40°F for approximately 60 days was determined by placing center-cut potato strips into a water bath of 160°F for 10 min. Strips were then rinsed with fresh water and fried. The change in fry color from the non blanched sample shows the relative potential to leach sugars to recover fry color.

Sprouting - The degree of sprout development in tubers stored at 40 and 48°F was assessed after all other tests had been completed (usually late December). The percentage of tubers that sprouted and the average sprout length per tuber were recorded for 15 tubers of each clone.

Long-term Storage Characteristics of Clones in the Tri-State and Regional Variety Trials

For evaluation of long-term storability, tubers were held at 48°F until late December and then transferred to 44°F. The tubers were processed into French fries, and reducing sugars were measured in late April or early May of the following year. Tubers were not reconditioned prior to frying. Results from clones that were advanced from the Tri-State to the Regional Trial are reported in the Regional Trial section.

2025 Early Harvest Tri-State Trial

Location: WSU Research Center – Othello, WA

Planting Date: April 1

Vine Kill Date: July 22

Harvest Date: August 11

Days Grown: 112

The Tri-State trial is conducted annually in Washington, Idaho, and Oregon. The Tri-State committee designates which clones are entered in the trial. Selected cultivars and clones in the early trial are grown and managed for an early harvest (July/Aug). The 2025 trial compared 4 local reference varieties to 12 new clones. The following is a summary of the Washington field and post-harvest results. See also: grading comments and merit scores near front of book

Fresh Market Standout(s): A10020-3sto

Process Market Standout(s):

Yield and Economic Data

➤ Total Yield and U.S. #1 Yield

Highest: AOR15152-2 had the highest total yield (770 CWT/A) and the highest U.S. #1 yield (643 CWT/A). AOR16066-5 had the second highest total yield (769 CWT/A) and the second highest U.S. #1 yield (618 CWT/A).

Lowest: Shepody had the lowest total yield (538 CWT/A) and the lowest U.S. #1 yield (274 CWT/A). Russet Norkotah TX278 had the second lowest total yield (574 CWT/A). Russet Burbank had the second lowest U.S. #1 yield (382 CWT/A).

➤ % U.S. #1's (greater than 4 oz)

Highest: A13085-2, AOR15194-2, and A15082-9 (89%).

Lowest: Shepody (51% and Russet Burbank (58%).

➤ Carton Yield (100 to 50 Count (7 to 18 oz U.S. #1 Tubers))

Highest: AOR15152-2 (23.9 Tons/A), AOR1853-7 (22.3 Tons/A).

Lowest: Shepody (6.3 Tons/A), Russet Norkotah TX278 (8.5 Tons/A).

➤ Gross Return (\$/acre)

Fresh Market Highest: AOR15152-2, AOR1853-7, and AOR15194-2.

Fresh Market Lowest: Shepody, Russet Norkotah TX278, and Russet Burbank.

Process Market Highest: AOR15152-2, AOR15194-2, and A15254-5.

Process Market Lowest: Shepody, Russet Norkotah TX278, and A16051-3.

2025 Early Harvest Tri-State Trial Summaries

ENTRY	TOTAL YIELD						CARTON YIELD		PROCESS YIELD	
	CWT/A	STATS**	Tons/A	US # 1's*	US # 2's*	Culls*	100-50 count		US 1's and 2's	
				> 4 oz	> 4 oz	& < 4 oz	(US 1's 7-18 oz)		> 6 oz	
			----- % of Total Yield -----			% of Total Yield	Tons/A	% of Total Yield	Tons/A	
Ranger Russet	620	AB	31.0	80	6	14	63	15.7	67	20.7
Russet Burbank	662	AB	33.1	58	20	22	45	8.6	54	17.9
A10020-3sto	630	AB	31.5	81	5	14	53	13.5	64	20.3
A12287-1LB	693	AB	34.7	88	3	9	66	20.1	75	26.1
A12327-5VR	694	AB	34.7	87	3	9	66	20.0	75	26.1
A13085-2	622	AB	31.1	89	4	6	73	20.3	82	25.4
A15082-9	575	B	28.8	89	2	9	69	17.5	75	21.8
A15254-5	677	AB	33.9	83	10	7	68	19.0	75	25.6
A16023-13	625	AB	31.2	69	12	19	49	10.6	56	17.6
A16051-3	605	AB	30.2	82	3	15	52	12.9	61	18.4
AOR15152-2	770	A	38.5	83	10	6	74	23.9	84	32.5
AOR15194-2	660	AB	33.0	89	5	6	72	21.1	79	26.1
AOR16066-5	769	A	38.5	80	7	13	62	19.2	69	26.6
AOR1853-7	683	AB	34.1	85	7	8	76	22.3	81	27.5
Norkotah TX278	574	B	28.7	71	5	25	42	8.5	45	13.0
Shepody	538	B	26.9	51	16	33	46	6.3	44	11.9

ENTRY	US # 1 YIELD						> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%)		
	> 4 oz	> 4 oz	4-7 oz*	7-14 oz*	> 14 oz*	(8-12 oz tubers)				
						% HH		% BC	% IBS	
CWT/A	STATS**	Tons/A	----- % -----							
Ranger Russet	496	ABCD	24.8	37	61	3	1.084	0	0	0
Russet Burbank	382	DE	19.1	55	43	2	1.084	0	0	0
A10020-3sto	512	ABCD	25.6	46	51	2	1.078	0	0	0
A12287-1LB	611	A	30.6	33	62	5	1.076	0	0	0
A12327-5VR	607	A	30.4	32	58	9	1.076	0	0	0
A13085-2	556	ABC	27.8	26	65	9	1.073	0	0	0
A15082-9	511	ABCD	25.5	31	66	4	1.085	0	0	0
A15254-5	564	ABC	28.2	32	61	6	1.083	0	0	0
A16023-13	431	BCDE	21.5	51	47	2	1.076	0	0	0
A16051-3	498	ABCD	24.9	48	48	3	1.071	0	0	0
AOR15152-2	643	A	32.2	18	60	21	1.079	0	0	0
AOR15194-2	586	AB	29.3	26	66	8	1.088	0	0	0
AOR16066-5	618	A	30.9	38	59	3	1.072	0	0	0
AOR1853-7	583	AB	29.1	21	69	11	1.074	0	0	0
Norkotah TX278	407	CDE	20.4	56	42	2	1.078	0	0	0
Shepody	274	E	13.7	54	43	3	1.079	0	0	0

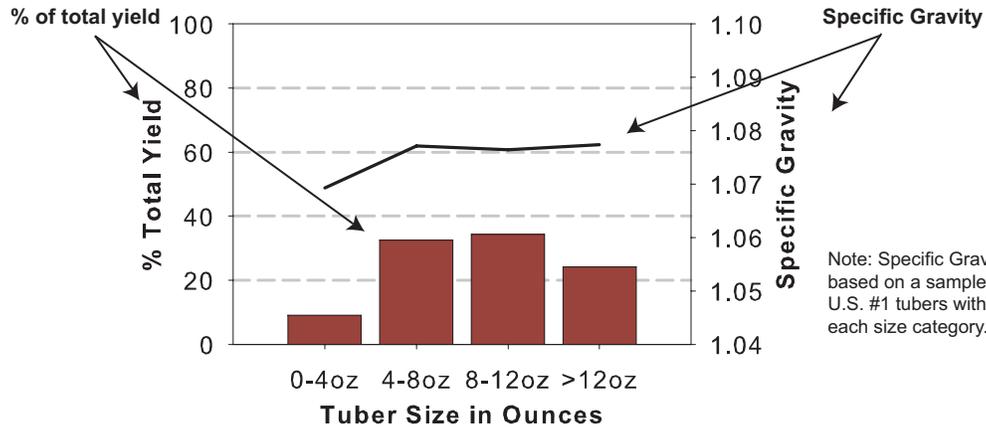
ENTRY	40 DAY	60 DAY	TUBER	STEMS PER	AVERAGE TUBER		SKIN	TUBER	BRUISE (%)	
	STAND	STAND	GREENING	PLANT	WEIGHT	NUMBER	SET	SHAPE	(8-12 oz tubers)	
	% Emerged	% Emerged	% Total Yield	Above Ground	Ounces	Tubers/Plant	1 = Poor 5 = Good	1 = Round 5 = Long	BLACKSPOT	SHATTER
Ranger Russet	96	96	1	2.5	6.3	9.7	3.0	4.0	30	0
Russet Burbank	91	96	1	2.8	5.6	11.6	3.0	4.0	3	10
A10020-3sto	42	96	0	2.9	6.0	10.3	3.0	3.7	0	13
A12287-1LB	78	91	1	2.3	6.7	10.2	3.3	2.7	0	10
A12327-5VR	82	91	0	4.3	7.1	9.6	3.3	2.0	0	33
A13085-2	84	96	0	2.1	7.7	7.9	3.3	2.3	5	15
A15082-9	96	100	1	2.6	6.9	8.2	4.0	2.7	7	47
A15254-5	93	96	1	2.6	7.1	9.3	4.0	2.3	5	0
A16023-13	89	93	0	2.9	5.8	10.7	3.7	3.0	3	7
A16051-3	96	93	0	2.3	5.8	10.2	3.7	2.7	0	27
AOR15152-2	84	93	1	2.4	8.4	9.0	2.3	3.3	0	0
AOR15194-2	87	91	1	3.0	7.5	8.7	4.0	3.3	3	53
AOR16066-5	71	91	0	2.5	6.2	12.3	3.7	3.0	0	0
AOR1853-7	76	98	1	2.4	7.9	8.5	4.0	3.0	0	0
Norkotah TX278	89	98	1	3.0	4.9	11.5	4.0	3.0	3	7
Shepody	93	96	4	2.8	4.8	11.1	3.0	4.0	0	3

* Percent values may not total 100% due to rounding

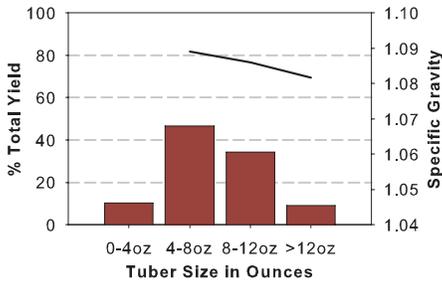
2025 Early Harvest Tri-State Trial

Tuber Yield and Specific Gravity Distributions

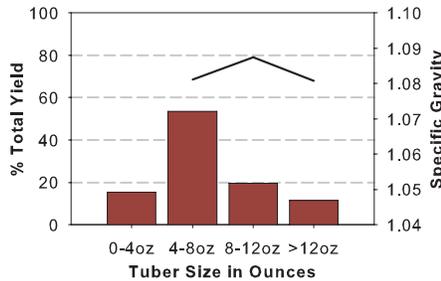
12 inch In-Row Spacing



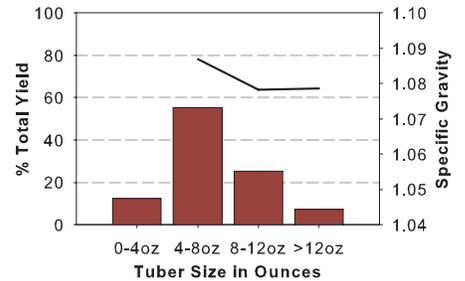
RANGER RUSSET



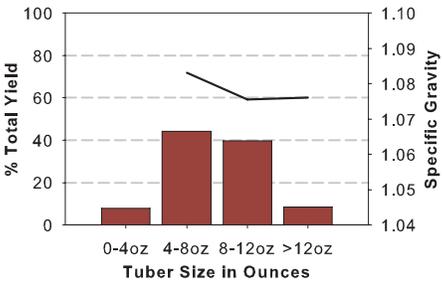
RUSSET BURBANK



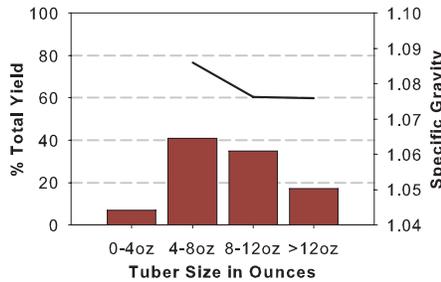
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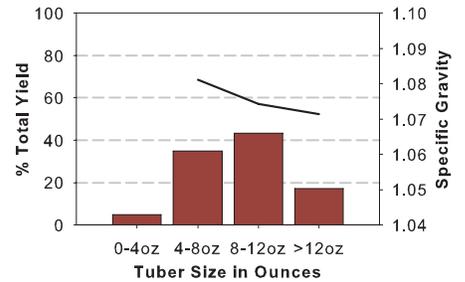
A12287-1LB



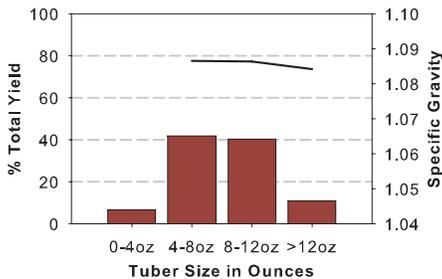
A12327-5VR



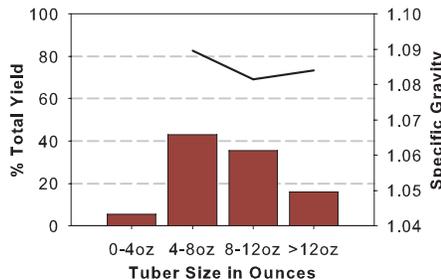
A13085-2



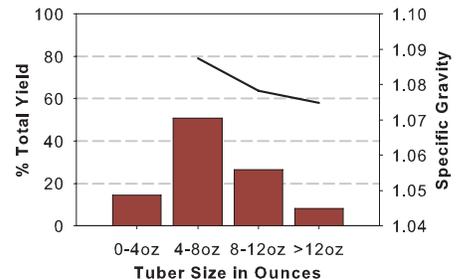
A15082-9

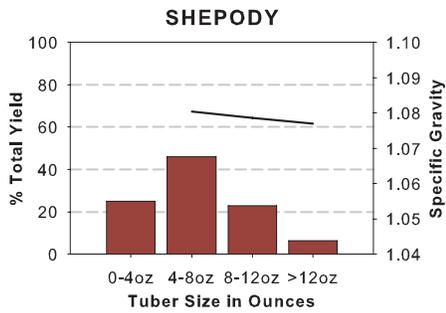
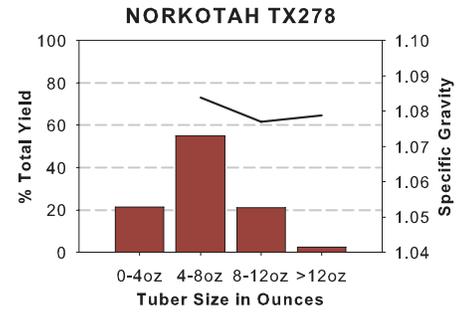
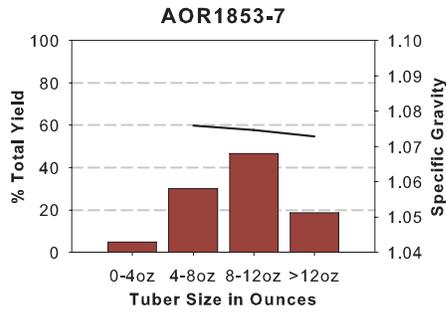
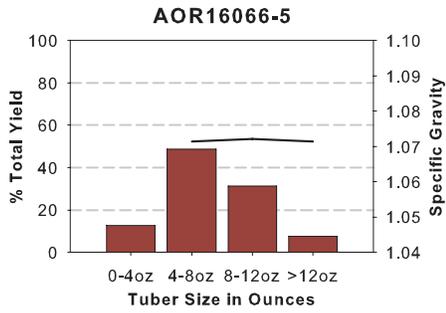
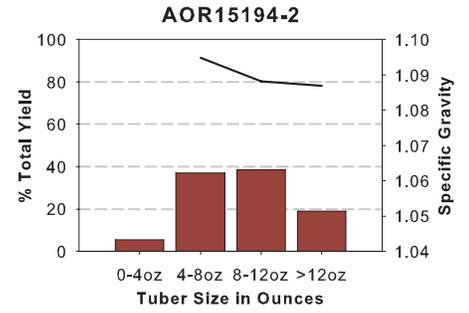
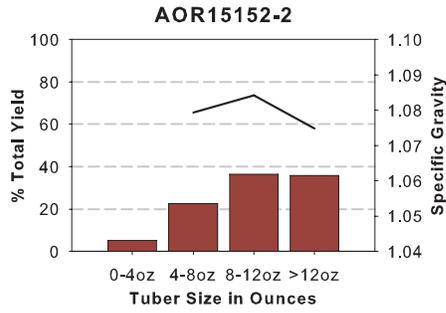
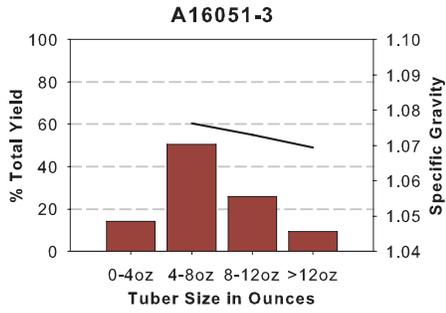


A15254-5



A16023-13





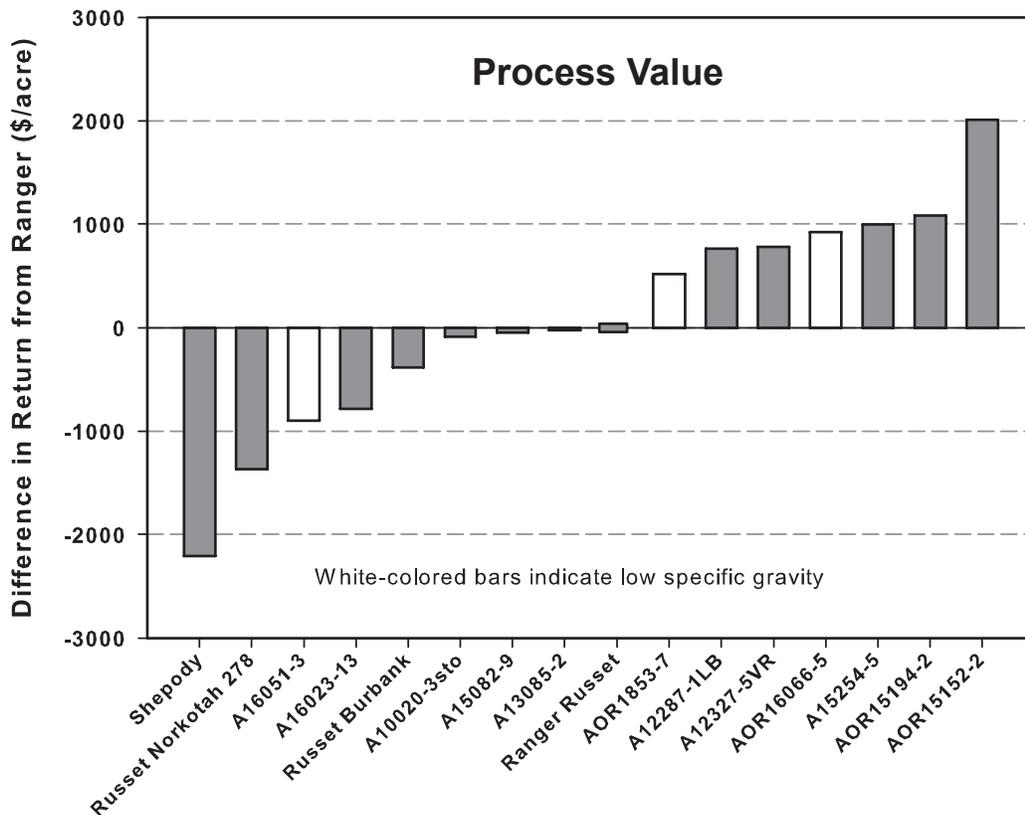
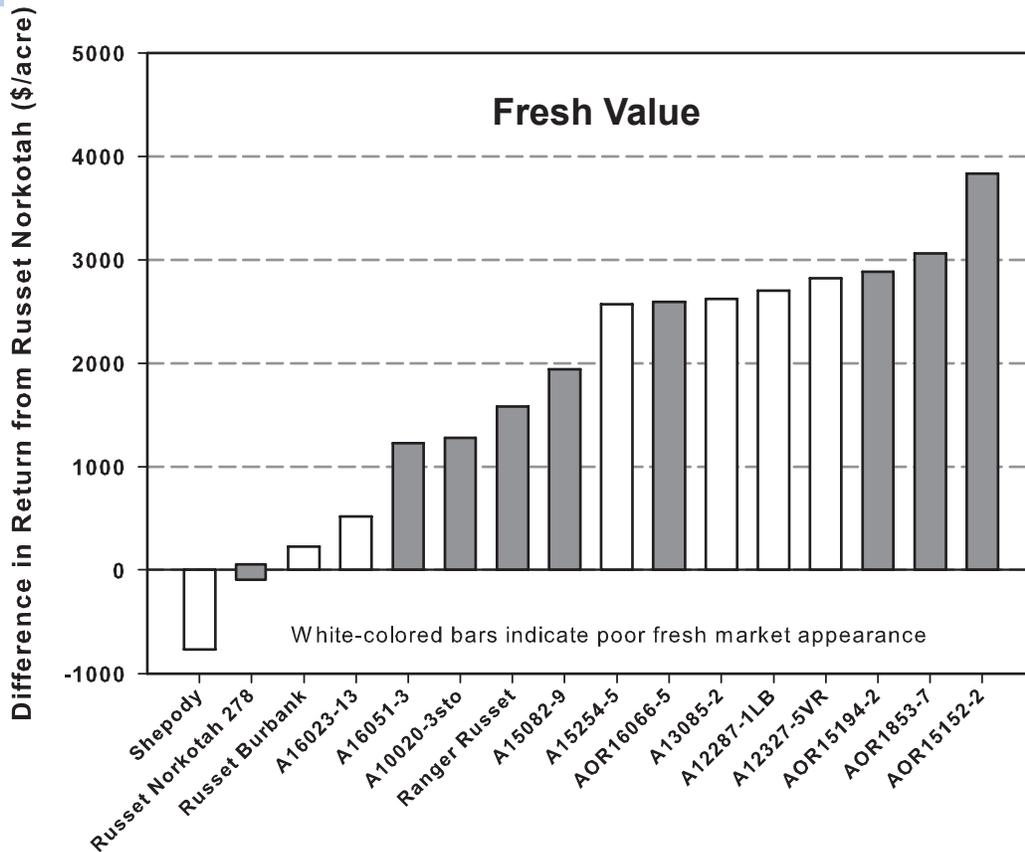
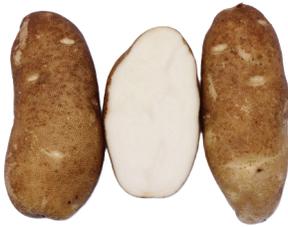


Figure 1 (top). Difference in gross return per acre (Fresh Market) from Russet Norkotah TX278 calculated by subtracting the gross return of Russet Norkotah TX278 from the gross return of the particular entry. **Figure 2 (bottom).** Difference in gross return per acre (Process Market) from Ranger Russet calculated by subtracting the gross return of Ranger Russet from the gross return of the particular entry. Entries with the white-colored bars would be penalized due to a low specific gravity.

2025 Early Harvest Tri-State Trial

Tubers

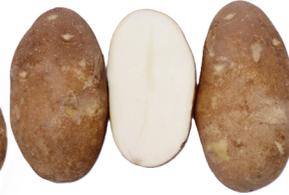
Ranger Russet



Russet Burbank



A10020-3sto



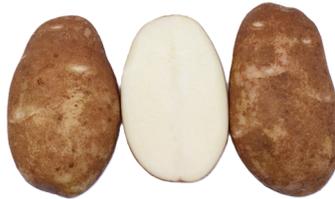
A12287-1LB



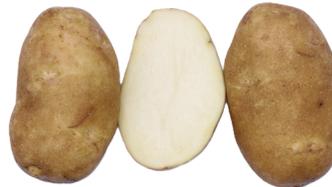
A12327-5VR



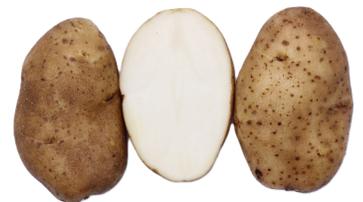
A13085-2



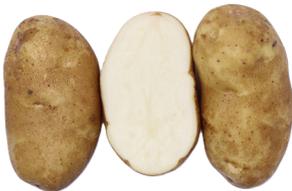
A15082-9



A15254-5



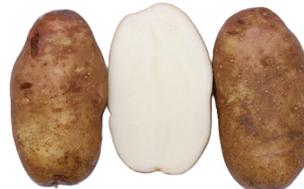
A16023-13



A16051-3



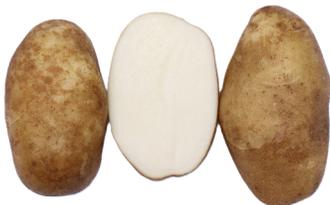
AOR15152-2



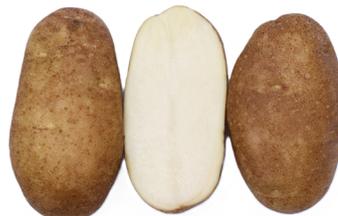
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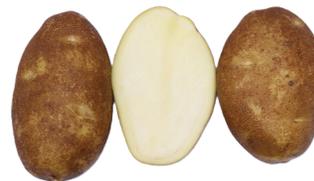
AOR16066-5



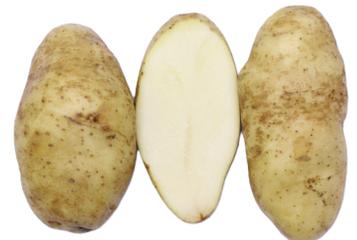
AOR1853-7



Russet Norkotah TX278



Shepody



2025 Late Harvest Tri-State Trial

Location: WSU Research Center – Othello, WA

Planting Date: April 2

Vine Kill Date: August 29

Harvest Date: September 8

Days Grown: 149

The Tri-State trial is a part of the cooperative cultivar development program conducted at locations in Washington, Oregon, and Idaho. The Tri-State committee selects all official entries in this trial. All entries are grown for full season late harvest in each of the three states to determine how they perform when grown under different management and climatic conditions. The following is a summary of the Washington field and post-harvest results. See also: grading comments and merit scores near front of the book.

Fresh Market Standout(s): A10020-3sto and AOR15194-2

Process Market Standout(s):

Yield and Economic Data

➤ Total Yield and U.S. #1 Yield

Highest: AOR15152-2 had the highest total yield (1160 CWT/A) and A12287-1LB had the highest U.S. #1 yield (996 CWT/A). A12327-5VR had the second highest total yield (1148 CWT/A) and the second highest U.S. #1 yield (946 CWT/A).

Lowest: A15082-9 had the lowest total yield (844 CWT/A) and the Russet Burbank had the lowest U.S. #1 yield (470 CWT/A).

➤ % U.S. #1's (greater than 4 oz)

Highest: A15254-5 (89%), A12287-1LB (88%), and AOR15194-2 (87%).

Lowest: Russet Burbank (49%).

➤ Carton Yield (100 to 50 Count (7 to 18 oz U.S. #1 Tubers))

Highest: A12287-1LB (38.2 Tons/A), A15254-5 (35.7 Tons/A).

Lowest: Russet Burbank (14.3 Tons/A) and A16051-3 (18.4 Tons/A).

➤ Gross Return (\$/acre)

Fresh Market Highest: A12287-1LB and A12327-5VR.

Fresh Market Lowest: Russet Burbank, A16051-3, and AOR15152-2.

Process Market Highest: AOR1853-7 and Clearwater Russet.

Process Market Lowest: A16051-3, Russet Burbank, and Russet Norkotah TX278.

2025 Phase 1 Testing

- Late Harvest Tri-State Trial - Postharvest Information

Samples were obtained from the Washington, Idaho, and Oregon field adaptation trials for analysis in Pullman, WA. Fifteen numbered entries and three check cultivars were tested from ID, WA, and OR. Postharvest performance ratings of the clones compared with Clearwater Russet, Russet Burbank, and Ranger Russet appear in the tables on page 31 with details summarized below. To increase the number of entries tested each year, the 44°F, Reconditioning, Blanched, and Taste Panel conditions were removed and the “Tri-State Postharvest” is now call “Phase 1” Postharvest Testing. The removed evaluations will remain in the now called “Phase 2” (LRT) and represent the most promising/advanced materials grown in the Regional Trials. An “*” in the summary below continues to indicate similar performance and/or ranking in trials from previous years.

➤ Overall Postharvest Ratings

Highest scoring clones: Clearwater Russet, A15082-9*, A12287-1LB

Lowest scoring clones: AOR15152-2, AOR16066-5, Russet Burbank*

➤ Low Temperature Sweetening

Most resistant: A12287-1LB, A15254-5, Clearwater Russet*

Most susceptible: AOR1853-7, AOR16066-5, Russet Burbank*

➤ Blackspot Bruise Susceptibility

Most resistant: A15082-9*, AOR16066-5, A12287-1LB

Most susceptible: Ranger Russet*, A15254-5, AOR15194-2

➤ Variability in Tuber Shape & Fry Yield (8- to 10-oz tubers)

Lowest L/W: A12287-1LB, A13085-2*, A16051-3*, and A12327-5VR*

Highest L/W: Ranger Russet*, Russet Burbank, CO16238-4RUsto, and CO15016-1RUsto

Lowest W/Th: A15082-9*, AOR15152-2, CO16238-4RUsto, and A16051-3

Highest W/Th: CO15016-1RUsto*, A16023-13, Clearwater Russet, and A13085-2

Least variable L/W Across States: AOR1853-7, AOR16066-5, and CO16238-4RUsto

Most variable L/W Across States: Clearwater Russet, A12287-1LB, and A10020-3sto

Details

- Clearwater Russet, A15082-9*, A12287-1LB were the highest rated entries, scoring 22.3, 20.3, and 19.3 points, respectively.
- Three of the 18 evaluated clones ranked as resistant to cold sweetening with A12287-1LB, A15254-5, and Clearwater Russet* being the most resistant. At 40°F, stem end fry color was significantly darker than the prior to storage and the 48°F storage (60 days), but when averaged across the three states, 5 of the 15 entries produced fries lighter than USDA 2.
- Of the three entries that were the most resistant to cold sweetening, estimated % reducing sugars after 60 days storage at either 48°F or 40°F ranged from 0.53-0.79% or 1.72-2.30%, respectively. Reducing sugars below 2% are estimated to correlate to a USDA color of 1 or lighter.

- For the WA trial, 12/18 entries stored at 48°F and 10/18 entries stored at 40°F produced non-uniform fry color (bud to stem end photovolt difference ≥ 9). For the OR trial, 4/18 entries stored at 48°F and 6/18 entries stored at 40°F produced non-uniform fry color. For the ID trial, 8/18 entries stored at 48°F and 9/18 entries stored at 40°F produced non-uniform fry color. A16023-13 and CO15070-4RU were the only entries that maintained color uniformity between states and storage temperatures, though A12287-1LB only exhibiting non-uniformity after 60-days storage at 40°F in Washington grown samples.
- Fry color (retention of process quality) during storage at 40°F (60 days) was highly variable across production sites, especially for Clearwater Russet* (StDev = 12.37), though it had the highest percent retention (61%) between harvest color and post 40°F storage. The percent retention in color, averaged across states, varied from 41% to 61%. In contrast to this, growing location had the least variability for percent change on fry color for AOR1853-7, AOR16066-5, CO16238-4RUsto, and A16051-3 following 60 days at 40°F, though fry color was consider excessively dark (USDA 3-4).
- AOR15152-2, AOR16066-5, and Russet Burbank* received the lowest overall postharvest scores. Low specific gravity and/or poor fry color after 60-days storage at 40°F were reoccurring problems for these clones in all three states.
- Specific gravity was excessively low for all entries in the WA samples except for Clearwater Russet. Half of the entries (8 of 15) from OR also had excessively low specific gravity values. All entries were ok from ID for specific gravity except for Russet Burbank which was low. Averaged (across states) specific gravity only Russet Burbank*, AOR16066-5, AOR1853-7, CO15016-1RUsto, and CO15070-4RU were too low for frozen process contracts (≤ 1.075). Clearwater Russet had the highest gravities (1.086). The gravities of all entries ranged from 1.068 to 1.086 when averaged across states. When averaged by individual states, across the 18 entries, gravities were 1.069 (WA), 1.088 (ID), and 1.075 (OR).
- In addition to rating overall bruise susceptibility, blackspot bruise severity was rated from 1 to 5 (5=max. bruise) based on color intensity and percentage of the impacted area showing color (1 = no bruise, 2 = white knot bruise, 3 = less than 50% of impact area with color, 4 = >50% of impact area darkened or whole area light brown, 5 = full impact area dark). Ranger Russet*, A15254-5, and AOR15194-2 were the most susceptible, scoring 75%, 64%, and 58% bruise (stem end), respectively, in the controlled impact study. These entries also had the highest bruise severity, averaging 2.3-3.0 out of 5. A15082-9*, AOR16066-5, and A12287-1LB were the most resistant, averaging 17%, 19%, and 19% bruise (stem end), respectively, and all three rating a 1.4 out of 5 severity rating.
- The 8- to 10-oz tubers of A12287-1LB, A13085-2*, A16051-3*, and A12327-5VR* had the lowest length to width ratios (avg. L/W=1.64 across states). The range in L/W was 1.46 (A12327-5VR from WA) to 2.06 (Ranger Russet from ID & WA). Averaged across states, yield of 3-inch or longer French fries ranged from 84% to 94% by tuber fresh weight. Clearwater Russet, A12287-1LB, and A10020-3sto had the greatest variation in L/W ratio; usable fry yields ranged from 84% to 92% across production sites for these entries. The average difference in W/Th was significant (max. 0.12) among all entries and production sites (less consistent than the 2024 crop of 0.06). A15082-9*, AOR15152-2, CO16238-4RUsto, and A16051-3 had the most consistent width to thickness ratio (ca. 1.13) and CO15016-1RUsto*, A16023-13, Clearwater Russet, and A13085-2 were the least consistent (ca. 1.23). These four entries all passed the cut-off limit of 1.2.
- Following 60 days at 48°F (averaged across states), 91% of A16023-13 tubers were sprouting with an average sprout length of 1.1-inches. The next most sprouted entries on average were, A13085-2 (78%), A10020-3sto* (62%), and AOR15152-2 (62%) with sprout lengths of 0.8, 0.5, and 0.8-inches, respectively. This compares to 4% of Russet Burbank tubers with 0.3-inch sprouts. OR samples were on average the most sprouted (69%), followed by WA (29%), then ID (17%); sprout lengths were 0.68, 0.34, and 0.23-inches, respectively.

Overall Phase 1 (LTS) Postharvest Merit Scores

2025 Phase 1 (LTS) Postharvest Merit Scores					3 state
Clone		WA	ID	OR	Average
1	Clearwater R.	3.1	4.4	4.8	4.1
8	A15082-9	3.3	4.4	3.5	3.8
5	A12287-1LB	3.1	4.4	3.1	3.6
9	A15254-5	3.3	4.3	3.1	3.6
10	A16023-13	2.6	3.7	4.3	3.5
13	AOR15194-2	2.6	3.5	4.1	3.4
17	CO15070-4RU	3.0	3.3	3.3	3.2
6	A12327-5VR	2.0	3.9	3.5	3.1
2	Ranger R.	2.0	3.5	3.5	3.0
18	CO16238-4RUsto	2.8	3.0	3.1	3.0
15	AOR1853-7	1.7	3.3	3.1	2.7
4	A10020-3sto	2.0	3.0	3.0	2.7
11	A16051-3	1.5	2.8	3.1	2.5
16	CO15016-1RUsto	2.2	2.8	2.4	2.5
7	A13085-2	1.7	2.6	3.0	2.4
12	AOR15152-2	1.5	2.6	3.1	2.4
14	AOR16066-5	1.3	2.4	1.7	1.8
3	R. Burbank	1.5	1.5	1.7	1.5



Dan Hane shows a student how to look for PVY in the seed lots.

2025 Late Harvest Tri-State Trial Summaries

ENTRY	TOTAL YIELD						CARTON YIELD		PROCESS YIELD	
	CWT/A	STATS**	Tons/A	US # 1's*	US # 2's*	Culls*	100-50 count		US 1's and 2's	
				> 4 oz	> 4 oz	& < 4 oz	(US 1's 7-18 oz)		> 6 oz	
			% of Total Yield			% of Total Yield	Tons/A	% of Total Yield	Tons/A	
Clearwater Russet	1069	ABC	53.4	82	7	11	55	29.5	75	40.0
Ranger Russet	1105	AB	55.3	56	25	19	40	22.0	74	41.0
Russet Burbank	962	ABC	48.1	49	25	26	30	14.3	61	29.5
A10020-3sto	921	ABC	46.0	79	6	16	52	23.8	70	32.6
A12287-1LB	1130	AB	56.5	88	2	10	68	38.2	82	46.5
A12327-5VR	1148	A	57.4	82	8	11	60	34.7	80	46.6
A13085-2	922	ABC	46.1	86	5	9	65	29.8	81	37.4
A15082-9	844	C	42.2	84	9	7	63	26.7	86	36.2
A15254-5	1036	ABC	51.8	89	4	7	69	35.7	85	44.1
A16023-13	1117	AB	55.8	66	9	24	46	25.8	66	36.7
A16051-3	1003	ABC	50.2	56	1	42	37	18.4	47	23.5
AOR15152-2	1160	A	58.0	58	12	30	38	21.9	64	37.2
AOR15194-2	923	ABC	46.2	87	4	9	64	29.6	82	37.8
AOR16066-5	1092	AB	54.6	80	6	14	50	27.3	70	38.4
AOR1853-7	1117	AB	55.8	75	15	10	53	29.6	84	47.0
Russet Norkotah TX278	887	BC	44.3	78	9	13	52	22.9	72	31.8

ENTRY	US # 1 YIELD						> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%)		
	> 4 oz CWT/A	STATS**	> 4 oz Tons/A	4-7 oz*	7-14 oz*	> 14 oz*		(8-12 oz tubers)		
				% of Total Yield				% HH	% BC	% IBS
Clearwater Russet	875	ABCD	43.7	26	57	17	1.085	0	0	10
Ranger Russet	619	FGH	31.0	19	55	26	1.076	0	0	3
Russet Burbank	470	H	23.5	36	50	14	1.069	0	0	0
A10020-3sto	725	CDEFG	36.3	29	56	15	1.072	0	0	6
A12287-1LB	996	ABCD	49.8	14	57	28	1.068	0	0	3
A12327-5VR	946	AB	47.3	18	53	29	1.067	0	0	3
A13085-2	787	BCDEF	39.4	20	63	17	1.066	0	0	0
A15082-9	707	DEFG	35.4	13	56	31	1.074	0	0	0
A15254-5	918	ABC	45.9	14	62	24	1.073	0	0	18
A16023-13	736	CDEFG	36.8	23	62	15	1.071	0	0	5
A16051-3	554	GH	27.7	26	52	23	1.068	0	0	0
AOR15152-2	672	EFG	33.6	17	47	36	1.076	0	0	0
AOR15194-2	801	ABCDEF	40.1	18	57	25	1.079	0	0	0
AOR16066-5	869	ABCD	43.5	30	54	16	1.066	0	0	5
AOR1853-7	838	ABCDE	41.9	13	55	32	1.074	0	0	8
Russet Norkotah TX278	688	DEFG	34.4	26	54	20	1.065	0	0	0

ENTRY	40 DAY	50 DAY	STEMS PER	TUBER	AVERAGE TUBER		SKIN	TUBER	BRUISE (%)	
	STAND	STAND	PLANT	GREENING	WEIGHT	NUMBER	SET	SHAPE	(8-12 oz tubers)	
	% Emerged	% Emerged	Above Ground	% Total Yield	Ounces	Tubers/Plant	1 = Poor 5 = Good	1 = Round 5 = Long	BLACKSPOT	SHATTER
Clearwater Russet	88	94	3.2	1	7.5	12.7	4.0	3.0	38	23
Ranger Russet	98	98	2.6	1	9.0	11.0	3.0	5.0	75	3
Russet Burbank	94	97	2.5	2	7.0	12.4	3.0	4.0	42	24
A10020-3sto	17	73	3.9	1	7.7	10.7	4.0	3.0	42	38
A12287-1LB	86	95	2.4	5	9.1	11.2	4.0	2.5	33	53
A12327-5VR	91	97	3.6	0	8.9	11.8	4.0	2.5	46	63
A13085-2	84	92	2.4	1	8.3	9.9	3.3	3.0	54	48
A15082-9	95	97	2.5	1	9.6	8.0	3.8	2.5	29	85
A15254-5	94	94	2.3	3	9.4	9.9	4.0	2.5	79	13
A16023-13	91	94	2.8	1	7.8	12.8	2.8	3.0	75	10
A16051-3	89	95	2.1	4	7.9	11.4	3.5	3.0	38	84
AOR15152-2	86	89	2.2	6	10.5	10.0	2.5	4.0	63	13
AOR15194-2	91	97	2.3	4	8.8	9.5	3.3	3.0	71	90
AOR16066-5	67	88	2.7	2	6.7	14.6	3.0	2.0	21	10
AOR1853-7	94	100	2.4	4	9.6	10.4	4.0	4.0	25	10
Russet Norkotah TX278	92	95	3.1	2	7.2	11.1	4.0	3.0	NA	6

* Percent values may not total 100% due to rounding

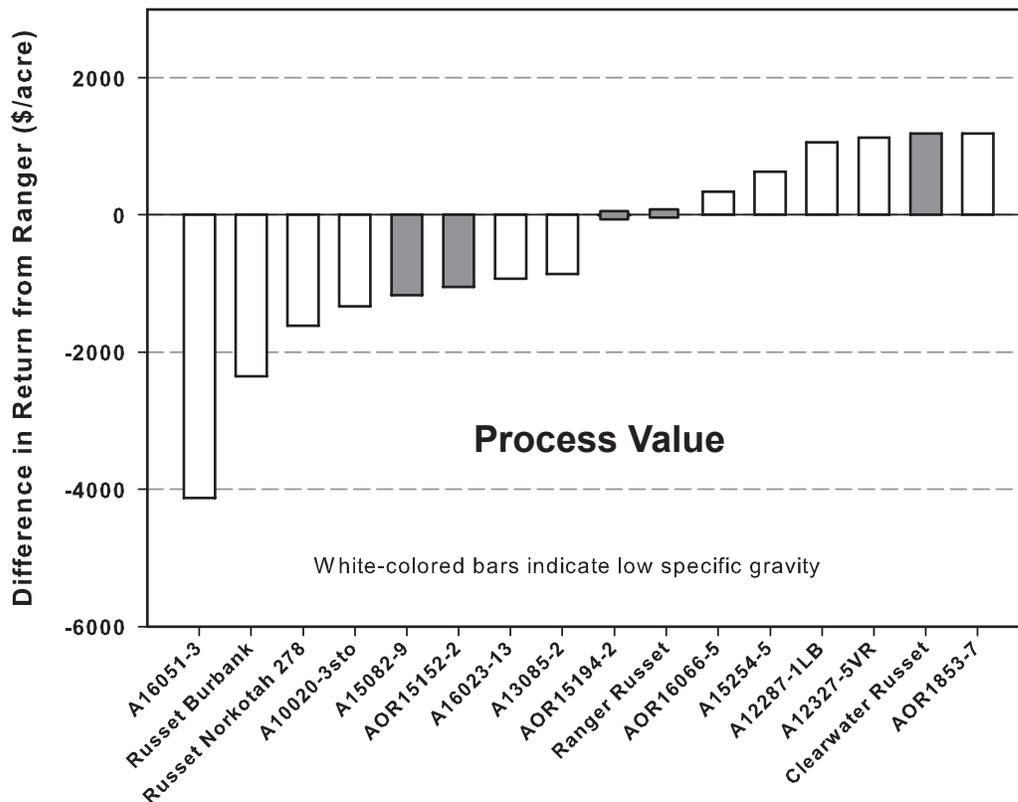
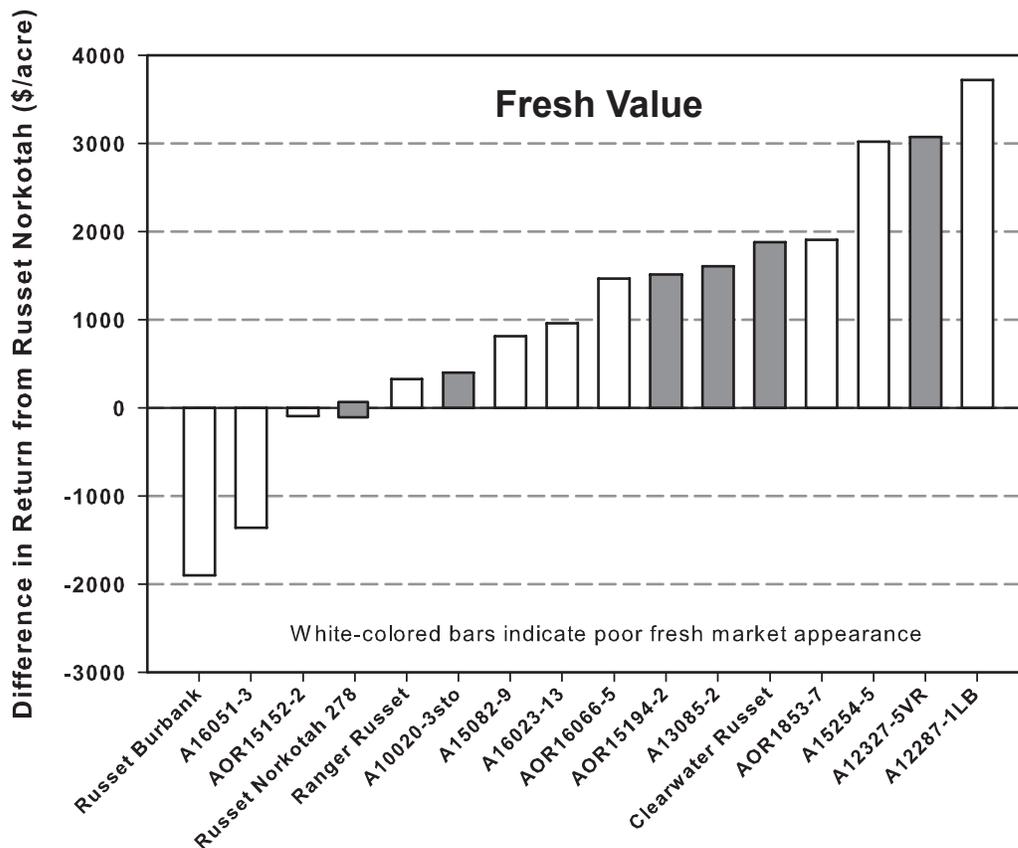
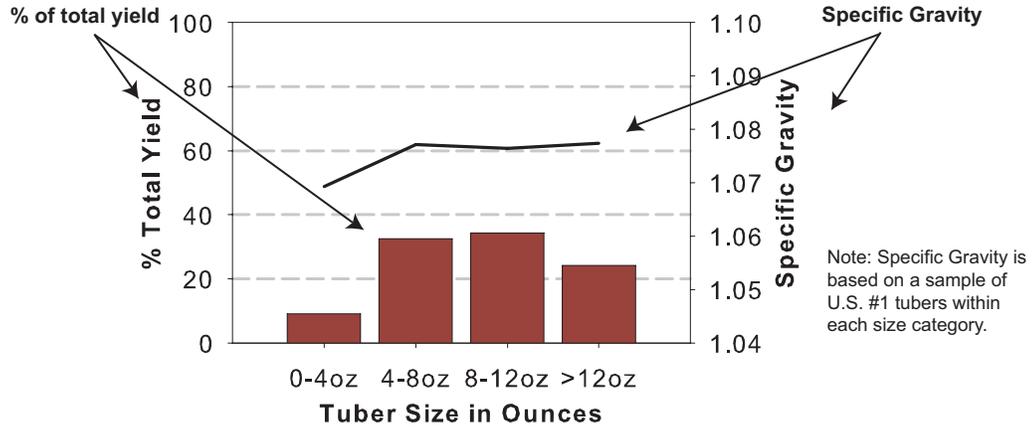


Figure 1 (top). Difference in gross return per acre (Fresh Market) from Russet Norkotah TX278 calculated by subtracting the gross return of Norkotah TX278 from the gross return of the particular entry. Entries with the white-colored bars may not appeal to fresh market consumers due to undesirable shape 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 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.

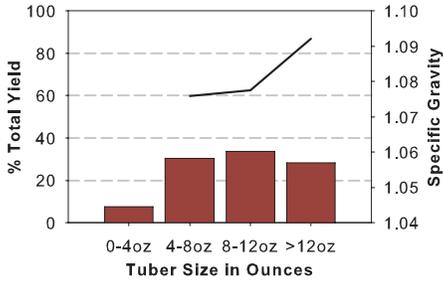
2025 Late Harvest Tri-State Trial

Tuber Yield and Specific Gravity Distributions

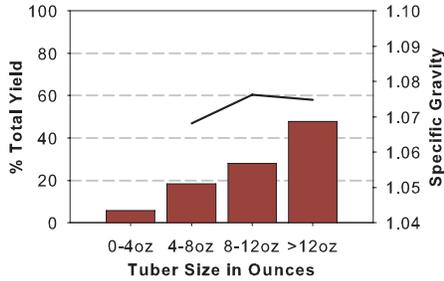
11 inch In-Row Spacing



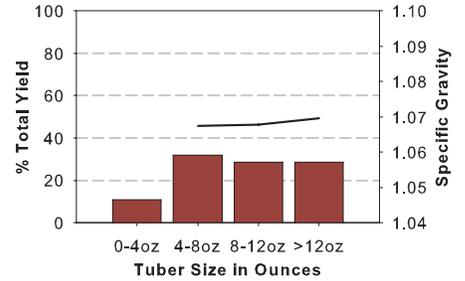
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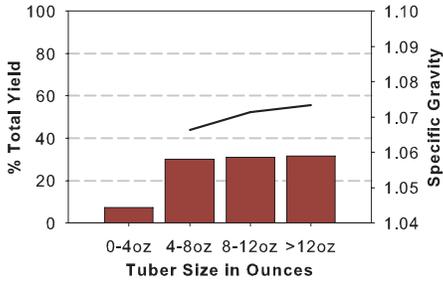
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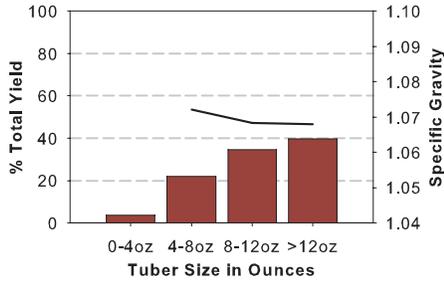
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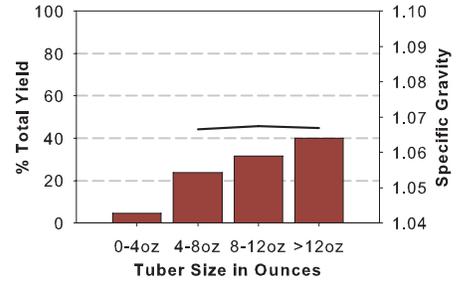
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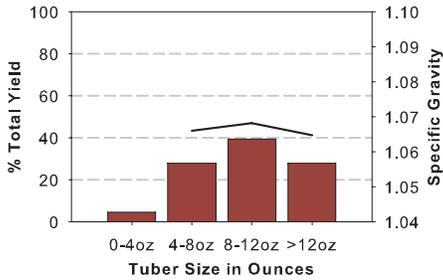
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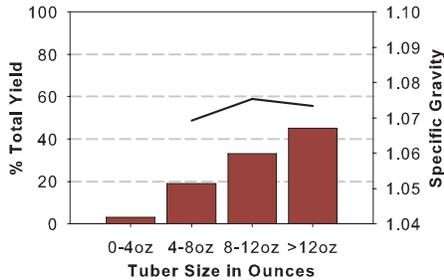
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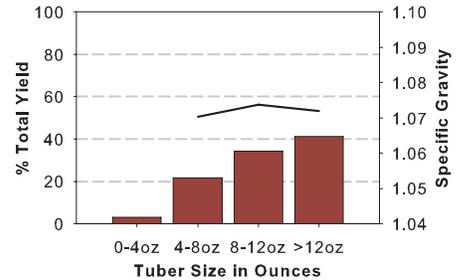
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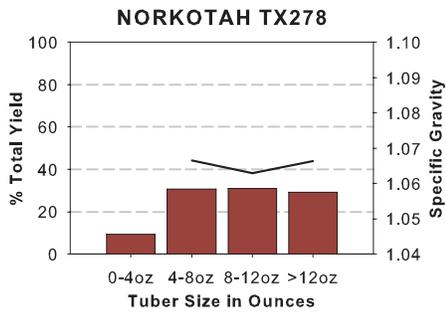
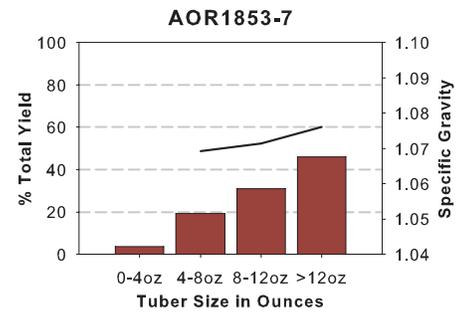
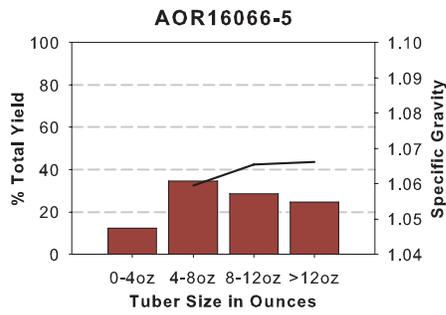
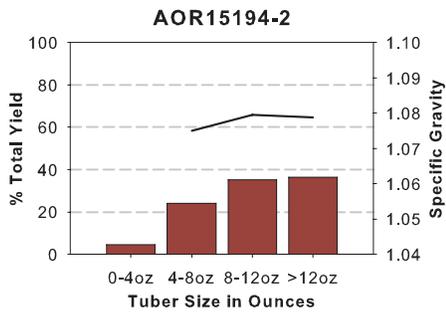
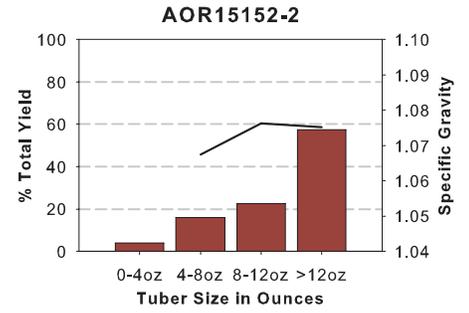
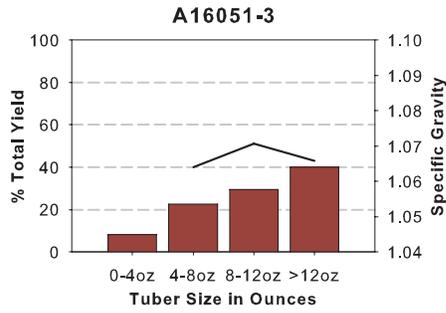
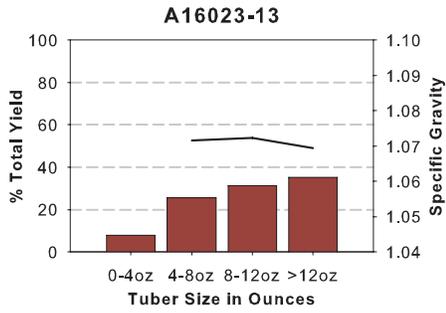


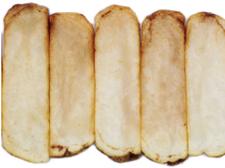
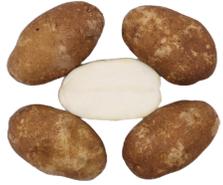
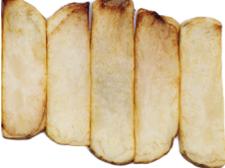
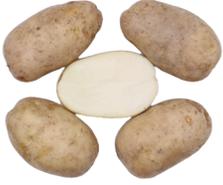
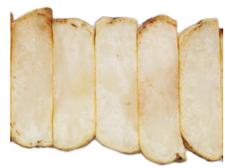
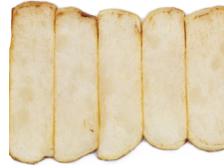
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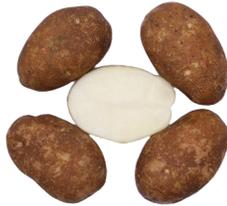
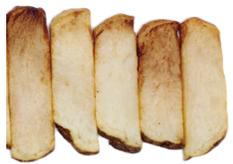
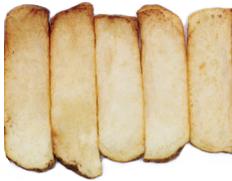
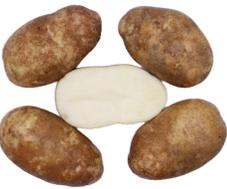
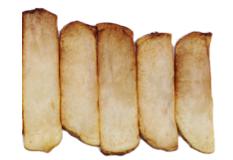
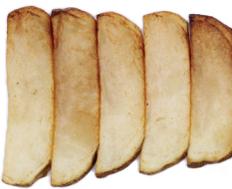
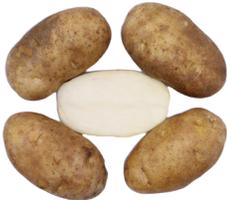
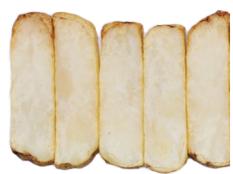
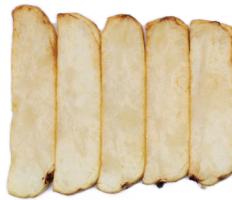
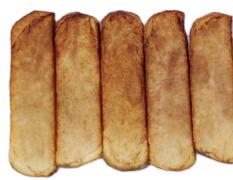
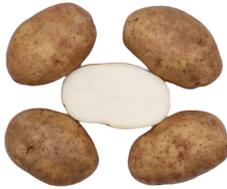
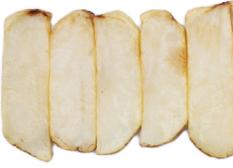
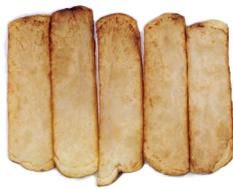
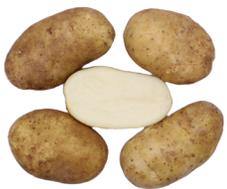
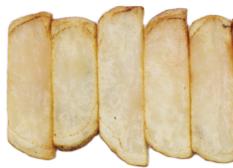
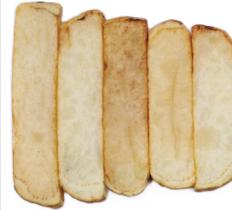
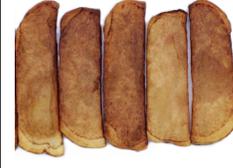


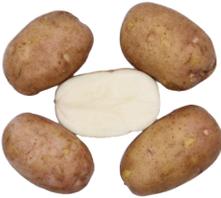
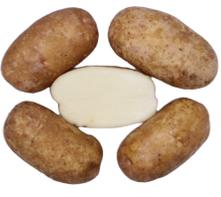
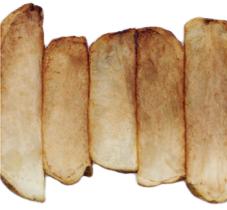
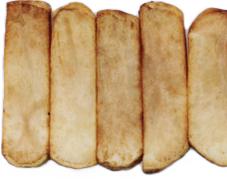
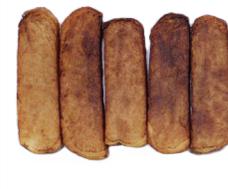
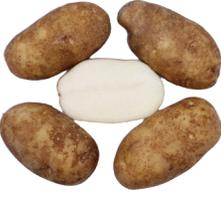
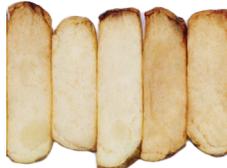
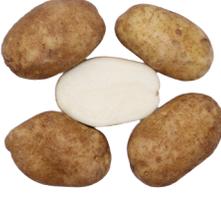
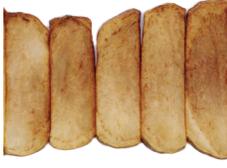
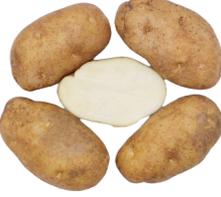
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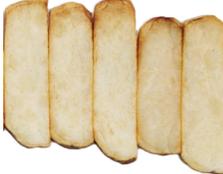
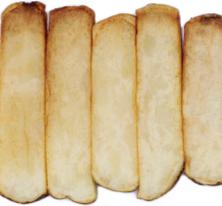
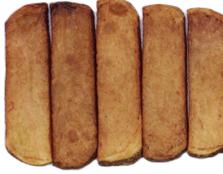
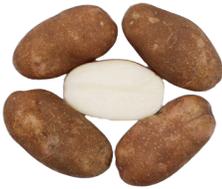
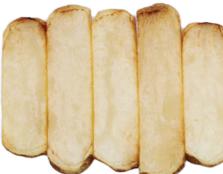
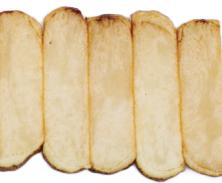
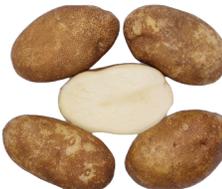
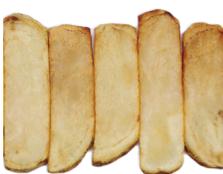




Tubers	Initial Fries	48° F Storage	40° F Storage	Phase 1 Comments
Clearwater Russet				
				<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Light, Non-Uniform; 48°F = Light, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
Ranger Russet				
				<p>Tubers: Long tubers. Fair skin set; moderate eye depth. Fry color: At harvest: Light, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
Russet Burbank				
				<p>Tubers: Oblong to long tubers. Fair skin set; moderate eye depth. Fry color: At harvest: Light, Non-Uniform; 48°F = Unacceptably Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform.</p>
A10020-3sto				
				<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Light, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
A12287-1LB				
				<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Light, Uniform; 48°F = Light, Uniform; 40°F = Relatively Dark, Non-Uniform.</p>

Tubers	Initial Fries	48° F Storage	40° F Storage	Phase 1 Comments
A12327-5VR				
				<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Light, Non-Uniform; 48°F = Light, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
A13085-2				
				<p>Tubers: Oblong tubers. Fair skin set; moderate eye depth. Fry color: At harvest: Light, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
A15082-9				
				<p>Tubers: Oblong tubers. Good skin set; moderate eye depth. Fry color: At harvest: Light, Uniform; 48°F = Light, Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
A15254-5				
				<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Light, Uniform; 48°F = Light, Uniform; 40°F = Relatively Dark, Non-Uniform.</p>
A16023-13				
				<p>Tubers: Oblong tubers. Fair skin set; shallow eyes. Fry color: At harvest: Light, Uniform; 48°F = Light, Uniform; 40°F = Unacceptably Dark, Uniform.</p>

Tubers	Initial Fries	48° F Storage	40° F Storage	Phase 1 Comments
A16051-3				
				<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Light, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
AOR15152-2				
				<p>Tubers: Oblong to long tubers. Fair skin set; moderate eye depth. Fry color: At harvest: Light, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform.</p>
AOR15194-2				
				<p>Tubers: Oblong tubers. Fair skin set; shallow eyes. Fry color: At harvest: Light, Uniform; 48°F = Light, Non-Uniform; 40°F = Unacceptably Dark, Uniform.</p>
AOR16066-5				
				<p>Tubers: Round to oblong tubers. Fair skin set; shallow eyes. Fry color: At harvest: Light, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform.</p>
AOR1853-7				
				<p>Tubers: Oblong to long tubers. Good skin set; deep eyes. Fry color: At harvest: Light, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform.</p>

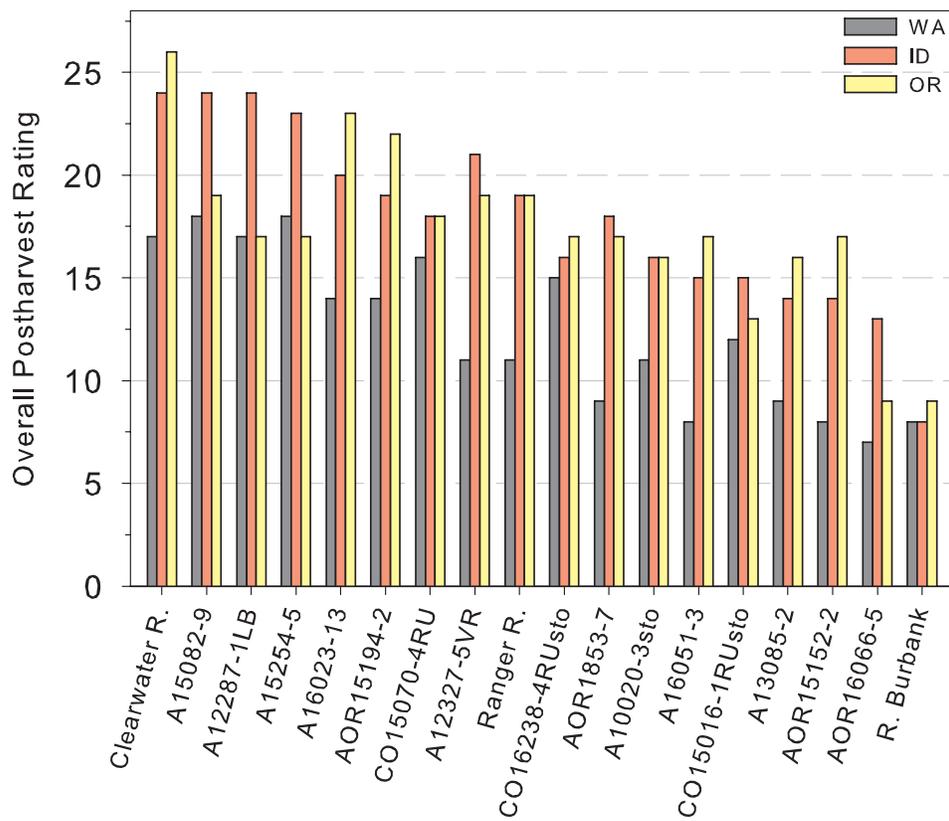
Tubers	Initial Fries	48° F Storage	40° F Storage	Phase 1 Comments
CO15016-1RUsto				
				<p>Tubers: Oblong tubers. Very good skin set; shallow eyes. Fry color: At harvest: Light, Non-Uniform; 48°F = Light, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform.</p>
CO15070-4RU				
				<p>Tubers: Oblong to long tubers. Very good skin set; shallow eyes. Fry color: At harvest: Light, Uniform; 48°F = Light, Uniform; 40°F = Unacceptably Dark, Uniform.</p>
CO16238-4RUsto				
				<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Light, Uniform; 48°F = Light, Uniform; 40°F = Unacceptably Dark, Uniform.</p>

2025 Phase 1 (LTS) Trial

Accumulated Total Postharvest Rating of Clones

Clone	WA		ID		OR		3 State av. Rating Total
	Rating Total \$	Discard \$\$	Rating Total \$	Discard \$\$	Rating Total \$	Discard \$\$	
1 Clearwater R.	17.0		24.0		26.0		22.3
8 A15082-9	18.0	Sp.Gr.	24.0		19.0	40°F	20.3
5 A12287-1LB	17.0	Sp.Gr.	24.0		17.0	LxW	19.3
9 A15254-5	18.0	Sp.Gr.	23.0		17.0	Sp.Gr.	19.3
10 A16023-13	14.0	Sp.Gr.; 40°F	20.0		23.0	40°F	19.0
13 AOR15194-2	14.0	Sp.Gr.; 40°F	19.0		22.0		18.3
17 CO15070-4RU	16.0	Sp.Gr.; 40°F	18.0	40°F	18.0	Sp.Gr.	17.3
6 A12327-5VR	11.0	Sp.Gr.; LxW	21.0		19.0	40°F	17.0
2 Ranger R.	11.0	Sp.Gr.; 40°F	19.0		19.0	40°F	16.3
18 CO16238-4RUsto	15.0	Sp.Gr.; 40°F	16.0	40°F	17.0	Sp.Gr.	16.0
15 AOR1853-7	9.0	Sp.Gr.; 40°F	18.0	40°F	17.0	Sp.Gr.	14.7
4 A10020-3sto	11.0	Sp.Gr.	16.0		16.0	Sp.Gr.	14.3
11 A16051-3	8.0	Sp.Gr.; 40°F	15.0	40°F	17.0		13.3
16 CO15016-1RUsto	12.0	Sp.Gr.	15.0	40°F	13.0	Sp.Gr.; 40°F	13.3
7 A13085-2	9.0	Sp.Gr.; 40°F	14.0	40°F	16.0	Sp.Gr.	13.0
12 AOR15152-2	8.0	Sp.Gr.; 40°F	14.0	40°F	17.0	40°F	13.0
14 AOR16066-5	7.0	Sp.Gr.; 40°F	13.0	40°F	9.0	Sp.Gr.; 40°F	9.7
3 R. Burbank	8.0	Sp.Gr.; 40°F	8.0	Sp.Gr.; 40°F	9.0	Sp.Gr.; 40°F	8.3
Average	12.4		17.8		17.3		15.8

Late Harvest Phase 1 (LTS) Postharvest Ratings



2025 Phase 1 (LTS) Trial

Entries Retained from the 2024 Trials Currently in Phase 1

Harvested fall of 2024

Held at 48° F until December 18, 2024

Stored at 44° F until analysis

Six clones were retained from the 2024 Tri-State Trial into the 2025 Trial (A10020-3sto, A13085-2, A15082-9, A16051-3, AOR15152-2, & AOR15194-2). When averaged across states, AOR15194-2 produced the lightest fries (48.2 ref units) Clearwater was the next lightest (44.3). On average, the uniformity of fry color was unacceptable for all clones except AOR15082-9 and AOR15194-2. Note, while the average was acceptable for AOR15194-2 only OR was acceptable and not WA nor ID. All entries and the check cultivars Clearwater Russet, Ranger Russet, and Russet Burbank had sprout lengths that averaged between 0.33 and 0.83 inches. Ranger Russet, A10020-3sto, and A13085-2 had the longest sprouts all at 0.83 inches (3 state average).

Clone	PHOTOVOLT READING				USDA COLOR	% REDUCING SUGAR			Sprouting	
	Stem	Bud	Avg.	DIFF		Stem	Bud	Avg.	Percent	Length (in.)
Washington										
1 Clearwater Russet	26.7	47.8	37.2	21.1	1	1.7	0.5	1.1	100%	0.50
2 Ranger Russet	19.3	39.6	29.4	20.2	3	2.8	0.8	1.8	93%	0.75
3 Russet Burbank	13.1	42.8	28.0	29.7	4	4.1	0.6	2.4	47%	0.50
4 A10020-3sto	24.3	46.8	35.5	22.4	2	2.0	0.5	1.3	100%	0.75
5 A13085-2	23.6	39.4	31.5	15.8	2	2.1	0.8	1.5	100%	0.50
6 A15082-9	34.3	38.9	36.6	5.2	0	1.0	0.8	0.9	53%	0.50
7 A16051-3	23.0	36.3	29.7	13.6	2	2.2	0.9	1.6	80%	0.50
8 AOR15152-2	28.7	43.8	36.3	15.2	1	1.5	0.6	1.1	67%	0.50
9 AOR15194-2	40.5	49.8	45.2	10.2	0	0.7	0.5	0.6	40%	0.25
		<i>LSD_{0.05}</i>	4.1	5.9					22	
Average	25.9	42.8	34.4	17.1	1.7	2.0	0.7	1.4	76%	0.53
Idaho										
1 Clearwater Russet	43.1	50.2	46.7	21.1	0	0.6	0.5	0.6	100%	0.50
2 Ranger Russet	28.5	39.4	34.0	20.2	1	1.5	0.8	1.1	93%	0.50
3 Russet Burbank	26.9	45.1	36.0	29.7	1	1.7	0.6	1.1	27%	0.50
4 A10020-3sto	35.1	48.9	42.0	22.4	0	1.0	0.5	0.8	93%	0.75
5 A13085-2	33.4	39.9	36.7	15.8	0	1.1	0.7	0.9	93%	0.75
6 A15082-9	48.3	51.9	50.1	5.2	0	0.5	0.5	0.5	87%	0.50
7 A16051-3	27.9	44.3	36.1	13.6	1	1.6	0.6	1.1	67%	0.50
8 AOR15152-2	28.3	43.0	35.7	15.2	1	1.6	0.6	1.1	73%	0.75
9 AOR15194-2	42.9	49.3	46.1	10.2	0	0.6	0.5	0.6	33%	0.50
		<i>LSD_{0.05}</i>	3.6	4.9					21	
Average	34.9	45.8	40.4	17.1	0.4	1.1	0.6	0.9	74%	0.58
Oregon										
1 Clearwater Russet	48.9	49.2	49.1	2.4	0	0.5	0.5	0.5	93%	0.75
2 Ranger Russet	25.8	33.8	29.8	10.0	1	1.8	1.1	1.5	93%	1.3
3 Russet Burbank	29.4	39.8	34.6	10.5	1	1.5	0.7	1.1	0%	0.00
4 A10020-3sto	32.9	42.8	37.8	9.9	1	1.1	0.6	0.9	100%	1.0
5 A13085-2	28.3	34.7	31.5	11.5	1	1.6	1.0	1.3	100%	1.25
6 A15082-9	43.6	43.3	43.4	6.3	0	0.6	0.6	0.6	100%	0.8
7 A16051-3	37.7	40.3	39.0	5.7	0	0.8	0.7	0.8	93%	0.50
7 AOR15152-2	34.9	40.5	37.7	8.9	0	1.0	0.7	0.9	100%	0.8
9 AOR15194-2	53.3	52.8	53.1	1.8	0	0.6	0.5	0.5	80%	1.00
		<i>LSD_{0.05}</i>	3.6	4.5					13	
Average	37.2	41.9	39.5	7.5	0.4	1.1	0.7	0.9	84%	0.81

Date test performed:

Washington April 24

Idaho April 28

Oregon April 25

2025 Phase 1 (LTS) Trial Prior to Storage

Clone	PHOTOVOLT READING				DIFF	USDA	SPECIFIC	rtg
	stem	bud	ave.	rtg §		COLOR	GRAVITY	
Washington								
1 Clearwater R.	33.3	45.8	39.6	4-	15.3	0	1.083	5
2 Ranger R.	30.0	45.4	37.7	4-	15.5	1	1.070	0
3 R. Burbank	21.7	41.6	31.6	3-	19.8	2	1.070	0
4 A10020-3sto	29.7	50.7	40.2	4-	20.9	1	1.070	0
5 A12287-1LB	45.1	48.8	46.9	5+	5.2	0	1.071	0
6 A12327-5VR	29.7	46.9	38.3	4-	17.2	1	1.068	0
7 A13085-2	27.3	43.2	35.3	3-	15.8	1	1.070	0
8 A15082-9	45.2	48.2	46.7	5+	3.2	0	1.073	0
9 A15254-5	45.0	46.0	45.5	5+	2.1	0	1.070	0
10 A16023-13	38.5	42.9	40.7	5+	5.8	0	1.074	0
11 A16051-3	18.4	44.3	31.3	3-	25.9	3	1.062	0
12 AOR15152-2	22.8	39.9	31.3	3-	17.1	2	1.068	0
13 AOR15194-2	42.3	49.0	45.7	5+	6.6	0	1.072	0
14 AOR16066-5	23.5	37.5	30.5	3-	14.0	2	1.059	0
15 AOR1853-7	26.1	39.2	32.6	3-	13.5	1	1.065	0
16 CO15016-1RUsto	36.4	47.2	41.8	5-	13.0	0	1.064	0
17 CO15070-4RU	38.8	44.0	41.4	5+	5.7	0	1.064	0
18 CO16238-4RUsto	32.3	39.0	35.6	4+	8.2	0	1.068	0
Average	32.6	<i>LSD</i> _{0.05} 44.4	38.5	3.4	5.1	1	0.005	1.069
Idaho								
1 Clearwater R.	40.7	45.4	43.1	5+	5.3	0	1.091	4
2 Ranger R.	35.9	37.2	36.6	4+	4.0	0	1.092	3
3 R. Burbank	21.0	34.5	27.8	2-	13.5	2	1.074	0
4 A10020-3sto	34.7	43.2	38.9	4+	8.4	0	1.093	3
5 A12287-1LB	44.3	43.1	43.7	5+	4.4	0	1.087	5
6 A12327-5VR	36.2	38.4	37.3	4+	4.6	0	1.088	5
7 A13085-2	33.1	42.6	37.9	4-	9.4	0	1.085	5
8 A15082-9	46.3	48.0	47.2	5+	3.8	0	1.090	4
9 A15254-5	41.9	46.9	44.4	5+	7.5	0	1.091	4
10 A16023-13	38.1	36.8	37.4	4+	3.9	0	1.088	5
11 A16051-3	30.6	42.8	36.7	4-	12.2	1	1.088	5
12 AOR15152-2	27.2	43.8	35.5	4-	16.6	1	1.089	4
13 AOR15194-2	35.5	44.1	39.8	4-	10.7	0	1.091	4
14 AOR16066-5	26.6	38.9	32.7	3-	12.2	1	1.082	4
15 AOR1853-7	33.0	41.0	37.0	4-	9.4	0	1.088	5
16 CO15016-1RUsto	31.9	45.5	38.7	4-	13.6	0	1.089	4
17 CO15070-4RU	29.9	37.8	33.8	3+	8.0	1	1.083	5
18 CO16238-4RUsto	33.5	39.9	36.7	4+	7.4	0	1.091	4
Average	34.5	<i>LSD</i> _{0.05} 41.7	38.1	3.4	4.2	0	0.005	1.088
Oregon								
1 Clearwater R.	47.0	48.8	47.9	5+	5.5	0	1.083	5
2 Ranger R.	36.8	41.9	39.4	4-	11.3	0	1.083	5
3 R. Burbank	30.5	44.8	37.6	4-	16.9	1	1.070	0
4 A10020-3sto	36.8	50.6	43.7	5-	13.8	0	1.073	0
5 A12287-1LB	52.1	49.1	50.6	5+	4.2	0	1.076	1
6 A12327-5VR	39.9	46.3	43.1	5+	8.1	0	1.077	1
7 A13085-2	40.8	46.5	43.7	5+	8.0	0	1.074	0
8 A15082-9	49.3	52.1	50.7	5+	4.5	0	1.076	1
9 A15254-5	44.2	45.5	44.8	5+	6.8	0	1.074	0
10 A16023-13	44.8	44.8	44.8	5+	6.3	0	1.081	4
11 A16051-3	44.0	49.0	46.5	5+	7.1	0	1.078	2
12 AOR15152-2	34.5	46.3	40.4	4-	11.7	0	1.079	2
13 AOR15194-2	48.4	50.4	49.4	5+	4.6	0	1.080	3
14 AOR16066-5	30.1	42.6	36.3	4-	13.9	1	1.062	0
15 AOR1853-7	38.4	44.5	41.4	5+	6.4	0	1.071	0
16 CO15016-1RUsto	41.0	50.6	45.8	5-	10.1	0	1.073	0
17 CO15070-4RU	41.3	46.5	43.9	5+	7.1	0	1.072	0
18 CO16238-4RUsto	39.5	41.3	40.4	4+	4.3	0	1.073	0
Average	41.1	<i>LSD</i> _{0.05} 46.7	43.9	4.1	5.7	0	0.006	1.075

Date test performed:

Washington

Oct. 7

Oct. 2

Idaho

Oct. 13

Oct. 3

Oregon

Oct. 10

Oct. 6

§ rtg = rating (1-5, 5 is best); av = average Photovolt reading; Diff = Absolute difference between stem and bud Photovolt reading. Stem to bud differences of nine or greater (-) lose one point and differences of less than nine (+) gain one point in the accumulated total postharvest rating.

2025 Phase 1 (LTS) Trial

Stored at 48°F after Arrival

Clone	BRUISE POTENTIAL	
	(percent) stem	[color 5=darkest] stem
Washington		
1 Clearwater R.	38	2.0
2 Ranger R.	75	3.0
3 R. Burbank	42	1.9
4 A10020-3sto	42	1.9
5 A12287-1LB	33	1.8
6 A12327-5VR	46	2.1
7 A13085-2	54	2.3
8 A15082-9	29	1.7
9 A15254-5	79	2.8
10 A16023-13	75	2.7
11 A16051-3	38	1.9
12 AOR15152-2	63	2.5
13 AOR15194-2	71	2.6
14 AOR16066-5	21	1.5
15 AOR1853-7	25	1.6
16 CO15016-1RUsto	58	2.6
17 CO15070-4RU	58	2.5
18 CO16238-4RUsto	38	1.9
<i>LSD</i> _{0.05}	32	
Average	49	2.2
Idaho		
1 Clearwater R.	63	2.4
2 Ranger R.	96	3.5
3 R. Burbank	33	1.8
4 A10020-3sto	38	1.8
5 A12287-1LB	25	1.5
6 A12327-5VR	63	2.5
7 A13085-2	46	2.1
8 A15082-9	21	1.5
9 A15254-5	75	2.5
10 A16023-13	33	1.7
11 A16051-3	38	1.8
12 AOR15152-2	50	2.1
13 AOR15194-2	67	2.6
14 AOR16066-5	33	1.7
15 AOR1853-7	54	2.2
16 CO15016-1RUsto	17	1.3
17 CO15070-4RU	25	1.6
18 CO16238-4RUsto	46	2.0
<i>LSD</i> _{0.05}	31	
Average	46	2.0
Oregon		
1 Clearwater R.	25	1.6
2 Ranger R.	54	2.4
3 R. Burbank	25	1.5
4 A10020-3sto	4	1.2
5 A12287-1LB	0	1.1
6 A12327-5VR	8	1.4
7 A13085-2	4	1.2
8 A15082-9	0	1.2
9 A15254-5	38	1.9
10 A16023-13	29	1.9
11 A16051-3	25	1.9
12 AOR15152-2	21	1.6
13 AOR15194-2	38	1.8
14 AOR16066-5	4	1.2
15 AOR1853-7	25	1.5
16 CO15016-1RUsto	8	1.3
17 CO15070-4RU	17	1.4
18 CO16238-4RUsto	10	1.3
<i>LSD</i> _{0.05}	25	
Average	19	1.5

Date test performed:

Washington

Oct. 24

Idaho

Oct. 22

Oregon

Oct. 23

2025 Phase 1 (LTS) Trial

Stored at 48°F for 60 Days

Clone	PHOTOVOLT READING				USDA DIFF	COLOR	% REDUCING SUGAR		SPROUTING	
	stem	bud	ave	rtg §			stem	bud	(%)	length (in)
Washington										
1 Clearwater R.	33.3	48.8	41.1	5-	15.7	0	1.1	0.5	60	0.25
2 Ranger R.	27.0	45.2	36.1	4-	18.2	1	1.7	0.6	63	0.50
3 R. Burbank	18.8	41.7	30.3	2-	23.0	3	2.9	0.7	0	0.00
4 A10020-3sto	28.8	48.4	38.6	4-	20.3	1	1.5	0.5	33	0.25
5 A12287-11B	47.1	49.6	48.3	5+	3.4	0	0.5	0.5	0	0.00
6 A12327-5VR	35.9	48.6	42.3	5-	12.7	0	0.9	0.5	6	1.00
7 A13085-2	29.1	45.2	37.1	4-	16.1	1	1.5	0.6	67	0.50
8 A15082-9	43.4	47.7	45.6	5+	4.9	0	0.6	0.5	69	1.00
9 A15254-5	43.8	45.4	44.6	5+	6.1	0	0.6	0.6	0	0.00
10 A16023-13	35.6	42.8	39.2	4+	7.3	0	1.0	0.6	73	1.00
11 A16051-3	24.0	47.3	35.6	4-	23.3	2	2.1	0.5	7	0.25
12 AOR15152-2	28.4	39.3	33.8	3-	11.0	1	1.5	0.8	67	0.50
13 AOR15194-2	43.0	53.8	48.4	5-	10.7	0	0.6	0.5	0	0.00
14 AOR16066-5	23.4	37.7	30.6	3-	14.3	2	2.2	0.8	46	0.50
15 AOR1853-7	24.2	42.4	33.3	3-	18.2	2	2.1	0.6	0	0.00
16 CO15016-1RUsto	33.3	47.0	40.2	4-	13.7	0	1.1	0.5	0	0.00
17 CO15070-4RU	34.4	43.0	38.7	4+	8.6	0	1.0	0.6	13	0.25
18 CO16238-4RUsto	32.2	39.7	36.0	4+	7.7	0	1.2	0.7	13	0.13
Average	LSD _{0.05}		3.6	4.9					19.8	
	32.5	45.2	38.9	13.1	1		1.3	0.6	29	0.34
Idaho										
1 Clearwater R.	40.1	47.0	43.6	5+	8.2	0	0.7	0.5	0	0.00
2 Ranger R.	36.5	42.5	39.5	4+	7.2	0	0.9	0.6	20	0.13
3 R. Burbank	20.9	40.2	30.5	3-	19.4	2	2.5	0.7	6	0.50
4 A10020-3sto	31.2	44.3	37.7	4-	13.1	0	1.3	0.6	53	0.50
5 A12287-11B	47.2	48.4	47.8	5+	3.4	0	0.5	0.5	0	0.00
6 A12327-5VR	38.1	46.9	42.5	5+	8.7	0	0.8	0.5	0	0.00
7 A13085-2	25.3	43.1	34.2	3-	17.7	1	1.9	0.6	80	1.00
8 A15082-9	43.5	49.6	46.5	5+	6.3	0	0.6	0.5	7	0.25
9 A15254-5	44.5	40.9	42.7	5+	6.3	0	0.6	0.7	0	0.00
10 A16023-13	39.3	36.3	37.8	4+	4.4	0	0.8	0.9	100	0.75
11 A16051-3	28.8	42.6	35.7	4-	13.7	1	1.5	0.6	0	0.00
12 AOR15152-2	28.3	42.0	35.2	3-	13.7	1	1.6	0.7	25	0.75
13 AOR15194-2	40.6	47.3	44.0	5+	7.0	0	0.7	0.5	0	0.00
14 AOR16066-5	24.5	36.6	30.5	3-	12.1	2	2.0	0.9	0	0.00
15 AOR1853-7	34.8	39.3	37.0	4+	5.6	0	1.0	0.8	0	0.00
16 CO15016-1RUsto	28.3	44.2	36.2	4-	15.9	1	1.6	0.6	0	0.00
17 CO15070-4RU	30.0	37.6	33.8	3+	8.0	1	1.4	0.8	0	0.00
18 CO16238-4RUsto	28.7	38.0	33.4	3-	9.5	1	1.5	0.8	7	0.25
Average	LSD _{0.05}		3.3	4.8					14.8	
	33.9	42.6	38.3	10.0	1		1.2	0.7	17	0.23
Oregon										
1 Clearwater R.	46.2	45.1	45.7	5+	6.8	0	0.5	0.6	88	N/A
2 Ranger R.	33.6	41.1	37.4	4+	7.7	0	1.1	0.7	93	N/A
3 R. Burbank	23.1	30.1	26.6	2-	13.1	2	2.2	1.4	6	N/A
4 A10020-3sto	41.3	46.3	43.8	5+	6.7	0	0.7	0.5	100	0.75
5 A12287-11B	48.8	46.0	47.4	5+	4.2	0	0.5	0.5	60	0.38
6 A12327-5VR	36.6	42.8	39.7	4+	8.7	0	0.9	0.6	93	0.63
7 A13085-2	38.2	42.3	40.3	4+	5.1	0	0.8	0.6	87	0.75
8 A15082-9	42.2	47.3	44.7	5+	5.5	0	0.6	0.5	67	1.25
9 A15254-5	43.9	43.3	43.6	5+	7.4	0	0.6	0.6	53	0.25
10 A16023-13	40.6	41.3	40.9	5+	7.0	0	0.7	0.7	100	1.5
11 A16051-3	37.1	47.3	42.2	5-	10.3	0	0.9	0.5	73	0.75
12 AOR15152-2	36.5	44.5	40.5	5+	8.1	0	0.9	0.6	93	1.00
13 AOR15194-2	50.2	47.7	49.0	5+	4.2	0	0.5	0.5	33	0.25
14 AOR16066-5	25.8	37.1	31.4	3-	11.7	1	1.9	0.9	73	0.75
15 AOR1853-7	40.0	47.7	43.8	5+	8.1	0	0.7	0.5	33	0.38
16 CO15016-1RUsto	39.2	48.2	43.7	5-	9.3	0	0.8	0.5	47	0.25
17 CO15070-4RU	42.5	42.5	42.5	5+	6.7	0	0.6	0.6	67	1.00
18 CO16238-4RUsto	39.6	44.7	42.1	5+	6.7	0	0.8	0.6	75	0.25
Average	LSD _{0.05}		3.9	4.8					20.4	
	39.2	43.6	41.4	7.6	0		0.9	0.6	69	0.68

Date test performed:

Washington

Nov. 30

Nov. 30

Dec. 5

Idaho

Dec. 6

Dec. 8

Oregon

Dec. 9

Dec. 9

Dec. 9

§ rtg = rating (1-5, 5 is best); av = average Photovolt reading; Diff = Absolute difference between stem and bud Photovolt reading. Stem to bud differences of nine or greater (-) lose one point and differences of less than nine (+) gain one point in the accumulated total postharvest rating.

Sprouting was rated after approximately 3 months in storage.

Phase 1 (LTS) Trial

Stored at 40°F for 60 Days

PHOTOVOLT READING (60 Days at 40°F)							
Clone	SPROUTING			PHOTOVOLT READING (60 Days at 40°F)			USDA COLOR
	(%)	stem	bud	ave	rtg §	DIFF	
Washington							
1 Clearwater R.	0	12.5	32.0	22.3	1	19.5	4
2 Ranger R.	0	11.1	20.3	15.7	0	9.4	4
3 R. Burbank	0	9.6	16.1	12.9	0	6.6	4
4 A10020-3sto	0	12.9	28.9	20.9	1	16.2	4
5 A12287-1LB	0	21.5	30.9	26.2	2	9.7	2
6 A12327-5VR	0	19.7	30.5	25.1	2	10.7	3
7 A13085-2	0	11.1	20.7	15.9	0	9.6	4
8 A15082-9	0	18.6	34.3	26.4	2	15.7	3
9 A15254-5	0	27.3	38.2	32.7	3	11.6	1
10 A16023-13	31	15.4	22.7	19.1	0	8.1	3
11 A16051-3	0	9.6	21.9	15.8	0	12.3	4
12 AOR15152-2	0	13.2	18.3	15.7	0	5.1	4
13 AOR15194-2	0	13.5	20.6	17.1	0	7.2	4
14 AOR16066-5	0	9.7	15.9	12.8	0	6.2	4
15 AOR1853-7	0	10.9	18.6	14.7	0	7.7	4
16 CO15016-1RUsto	0	15.3	24.6	20.0	1	9.4	3
17 CO15070-4RU	0	15.7	21.4	18.6	0	5.7	3
18 CO16238-4RUsto	0	11.7	17.8	14.8	0	6.0	4
<i>LSD</i> _{0.05}	7.9			2.3		3.8	
Average	2	14.4	24.1	19.2		9.8	3
Idaho							
1 Clearwater R.	0	27.1	34.4	30.8	3	9.7	1
2 Ranger R.	0	16.4	28.7	22.5	1	12.3	3
3 R. Burbank	0	11.6	23.6	17.6	0	12.0	4
4 A10020-3sto	0	18.6	26.7	22.7	1	8.1	3
5 A12287-1LB	0	31.8	30.2	31.0	3	3.2	0
6 A12327-5VR	0	19.8	32.4	26.1	2	12.6	3
7 A13085-2	0	12.1	22.4	17.2	0	10.3	4
8 A15082-9	0	25.0	39.4	32.2	3	14.5	2
9 A15254-5	0	27.5	29.5	28.5	2	6.7	1
10 A16023-13	0	22.1	23.6	22.8	1	4.7	2
11 A16051-3	0	14.5	23.7	19.1	0	9.2	4
12 AOR15152-2	0	14.7	24.1	19.4	0	9.9	4
13 AOR15194-2	0	17.3	26.8	22.0	1	9.5	3
14 AOR16066-5	0	10.6	18.7	14.6	0	8.1	4
15 AOR1853-7	0	12.9	17.7	15.3	0	4.8	4
16 CO15016-1RUsto	0	13.5	19.1	16.3	0	5.6	4
17 CO15070-4RU	0	15.7	22.0	18.8	0	6.3	3
18 CO16238-4RUsto	0	13.4	18.5	15.9	0	5.1	4
<i>LSD</i> _{0.05}	1.0			2.4		3.8	
Average	0	18.0	25.6	21.8		8.5	2.9
Oregon							
1 Clearwater R.	0	37.1	40.7	38.9	4	8.1	0
2 Ranger R.	23	15.2	30.1	22.7	1	14.9	3
3 R. Burbank	0	11.7	18.3	15.0	0	6.6	4
4 A10020-3sto	13	24.3	28.7	26.5	2	6.5	2
5 A12287-1LB	0	29.0	31.1	30.1	2	3.8	1
6 A12327-5VR	0	25.6	31.3	28.5	2	8.8	1
7 A13085-2	14	23.3	27.4	25.3	2	4.7	2
8 A15082-9	0	23.3	33.6	28.5	2	11.0	2
9 A15254-5	0	23.7	31.7	27.7	2	9.5	2
10 A16023-13	13	27.1	27.9	27.5	2	2.3	1
11 A16051-3	0	21.7	30.8	26.2	2	9.9	2
12 AOR15152-2	13	22.6	27.4	25.0	2	6.1	2
13 AOR15194-2	0	25.3	32.7	29.0	2	7.6	1
14 AOR16066-5	0	13.0	20.8	16.9	0	7.8	4
15 AOR1853-7	0	15.8	28.2	22.0	1	12.4	3
16 CO15016-1RUsto	0	15.3	23.1	19.2	0	7.8	3
17 CO15070-4RU	0	23.7	29.2	26.4	2	5.5	2
18 CO16238-4RUsto	0	15.7	24.4	20.0	1	9.1	3
<i>LSD</i> _{0.05}	11.4			4.3		4.2	
Average	4	21.9	28.7	25.3		7.9	2

Date test performed:

Washington

Dec. 2

Nov. 24

Idaho

Dec. 8

Nov. 24

Oregon

Dec. 10

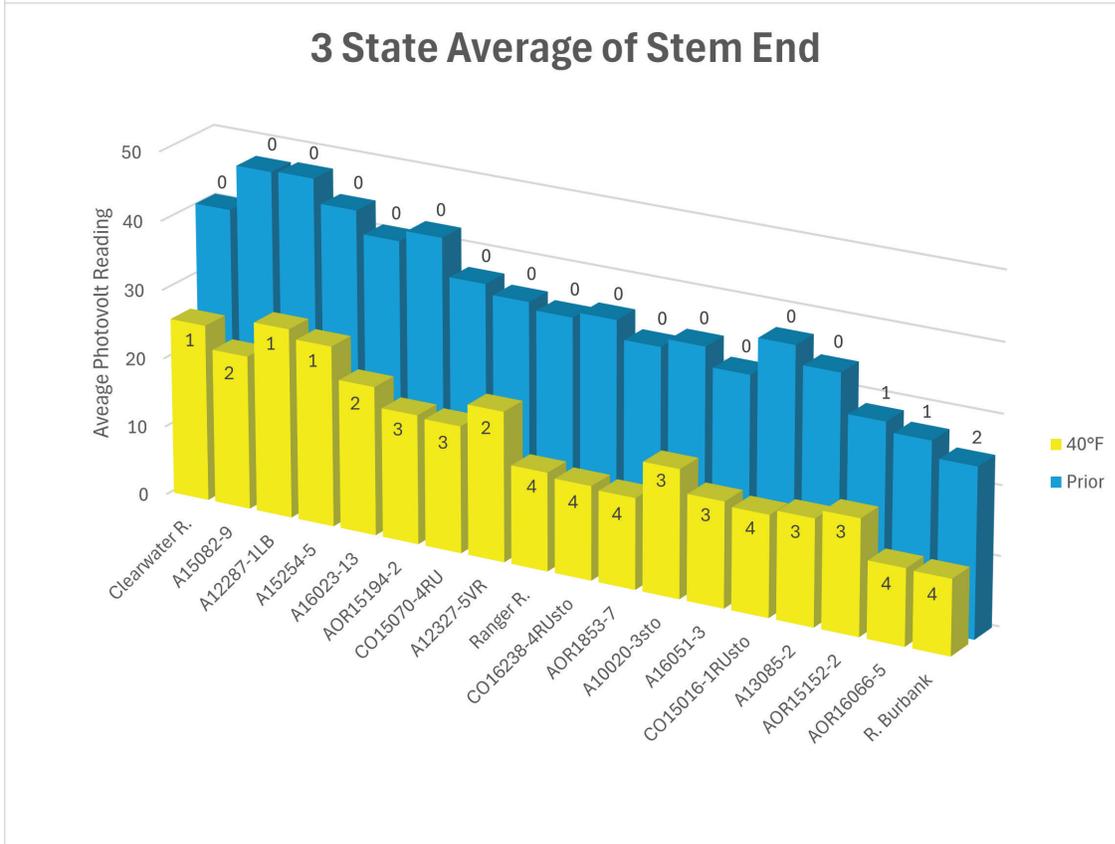
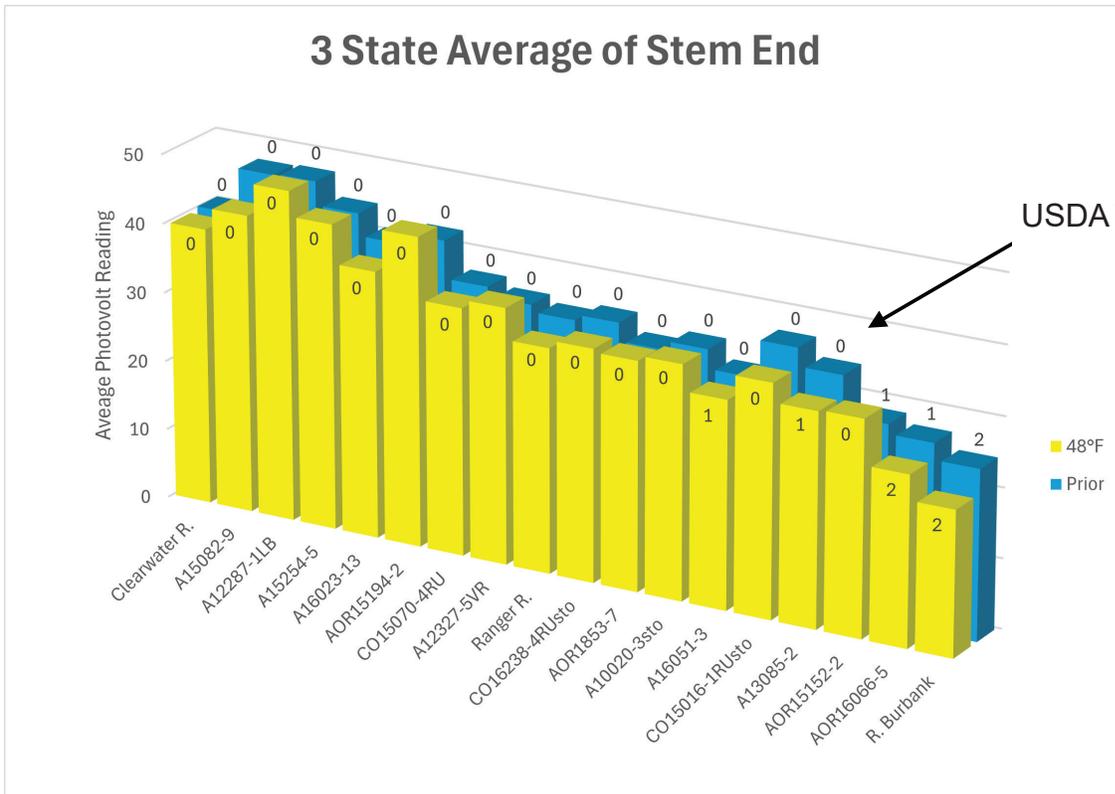
Nov. 26

Diff = Absolute difference between stem and bud Photovolt reading.

Sprouting was rated after approximately 3 months of storage

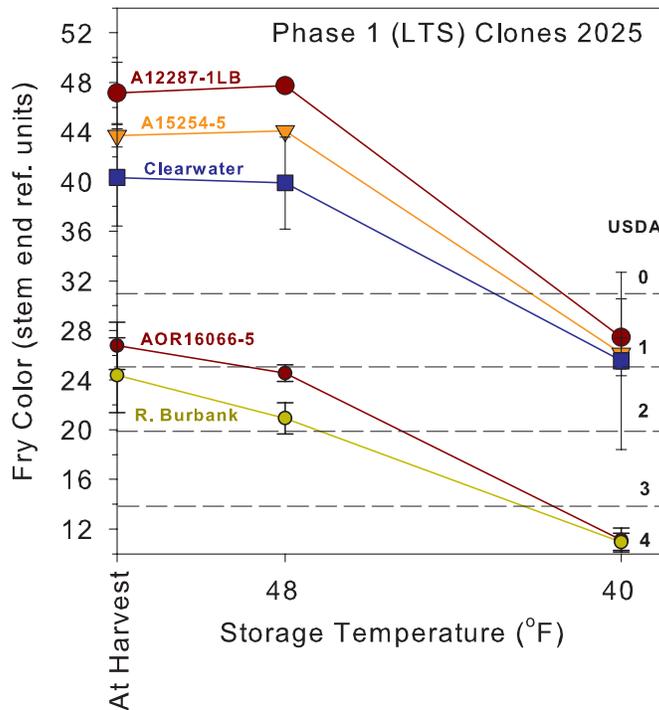
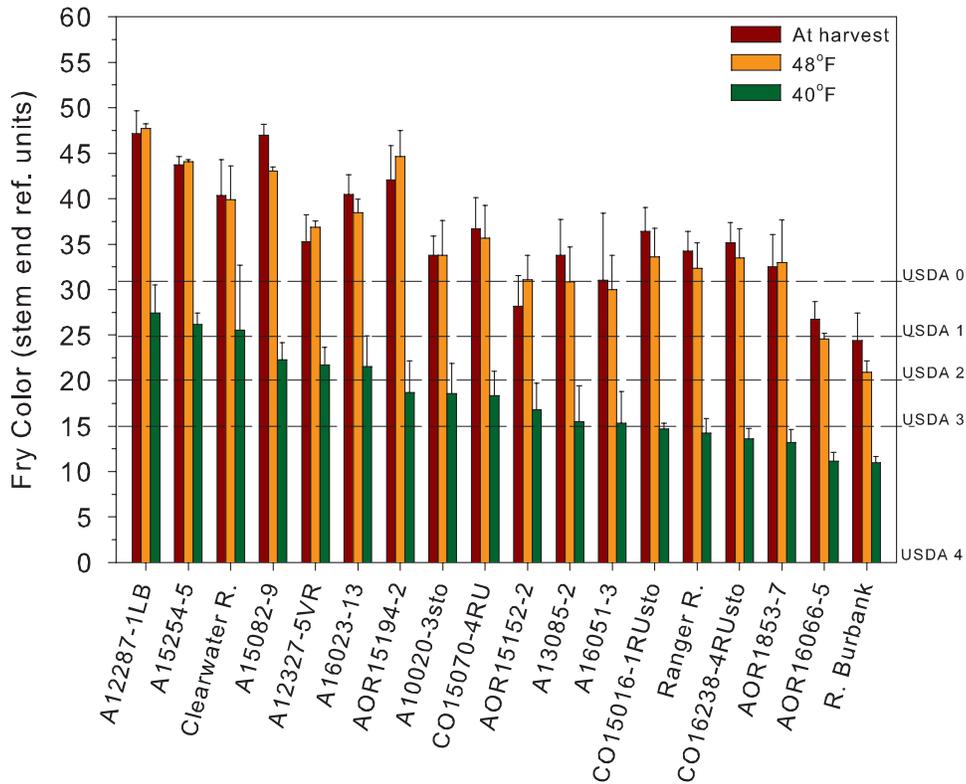
Phase 1 (LTS) Trial

Phase 1 - 3 state Average of Stem End



Phase 1 (LTS) Trial

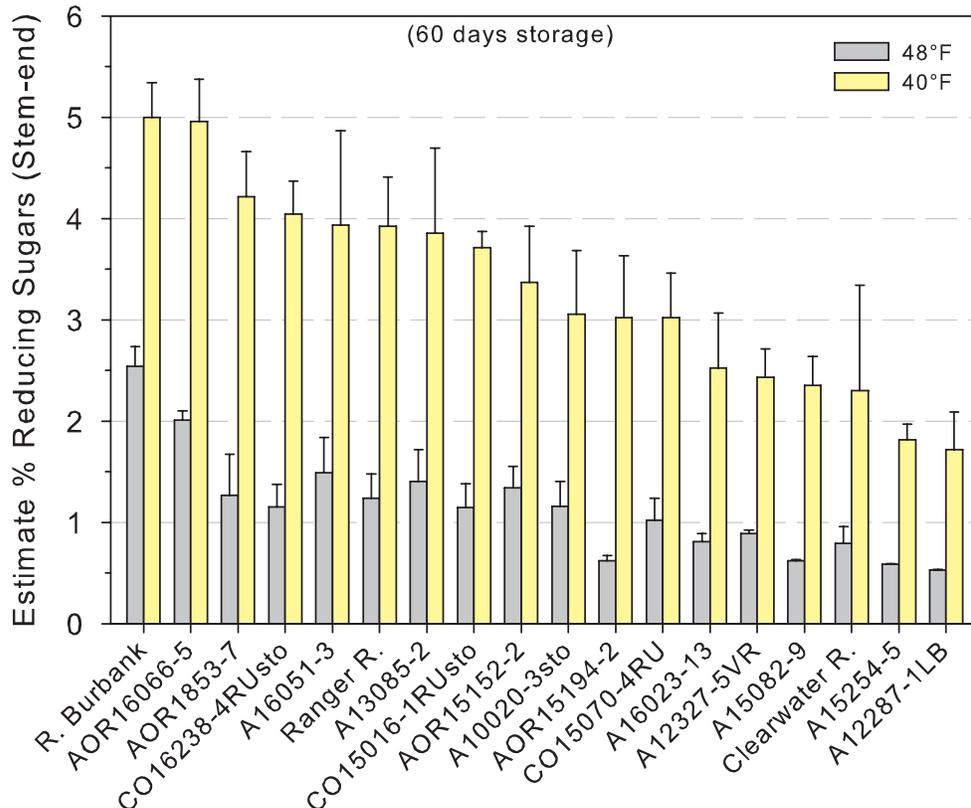
Phase 1 (Tri-State) Clones 2025



Top: At-harvest and after-storage French fry colors (stem end) of clones in Phase 1. Tubers were stored for 60 days at 48 and 40°F. The clones are ranked from best to worst on fry color of the 40°F-stored tubers. High reflectance values indicate light colored fries.

Bottom: Line graph depicting the effects of storage temperature on change in French fry processing quality (stem end fry color) of the most cold sweetening resistant (A12287-1LB, A15254-5, and Clearwater Russet*) and susceptible (AOR16066-5 and Russet Burbank*) clones in Phase 1. *Indicates similar performance of the clones last year.

Phase 1 - 2025 LTS



Stem end estimated percent reducing sugars based on photovolt observations from the 2025 crop for Phase 1 entries. Values are average estimates for entries grown in each state then stored for 60-days at either 48°F or 40°F before frying.



Phase 1 (LTS) Trial

Length to Width Ratios of 8-10 oz Tubers

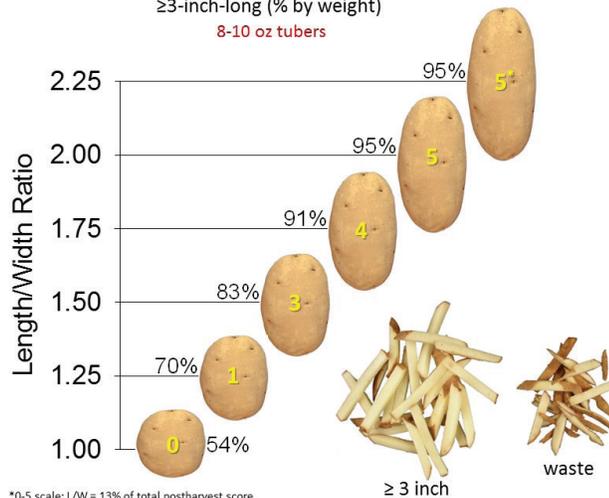
Clone	Phase 1 (LTS) Length to width ratio						3 State Avg.
	WA	rtg \$	ID	rtg \$	OR	rtg \$	
1 Clearwater R.	1.79	4	1.83	5	1.90	5	1.84
2 Ranger R.	2.06	5	2.06	5	1.92	5	2.01
3 R. Burbank	2.01	5	1.88	5	1.96	5	1.95
4 A10020-3sto	1.69	4	1.79	4	1.79	4	1.76
5 A12287-1LB	1.63	3	1.65	4	1.48	2	1.59
6 A12327-5VR	1.46	2	1.61	3	1.96	5	1.68
7 A13085-2	1.67	4	1.74	4	1.60	3	1.67
8 A15082-9	1.66	4	1.84	5	1.67	4	1.73
9 A15254-5	1.51	3	1.98	5	1.61	3	1.70
10 A16023-13	1.64	3	1.67	4	1.94	5	1.75
11 A16051-3	1.51	3	1.69	4	1.64	3	1.62
12 AOR15152-2	1.67	4	1.95	5	1.74	4	1.79
13 AOR15194-2	1.69	4	1.92	5	1.80	5	1.80
14 AOR16066-5	1.55	3	1.84	5	1.67	4	1.69
15 AOR1853-7	1.88	5	2.01	5	1.67	4	1.85
16 CO15016-1RUsto	1.76	4	1.97	5	1.84	5	1.86
17 CO15070-4RU	1.83	5	2.00	5	1.66	4	1.83
18 CO16238-4RUsto	1.81	5	1.80	5	1.99	5	1.87
Average	1.71		1.85		1.77		1.78

Clone	Phase 1 (LTS) Width to thickness ratio				3 State Avg.
	WA	ID	OR		
1 Clearwater R.	1.24	1.19	1.25		1.23
2 Ranger R.	1.10	1.19	1.22		1.17
3 R. Burbank	1.17	1.19	1.21		1.19
4 A10020-3sto	1.14	1.24	1.21		1.20
5 A12287-1LB	1.14	1.14	1.21		1.16
6 A12327-5VR	1.14	1.17	1.14		1.15
7 A13085-2	1.20	1.18	1.24		1.21
8 A15082-9	1.12	1.12	1.12		1.12
9 A15254-5	1.17	1.14	1.14		1.15
10 A16023-13	1.28	1.22	1.21		1.23
11 A16051-3	1.17	1.11	1.12		1.13
12 AOR15152-2	1.13	1.09	1.15		1.12
13 AOR15194-2	1.16	1.09	1.17		1.14
14 AOR16066-5	1.23	1.14	1.18		1.18
15 AOR1853-7	1.15	1.13	1.15		1.14
16 CO15016-1RUsto	1.25	1.20	1.26		1.24
17 CO15070-4RU	1.21	1.14	1.20		1.18
18 CO16238-4RUsto	1.19	1.13	1.07		1.13
Average	1.18	1.16	1.18		1.17

French Fry Yield vs Tuber L/W Ratio

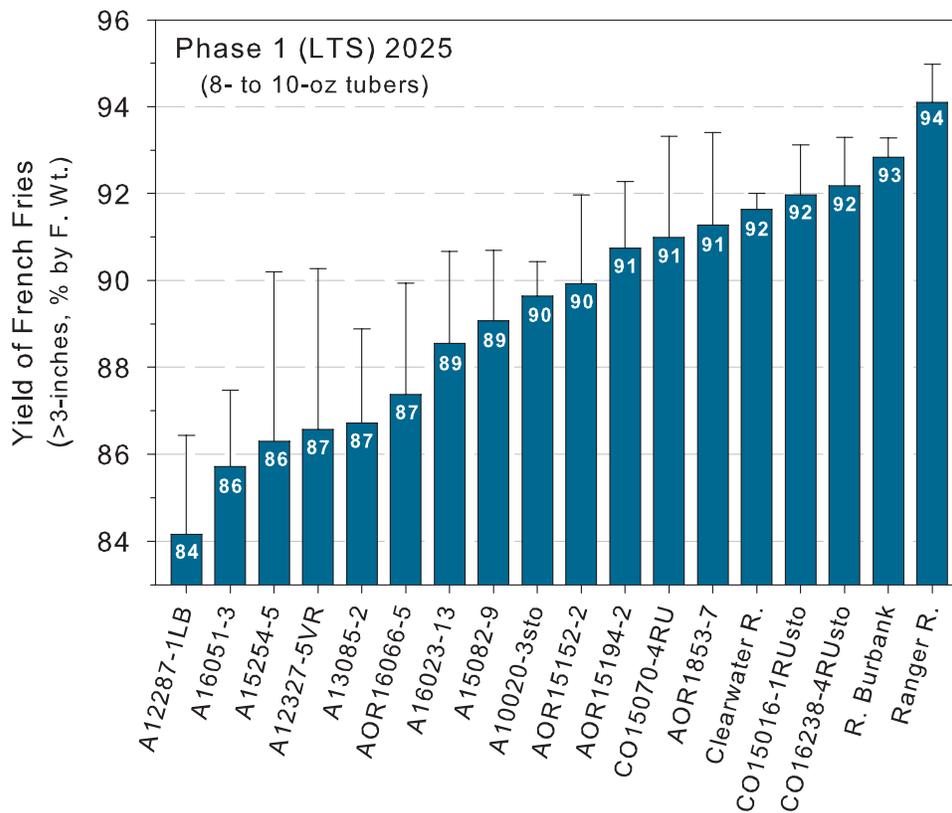
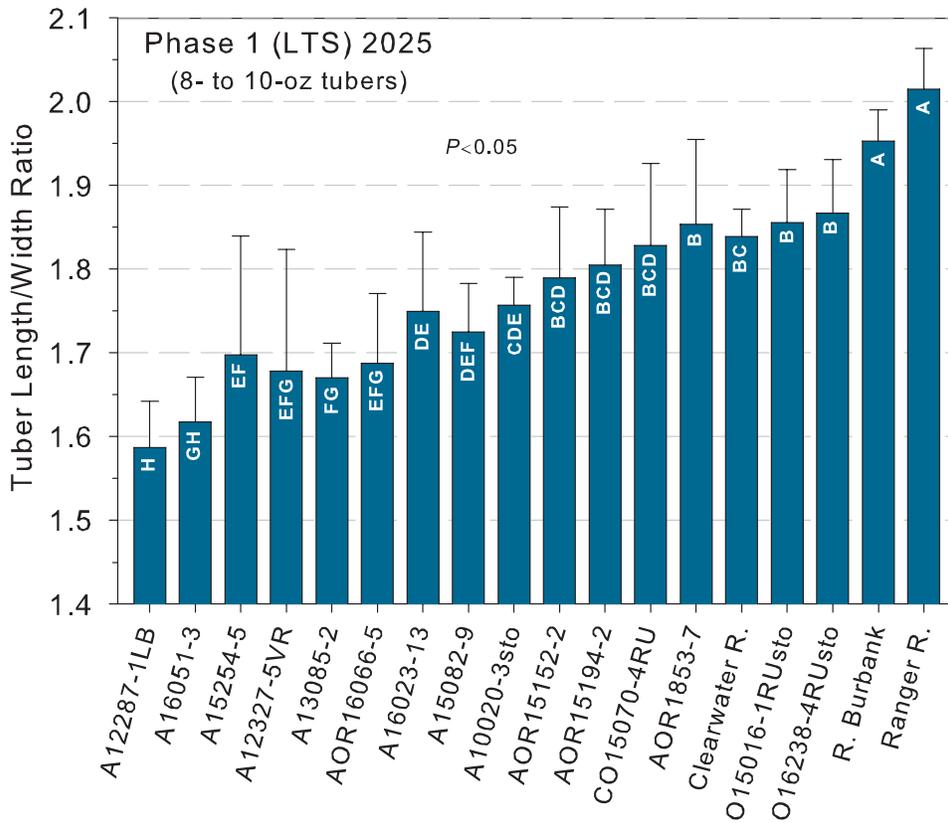
≥3-inch-long (% by weight)

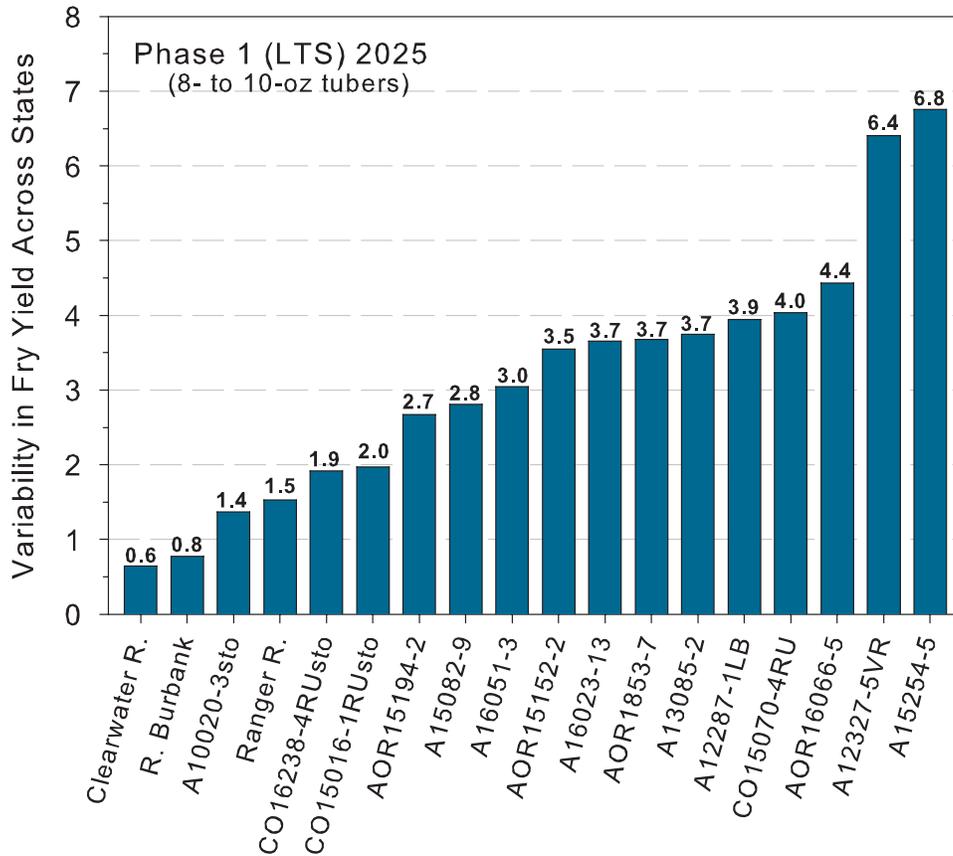
8-10 oz tubers



*0-5 scale; L/W = 13% of total postharvest score

Phase 1 (LTS) Trial





Relative ranking of clones in Phase 1 for variability in yield of French fries prepared from 8- to 10-oz tubers. Variability is expressed as the standard deviation (calculated across ID, WA and OR production sites) for the yield of fries ≥ 3 inches in length (% by fresh weight) from 8- to 10-oz tubers. High values reflect more variation in tuber shape and thus fry yield from state to state. For example, A15254-5 had a length to width ratio of 1.70, resulting in 86% of the tuber producing usable French fries ≥ 3 inches in length (page 50). However, tuber shape of this entry also varied the most across production sites (see above), resulting in fry yields ranging from 82 to 90% ($86 \pm 3.9\%$).

Pages 50-51: Tuber length to width ratios and the associated percentage yield of fries. Bars with same letter are not significantly different ($P \leq 0.05$).

2025 Early Harvest Regional Trial

Location: WSU Research Center – Othello, WA

Planting Date: April 1

Vine Kill Date: July 22

Harvest Date: August 11

Days Grown: 112

Regional trials are conducted throughout the western region of the United States, including Washington. Entries in the Regional Trial are chosen by a coordinating committee and are grown for both early (Early Regional) and full (Late Regional) season harvest. The 2025 early harvest trial compared 4 local reference varieties to 10 new clones on the WSU Othello Research Station. The following is a summary of the Washington field and post-harvest results. See also: grading comments and merit scores near front of book

Fresh Market Standout(s): None

Yield and Economic Data

➤ Total Yield and U.S. #1 Yield

Highest: A13072-7 had the highest total yield (760 CWT/A) and the highest U.S. #1 yield (626 CWT/A). A12308-3adg had the second highest total yield (729 CWT/A) and AOR13064-2 had the second highest U.S. #1 yield (608 CWT/A).

Lowest: CO15016-1RUsto had the lowest total yield (527 CWT/A) and CO16238-4RUsto had the lowest U.S. #1 yield (364 CWT/A).

➤ % U.S. #1's (greater than 4 oz)

Highest: A13091-5 (91%), AOR13064-2 (84%).

Lowest: Shepody (55%) and CO16238-4RUsto (61%).

➤ Carton Yield (100 to 50 Count (7 to 18 oz U.S. #1 Tubers))

Highest: A13072-7 (23.7 Tons/A) and A12308-3adg (22.0 Tons/A).

Lowest: CO16238-4RUsto (3.2 Tons/A) and CO15070-4RU (8.1 Tons/A).

➤ Gross Return (\$/acre)

Fresh Market Highest: A13072-7, OR11222-4, and AOR13064-2.

Fresh Market Lowest: CO16238-4RUsto, CO15070-4RU, and CO15016-1RUsto.

Process Market Highest: A13072-7, AOR13064-2, and A12308-3adg.

Process Market Lowest: CO16238-4RUsto, CO15016-1RUsto, and CO15070-4RU.

2025 Early Harvest Regional Trial Summaries

ENTRY	TOTAL YIELD						CARTON YIELD		PROCESS YIELD	
			US # 1's*	US # 2's*	Culls*	100-50 count		US 1's and 2's		
	CWT/A	Tons/A	> 4 oz	> 4 oz	& < 4 oz	(US 1's 7-18 oz)		> 6 oz		
			----- % of Total Yield -----			% of Total Yield	Tons/A	% of Total Yield	Tons/A	
Ranger Russet	684	ABC	34.2	73	9	17	41	14.0	62	21.2
Russet Burbank	684	ABC	34.2	63	15	23	26	9.0	51	17.7
A12308-3adg	729	AB	36.4	83	10	8	52	19.0	73	26.7
A13072-7	760	A	38.0	82	11	7	62	23.7	86	32.8
A13091-5	648	ABC	32.4	91	4	5	63	20.5	80	26.0
AOR13064-2	724	AB	36.2	84	8	8	60	21.9	81	29.3
AOR15166-2	563	BC	28.1	79	7	14	41	11.6	60	16.9
AOR15227-2	593	ABC	29.6	83	7	10	51	15.0	73	21.6
OR11222-4	709	ABC	35.5	79	9	12	62	22.0	82	29.3
Norkotah TX 278	653	ABC	32.6	78	2	20	35	11.5	51	17.0
Shepody	695	ABC	34.7	55	17	29	32	11.2	52	18.2
CO15016-1RUsto	527	C	26.4	75	3	23	39	10.2	53	14.0
CO15070-4RU	597	ABC	29.9	74	4	22	27	8.1	47	14.0
CO16238-4RUsto	597	ABC	29.8	61	1	38	11	3.2	23	6.8

ENTRY	US # 1 YIELD						> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%)		
			> 4 oz	4-7 oz*	7-14 oz*	> 14 oz*		(8-12 oz tubers)		
	CWT/A	STATS**	Tons/A	----- % -----				% HH	% BC	% IBS
Ranger Russet	499	ABCD	25.0	44	54	2	1.081	0	0	0
Russet Burbank	432	BCD	21.6	58	41	1	1.079	0	0	0
A12308-3adg	603	AB	30.2	37	63	0	1.079	0	0	0
A13072-7	626	A	31.3	11	57	32	1.078	0	0	3
A13091-5	587	AB	29.3	29	61	9	1.084	3	0	0
AOR13064-2	608	AB	30.4	22	55	23	1.081	0	0	0
AOR15166-2	446	ABCD	22.3	48	50	2	1.089	0	0	0
AOR15227-2	490	ABCD	24.5	38	57	5	1.089	0	0	0
OR11222-4	563	ABC	28.2	14	63	24	1.074	0	0	3
Norkotah TX 278	514	ABCD	25.7	55	45	0	1.078	0	0	0
Shepody	379	D	19.0	41	57	3	1.076	0	0	0
CO15016-1RUsto	395	CD	19.7	47	48	5	1.075	0	0	0
CO15070-4RU	444	ABCD	22.2	63	37	0	1.077	0	0	0
CO16238-4RUsto	364	D	18.2	83	17	0	1.077	0	0	0

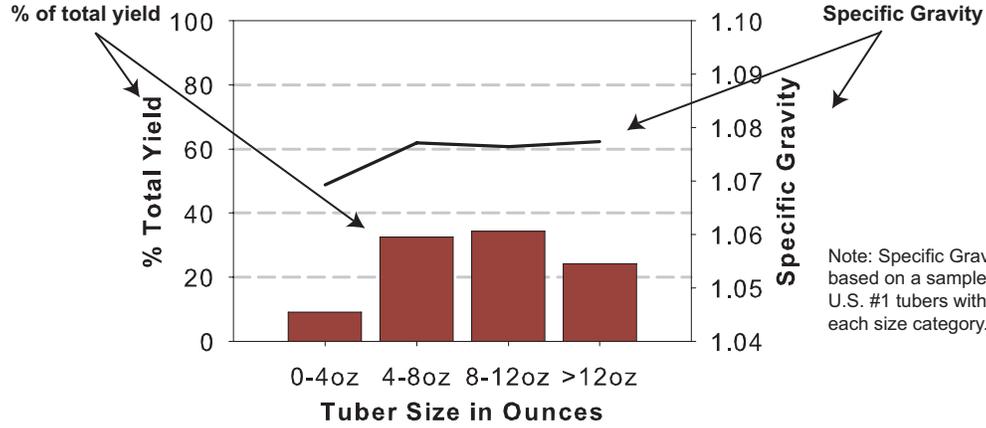
ENTRY	40 DAY	60 DAY	TUBER	STEMS PER	AVERAGE TUBER		SKIN	TUBER	BRUISE (%)	
	STAND	STAND	GREENING	PLANT	WEIGHT	NUMBER	SET	SHAPE	(8-12 oz tubers)	
	% Emerged	% Emerged	% Total Yield	Above Ground	Ounces	Tubers/Plant	1 = Poor 5 = Good	1 = Round 5 = Long	BLACKSPOT	SHATTER
Ranger Russet	96	96	0	3.5	6.0	11.2	3.0	3.7	10	3
Russet Burbank	93	96	0	3.1	5.3	12.6	3.0	3.0	0	10
A12308-3adg	96	98	0	2.4	6.9	10.4	3.0	3.0	0	10
A13072-7	89	96	2	2.7	9.3	8.0	2.7	3.0	0	47
A13091-5	93	98	0	2.3	7.4	8.5	3.7	2.0	0	20
AOR13064-2	96	100	0	3.0	8.7	8.2	4.0	4.0	0	3
AOR15166-2	91	96	0	2.1	5.9	9.4	3.0	3.0	0	7
AOR15227-2	93	98	1	1.9	6.6	8.8	3.0	2.3	0	10
OR11222-4	96	100	2	2.4	9.2	7.6	3.0	3.0	0	33
Norkotah TX 278	96	100	0	3.6	5.4	11.8	3.0	3.0	0	7
Shepody	100	100	4	3.0	5.0	13.6	3.0	4.0	3	0
CO15016-1RUsto	33	84	1	4.3	5.2	10.0	4.0	3.0	3	13
CO15070-4RU	91	96	0	3.5	4.9	12.0	4.0	3.0	3	20
CO16238-4RUsto	93	96	0	3.3	4.1	14.4	3.3	3.0	0	17

* Percent values may not total 100% due to rounding

2025 Early Harvest Regional Trial

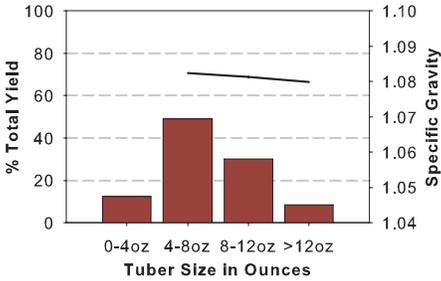
Tuber Yield and Specific Gravity Distributions

12 inch In-Row Spacing

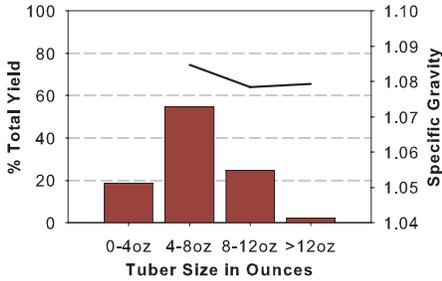


Note: Specific Gravity is based on a sample of U.S. #1 tubers within each size category.

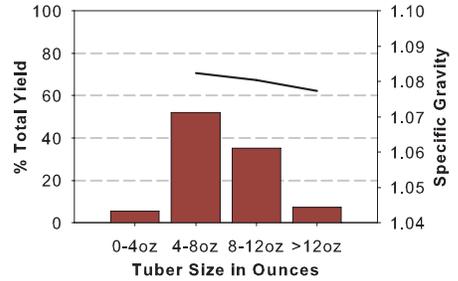
RANGER RUSSET



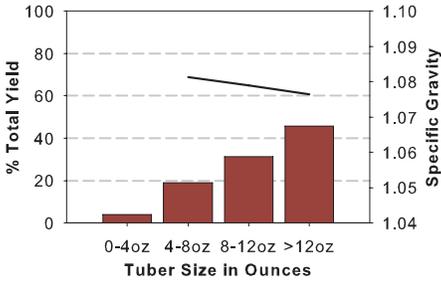
RUSSET BURBANK



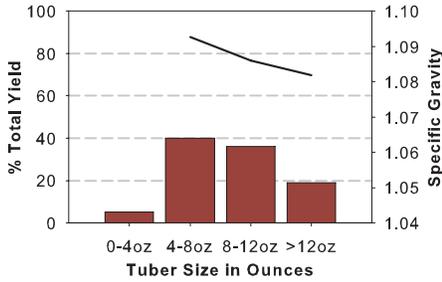
A12308-3adg



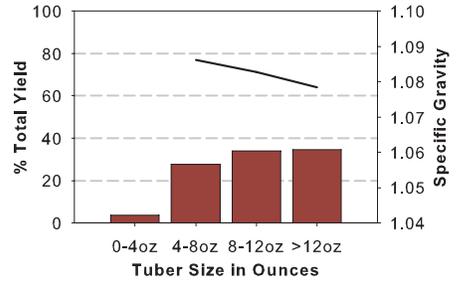
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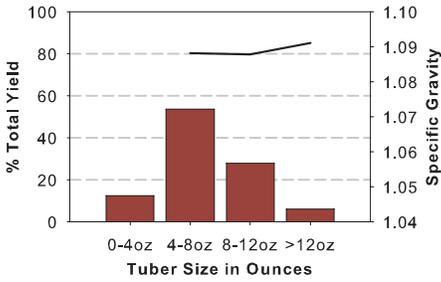
A13091-5



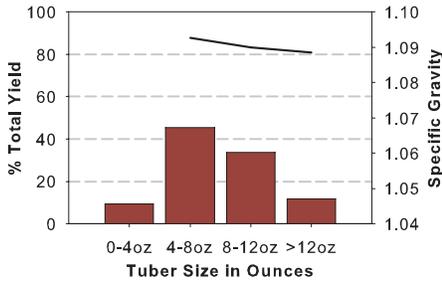
AOR13064-2



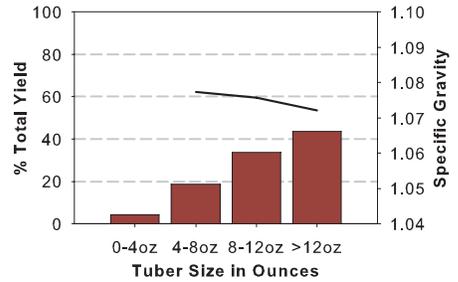
AOR15166-2

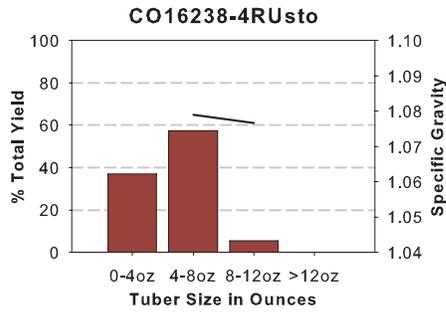
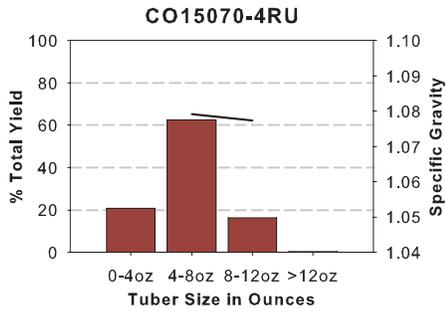
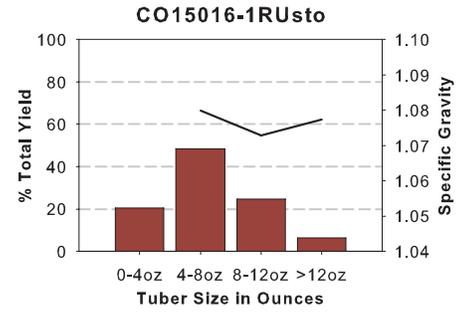
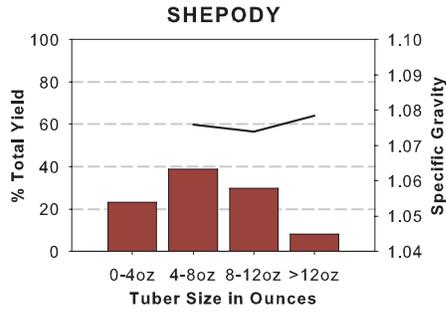
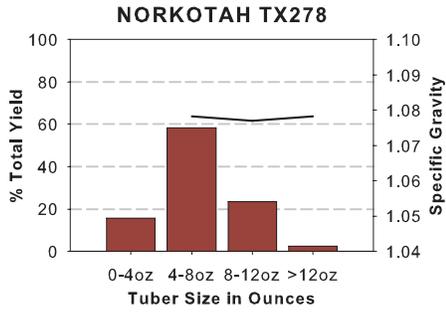


AOR15227-2



OR11222-4

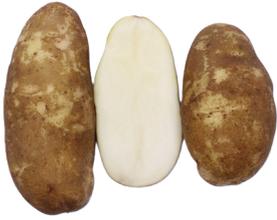




2025 Early Harvest Regional Trial

Tubers

Ranger Russet



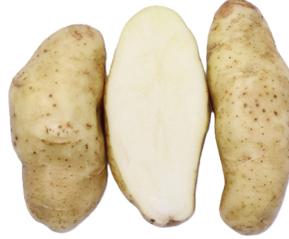
A12308-3adg

Russet Burbank



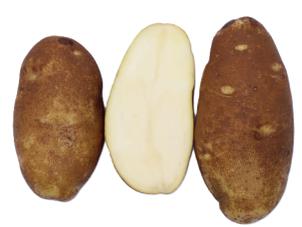
A13072-7

Shepody



A13091-5

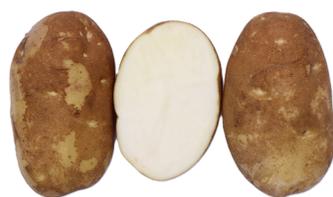
Russet Norkotah TX278



AOR13064-2



AOR15166-2



AOR15227-2



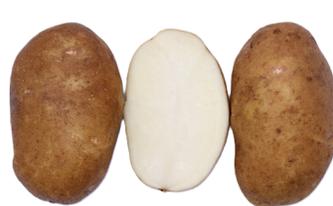
OR11222-4



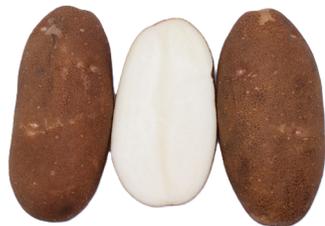
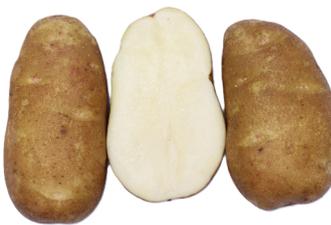
CO15016-1RUsto



CO15070-4RU



CO16238-4RUsto



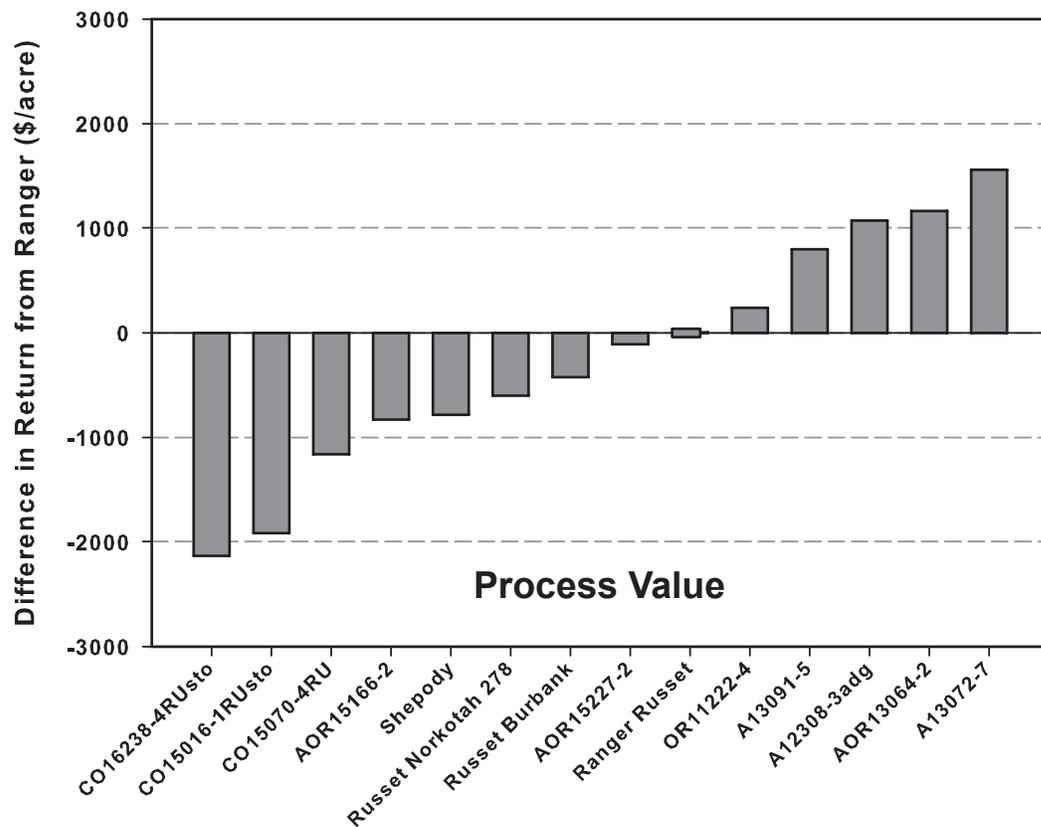
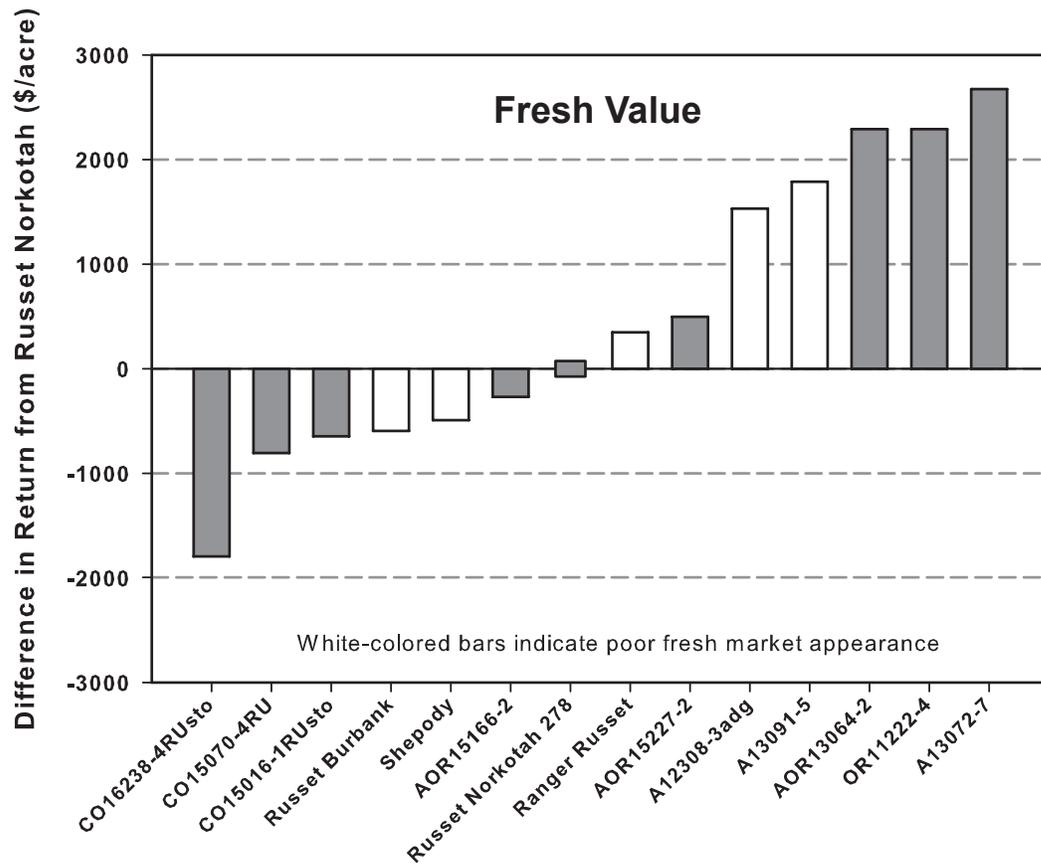


Figure 1 (top). Difference in gross return per acre (Fresh Market) from Russet Norkotah calculated by subtracting the gross return of Russet Norkotah TX278 from the gross return of the particular entry. Entries with the white-colored bars may not appeal to fresh market consumers due to the undesirable 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 from the gross return of the particular entry.

2025 Late Harvest Regional Trial

Location: WSU Research Center – Othello, WA

Planting Date: April 2

Vine Kill Date: August 29

Harvest Date: September 8

Days Grown: 149

Regional trials are conducted throughout the western region of the United States, including Washington. Entries in the Regional Trial are chosen by a coordinating committee and are grown for both early (Early Regional) and full (Late Regional) season harvest. This year's trial included 4 local reference varieties and 11 new clones. The following is a summary of the Washington field and post-harvest results. See also: grading comments and merit scores near front of the book.

Fresh Market Standout(s): A12304-1sto and AOR15166-2

Process Market Standout(s):

Yield and Economic Data

➤ Total Yield and U.S. #1 Yield

Highest: A12304-1sto had the highest total yield (1,348 CWT/A) and the highest U.S. #1 yield (1,124 CWT/A). A12308-3adg had the second highest total yield (1,201 CWT/A) and AOR15166-2 had the second highest U.S. #1 yield (953 CWT/A).

Lowest: CO15016-1RUsto had the lowest total yield (769 CWT/A). CO16238-4RU and Russet Burbank both had the lowest U.S. #1 yield (577 CWT/A).

➤ % U.S. #1's (greater than 4 oz)

Highest: AOR13064-2 (90%) and AOR15227-2 (88%).

Lowest: Russet Burbank (55%) and Ranger Russet (61%).

➤ Carton Yield (100 to 50 Count (7 to 18 oz U.S. #1 Tubers))

Highest: A12304-1sto (38.2 Tons/A) and AOR15166-2 (36.7 Tons/A).

Lowest: CO16238-4RUsto (14.2 Tons/A) and Russet Burbank (18.9 Tons/A).

➤ Gross Return (\$/acre)

Fresh Market Highest: A12304-1sto, A12308-3adg, and AOR15166-2.

Fresh Market Lowest: CO16238-4RUsto, Russet Burbank, and Ranger Russet.

Process Market Highest: A12304-1sto, AOR15166-2, and A12308-3adg.

Process Market Lowest: CO16238-4RUsto, CO15016-1RUsto, and OR11222-4.

2025 Phase 2 Testing

- Late Harvest Regional Trial - Postharvest Information

The 2025 trial evaluated 8 clones along with Clearwater Russet, Russet Burbank, and Ranger Russet as check cultivars from each growing location (WA, ID, & OR). When averaged across states, all entries received higher overall postharvest scores than Russet Burbank. To improve for result reporting clarity, the “Regional Postharvest Trial” is now named “Phase 2” postharvest testing with the same general data collection as prior years. An “*” in the summary below indicates similar performance and/or ranking in trials from previous years. A “†” indicates a clone was a top performer in the Phase 1 (Late Tri-State) Trial the previous year.

➤ Overall Postharvest Ratings

Highest scoring clones: AOR13064-2*, A13072-7, Clearwater Russet, and A13091-5*

Lowest scoring clones: OR11222-4, A12304-1sto, A12305-2adg*, and Russet Burbank*

➤ Low Temperature Sweetening

Most resistant: AOR13064-2*, AOR15166-2, Clearwater Russet, A13072-7, and A13091-5*

Most susceptible: OR11222-4, Russet Burbank*, and A12308-3adg†

➤ French Fry Taste Panel

Highest rated: A13091-5*, A13072-7, and AOR13064-2*

Lowest rated: Russet Burbank*, OR11222-4, and A12308-3adg

➤ Blackspot Bruise Susceptibility

Most resistant: A13091-5*, AOR15227-2*, and A13072-7*

Most susceptible: A12304-1sto, Ranger Russet, and Clearwater Russet

➤ Variability in Tuber Shape & Fry Yield (8- to 10-oz tubers)

Lowest L/W: AOR15227-2, A13091-5, and A13072-7

Highest L/W: A12308-3adg, Russet Burbank, and Ranger Russet*

Lowest W/Th: OR11222-4, A12308-3adg, and AOR13064-2*

Highest W/Th: Clearwater Russet*, Ranger Russet, and Russet Burbank

Least variable L/W Across States: AOR15227-2, A13072-7, and A12304-1sto

Most variable L/W Across States: AOR15166-2, OR11222-4, and A13091-5

Details

- AOR13064-2*, A13072-7, Clearwater Russet, and A13091-5* were the highest rated entries, scoring 31.4, 28.0, 28.0, and 27.5 points of 38 possible points, respectively. Overall scores (range and average across clones) were on par with last year.
- OR11222-4, A12304-1sto, A12305-2adg*, and Russet Burbank* scored the lowest on the overall postharvest performance with 18.6, 17.7, 16.1, and 12.4 of 38 possible points.
- AOR13064-2*, AOR15166-2, Clearwater Russet, A13072-7, and A13091-5* were all rated resistant to cold sweetening with AOR13064-2* having the best fry color. AOR13064-2* produced USDA 0 fries (stem end) when stored for 60 days at 40°F (averaged across locations). While the 3-state stem-end fry color was light enough for A13091-5*, AOR15166-2, Clearwater Russet, and A13072-7 to be rated as cold sweetening resistant, fry color from the WA samples was

excessively dark suggesting environment could result in a loss of this trait if care is neglected. OR11222-4, Russet Burbank*, and A12308-3adg† were the most susceptible to LTS with all three entries producing a USDA 4 after 60 days at 40°F.

- Average (across states) gravities of Russet Burbank* and OR11222-4 were the lowest, 1.071, to low for frozen process contracts. The gravities of the other entries ranged from 1.079 to 1.095 when averaged across states. When averaged across the entries, gravities were 1.075 (WA), 1.089 (ID), and 1.086 (OR), lower than the 2024 season. Gravities from WA were the lowest and ranged from 1.061 (OR11222-4) to 1.088 (AOR15227-2). Over all locations, AOR15227-2*, AOR15166-2, and A13091-5 had the highest gravities (1.095, 1.093, & 1.087, respectively).
- A13091-5*, A13072-7, and AOR13064-2* were the favorites in the taste panels, scoring 3.7/5 on average across growing locations (5 is best). Russet Burbank*, OR11222-4, and A12308-3adg received the lowest taste panel score of 2.9 on average.
- On average, tubers grown in OR produced the lightest fry colors at harvest and post-storage regardless of the storage temperature. The Regional entries from all locations averaged 74% and 51% of their at-harvest process quality (stem end fry color) when stored at 44°F and 40°F for 60 days, respectively. These values are lower on average than from the 2024 crop. Storage at 48°F saw no reduction in storage color during the 2025 season, similar to the 2024 results.
- Non-uniformity of color was observed in all states and storage treatments to varying degrees. Of the eight experimental entries at harvest, 6 entries from WA, 5 from ID, and 2 from OR; 4 (WA); 4 (ID), & 2 (OR) at 48°F; 7 (WA), 4 (ID), and 2 (OR) at 44°F; and 5 (WA), 4 (ID), and 4 (OR) at 40°F were non-uniform in fry color (bud to stem end photovolt unit difference ≥ 9). Of the top-rated entries, the WA samples for AOR13064-2*, A13072-7, Clearwater Russet, and A13091-5* performed the worst. Only, A13072-7 maintained fry color regardless of production site (WA, ID, OR) and storage temperature (48, 44, 40°F) after 60 days. In contrast, the commercial controls, Russet Burbank, Ranger Russet, and Clearwater Russet exhibited a range of non-uniformity in all states with the WA samples consistently producing the most non-uniform fry color.
- Retention of process quality during storage of AOR15166-2*, AOR15227-2, and Clearwater Russet at 44°F (60 days) was highly variable across production sites. By contrast, growing location had the least effect on the change in fry color of Russet Burbank, Ranger Russet, and A13072-7* following 60 days at 44°F.
- Fry color recovery was also assessed by blanching potato strips prior to frying after storage at 40°F for 60 days. A12304-1sto, OR11222-4, and A12308-3adg benefited the most and improved percent stem fry color 58%, 69%, and 69% compared to stem end fry color at 40°F storage. Blanching had the least effect on Clearwater Russet, AOR15166-2, and AOR13064-2* (24%, 20%, and 19%). When averaged for location and entry, average fry color (bud+stem) percent recovery from 40°F storage for blanched samples was 24%. The average uniformity of fry color post blanching improved from ca. 10.1 (40°F = non-uniform) to ca. 8.7 (uniform).
- A13091-5*, AOR15227-2*, and A13072-7* were the most resistant to blackspot bruise and averaged 15-24% bruise (stem end) in the controlled impact study (3-state average). These entries also scored lowest in bruise severity, averaging 1.4/5 (1 = no bruise; 5 = 100% of impact area is dark). A12304-1sto, Ranger Russet, and Clearwater Russet were highly susceptible to bruise, averaging 60% bruise. Bruise severity was also greatest in these three entries (ca. 2.6/5).
- ID grown tubers (8-10 oz) had the highest L/W ratios (1.81) compared to those grown in OR (1.76) and WA (1.75). AOR15227-2, A13091-5, and A13072-7 had the lowest L/W ratios (avg. 1.65), reflecting a rounder tuber shape phenotype. A12308-3adg, Russet Burbank, and Ranger Russet* had the highest L/W ratios (1.83-2.00). AOR15166-2, OR11222-4, and A13091-5 showed the greatest variation in L/W ratio 8- to 10-oz tubers across production sites. By contrast, the L/W ratios of AOR15227-2, A13072-7, and A12304-1sto were the least affected by the growing region. Width to thickness (W/Th) ratios were measured for the 2025 crop. The average difference in

W/Th was minimal (max. 0.14; more variation than 2024 [0.06]) among all entries and production sites. OR11222-4, A12308-3adg, and AOR13064-2* had the most consistent diameter (1.09, 1.11 & 1.12, respectively) and Clearwater Russet*, Ranger Russet, and Russet Burbank were the least consistent (1.23, 1.20 & 1.20, respectively).

- Following 60 days at 48°F, 58% of Ranger Russet tubers were sprouting with an average sprout length of 0.6-inches, indicating a relatively shortest dormancy (AOR13064-2 = 53% with 0.7-inch sprouts). By contrast, 2% of Russet Burbank had only 'peeping' sprout length (<0.1-inches). Average percent sprouting and sprout lengths were greatest in the OR samples (75%; 0.7-inches) followed by WA (21%; 0.3-inches long) and then by ID (11%, ca. 0.1-inches long).
- After 7-months of storage (3 months at 48°F + 4 months at 44°F) of the 2024 crop, sprout lengths ranged from 0.3 to 1.8-inches depending on the clone and state. Ranger Russet and A12327-5VR produced the longest sprouts (both 1.5-inches), indicating a shorter dormancy than the other clones. By contrast, Russet Burbank averaged 0.5-inch sprouts indicating a longer dormancy than the other tested entries.

Overall Phase 2 (LRT) Postharvest Merit Scores

2025 Phase 2 (LRT) Postharvest Merit Scores					3 state Average
Clone	WA	ID	OR		
8 AOR13064-2	3.6	4.3	4.5	4.1	
6 A13072-7	2.9	4.2	4.0	3.7	
1 Clearwater Russet	2.7	3.7	4.7	3.7	
7 A13091-5	3.0	3.6	4.3	3.6	
9 AOR15166-2	3.2	3.1	4.0	3.5	
10 AOR15227-2	3.0	3.1	4.0	3.4	
2 Ranger Russet	1.9	3.5	3.2	2.9	
11 OR11222-4	1.8	2.9	2.6	2.5	
4 A12304-1sto	1.9	2.3	2.8	2.3	
5 A12308-3adg	1.6	2.2	2.6	2.1	
3 Russet Burbank	1.6	1.5	1.8	1.6	

2025 Late Harvest Regional Trial Summaries

ENTRY	TOTAL YIELD						CARTON YIELD		PROCESS YIELD	
	CWT/A	STATS**	Tons/A	US # 1's*	US # 2's*	Culls*	100-50 count		US 1's and 2's	
				> 4 oz	> 4 oz	& < 4 oz	(US 1's 7-18 oz)		> 6 oz	
			% of Total Yield			% of Total Yield	Tons/A	% of Total Yield	Tons/A	
Clearwater Russet	1041	BC	52.1	81	5	14	56	29.2	73	38.2
Ranger Russet	1052	BC	52.6	61	21	17	38	19.9	74	39.0
Russet Burbank	1061	BC	53.0	55	29	16	36	18.9	72	38.6
A12304-1sto	1348	A	67.4	83	3	13	57	38.2	78	52.9
A12308-3adg	1201	AB	60.0	77	10	13	61	36.4	82	49.5
A13072-7	1093	ABC	54.6	77	16	7	43	23.7	89	48.5
A13091-5	837	CD	41.9	87	4	8	62	25.8	78	32.9
AOR13064-2	951	BCD	47.6	90	5	6	62	29.6	87	41.4
AOR15166-2	1093	ABC	54.6	87	7	5	67	36.7	88	48.3
AOR15227-2	1053	BC	52.6	88	5	8	66	34.9	85	44.9
OR11222-4	1087	ABC	54.3	65	4	32	42	22.6	64	34.3
Russet Norkotah TX278	914	CD	45.7	78	10	12	50	23.0	76	34.7
CO15016-1RUsto	769	D	38.4	83	2	15	57	21.8	71	27.2
CO15070-4RU	918	CD	45.9	84	3	13	50	23.0	67	31.0
CO16238-4RUsto	925	CD	46.2	62	6	32	31	14.2	47	21.9

ENTRY	US # 1 YIELD						> 4 oz SPECIFIC GRAVITY	INTERNAL DEFECTS (%)		
	> 4 oz	STATS**	Tons/A	> 4 oz	4-7 oz*	7-14 oz*		(8-12 oz tubers)		
				% of Total Yield				% HH	% BC	% IBS
			% of Total Yield							
Clearwater Russet	841	BCDE	42.1	26	61	13	1.086	0	0	5
Ranger Russet	639	EF	32.0	21	49	30	1.083	0	0	0
Russet Burbank	577	F	28.8	28	52	20	1.082	0	3	3
A12304-1sto	1124	A	56.2	16	51	34	1.088	0	0	41
A12308-3adg	919	ABC	46.0	10	52	38	1.079	0	0	0
A13072-7	846	BCDE	42.3	8	36	56	1.083	0	0	0
A13091-5	731	CDEF	36.5	25	57	18	1.086	0	0	0
AOR13064-2	856	BCD	42.8	17	54	30	1.087	0	0	3
AOR15166-2	953	AB	47.7	12	59	30	1.087	0	0	0
AOR15227-2	920	ABC	46.0	15	58	27	1.094	0	0	0
OR11222-4	700	DEF	35.0	12	41	48	1.069	0	0	0
Russet Norkotah TX278	712	CDEF	35.6	26	51	23	1.072	0	0	0
CO15016-1RUsto	640	DEF	32.0	25	54	20	1.074	0	0	0
CO15070-4RU	773	BCDEF	38.7	36	49	15	1.072	0	0	0
CO16238-4RUsto	577	F	28.8	51	47	2	1.073	0	6	29

ENTRY	40 DAY	50 DAY	STEMS PER	TUBER	AVERAGE TUBER		SKIN	TUBER	BRUISE (%)	
	STAND	STAND	PLANT	GREENING	WEIGHT	NUMBER	SET	SHAPE	(8-12 oz tubers)	
	% Emerged	% Emerged	Above Ground	% Total Yield	Ounces	Tubers/Plant	1 = Poor 5 = Good	1 = Round 5 = Long	BLACKSPOT	SHATTER
Clearwater Russet	91	97	3.0	3	7.4	12.7	4.0	3.0	38	33
Ranger Russet	92	92	3.1	1	8.4	11.2	4.0	4.0	75	11
Russet Burbank	88	95	2.6	3	7.9	12.2	3.5	4.0	58	40
A12304-1sto	75	77	4.2	6	8.9	13.7	4.0	3.0	71	51
A12308-3adg	88	89	2.8	1	10.5	10.3	2.0	4.0	29	8
A13072-7	91	94	2.7	3	11.7	8.4	3.5	3.0	4	45
A13091-5	89	89	2.7	0	7.7	9.7	4.0	2.0	13	33
AOR13064-2	94	97	2.6	1	9.4	9.2	4.0	3.0	46	10
AOR15166-2	91	88	2.7	1	9.7	10.1	4.0	3.3	13	23
AOR15227-2	84	91	2.2	2	9.0	10.5	3.8	3.0	13	8
OR11222-4	86	86	2.8	12	10.3	9.5	4.0	4.0	17	18
Russet Norkotah TX278	92	97	2.8	3	7.8	10.5	4.0	3.0	NA	8
CO15016-1RUsto	31	86	3.6	3	7.0	10.0	4.5	3.0	58	8
CO15070-4RU	81	95	2.7	3	6.7	12.3	4.5	4.0	58	19
CO16238-4RUsto	83	91	3.2	1	5.1	16.2	4.3	3.0	38	35

* Percent values may not total 100% due to rounding

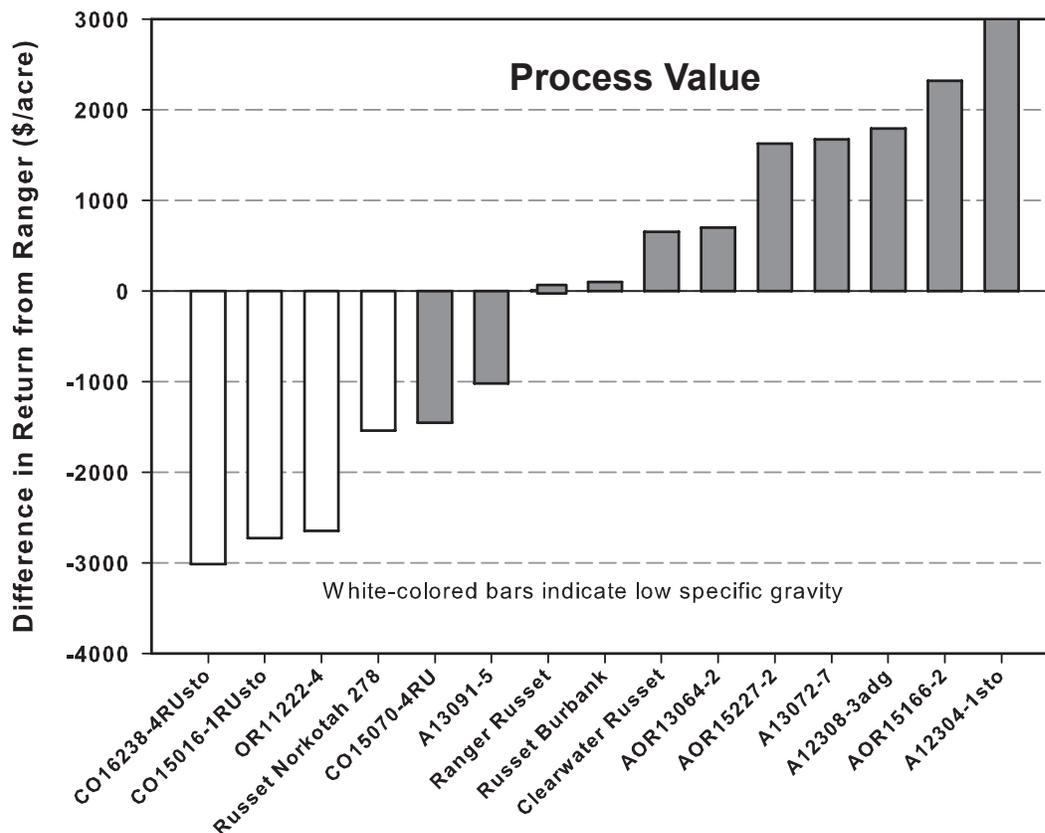
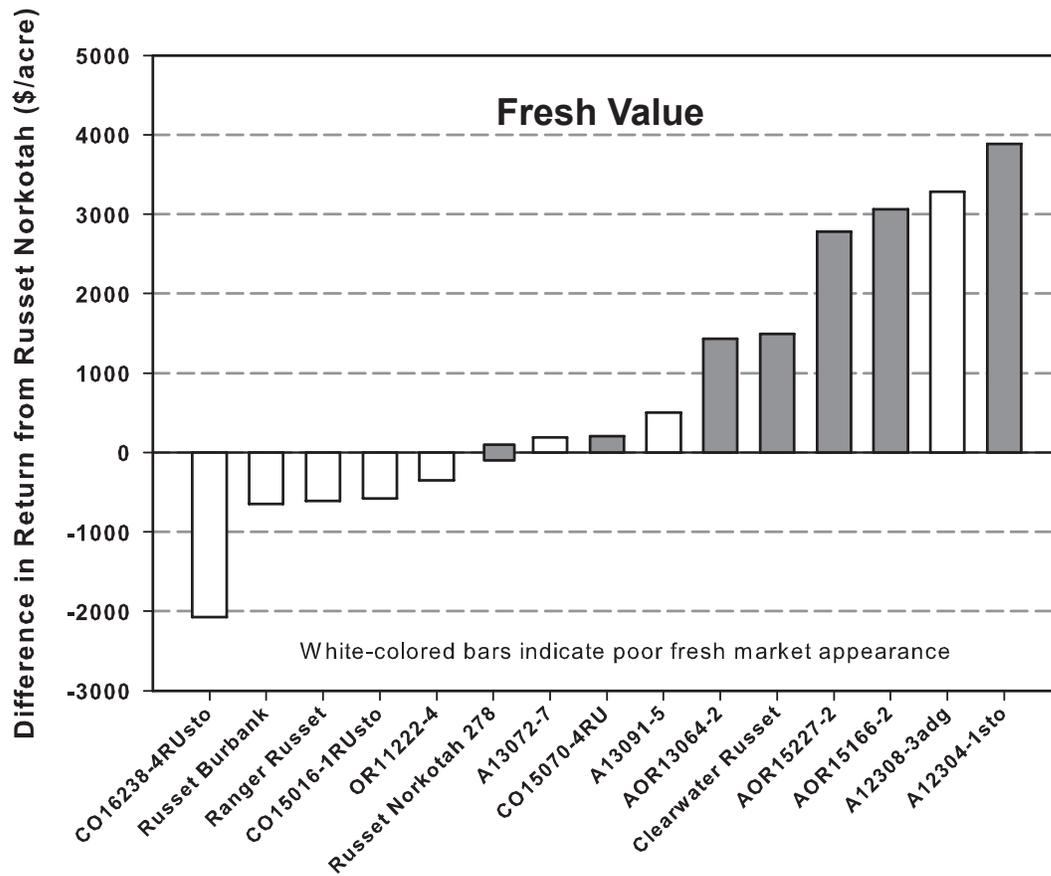
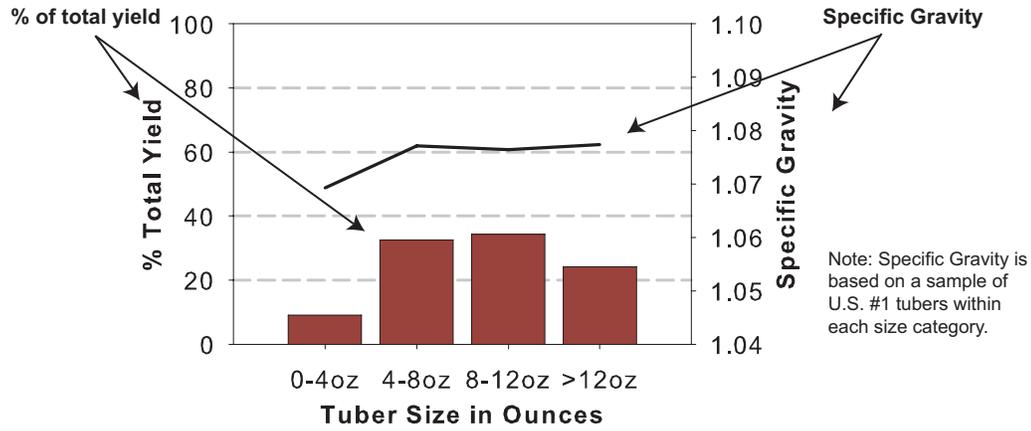


Figure 1 (top). Difference in gross return per acre (Fresh Market) from Russet Norkotah calculated by subtracting the gross return of Norkotah TX278 from the gross return of the particular entry. Entries with the white-colored bars may not appeal to fresh market consumers due to the undesirable shape 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 from the gross return of the particular entry.

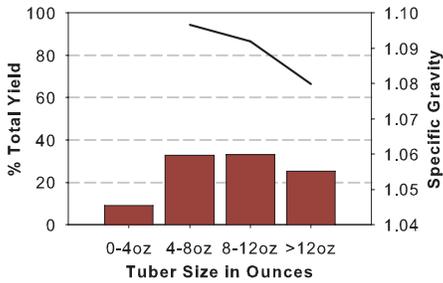
2025 Late Harvest Regional Trial

Tuber Yield and Specific Gravity Distributions

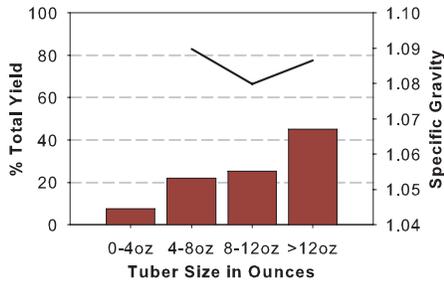
11 inch In-Row Spacing



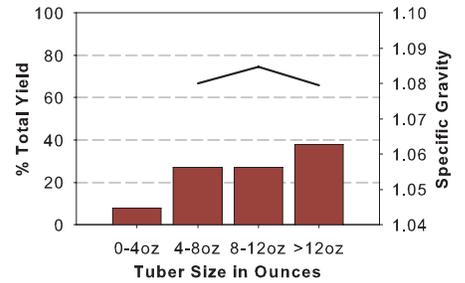
CLEARWATER RUSSET



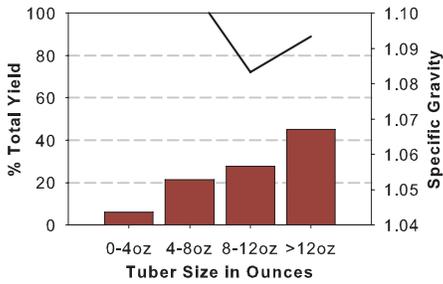
RANGER RUSSET



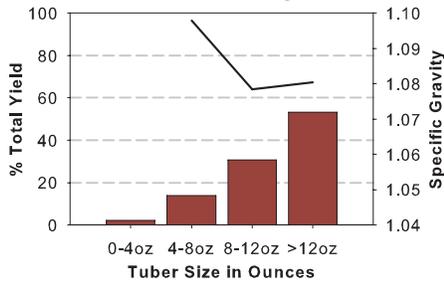
RUSSET BURBANK



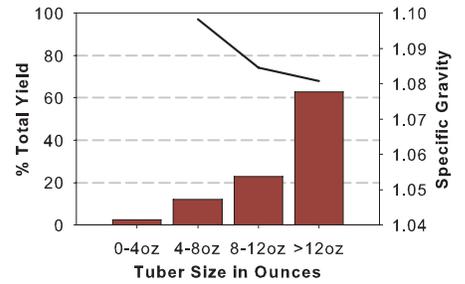
A12304-1sto



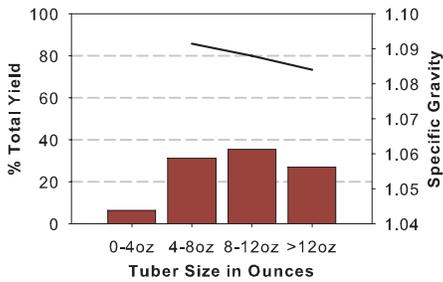
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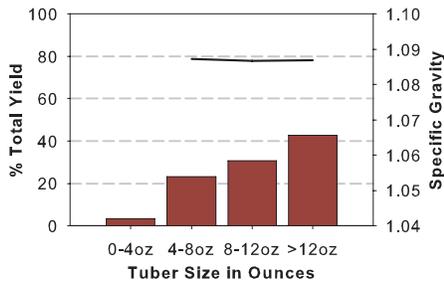
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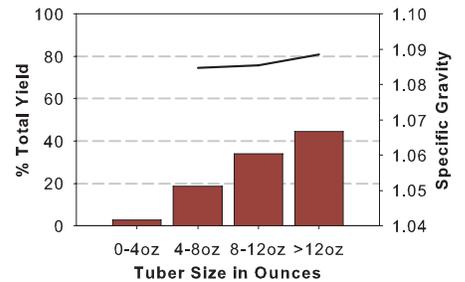
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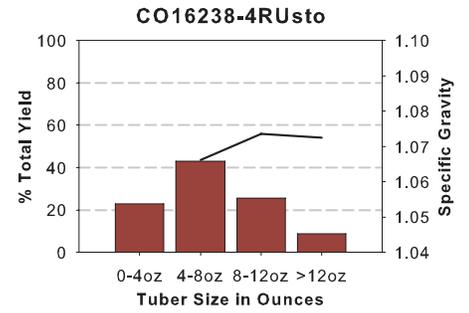
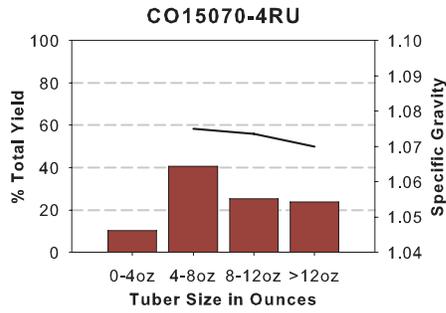
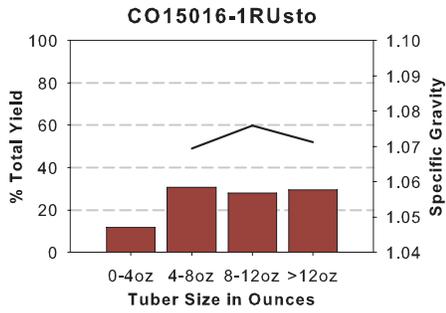
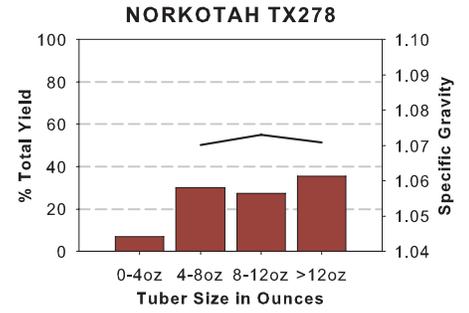
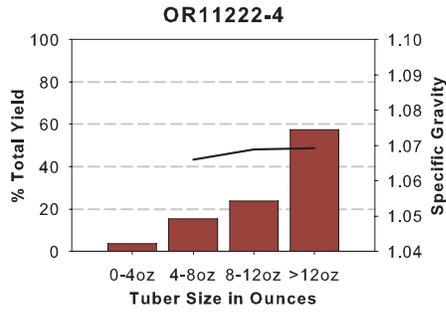
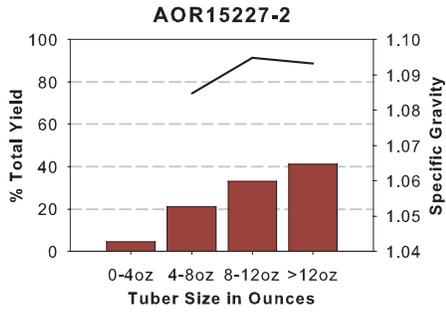


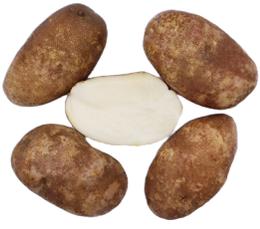
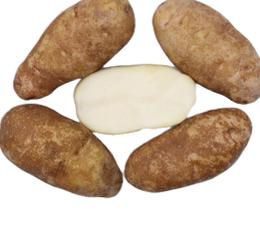
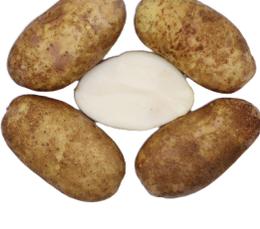
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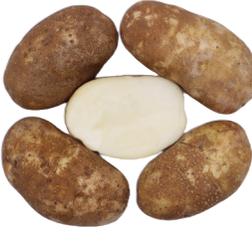
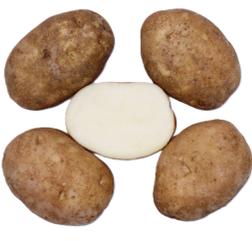
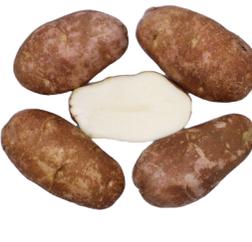
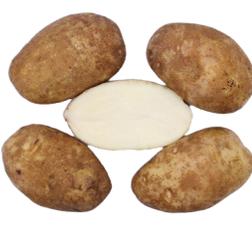
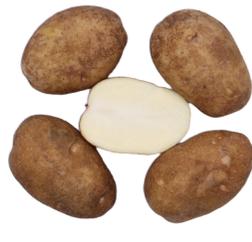
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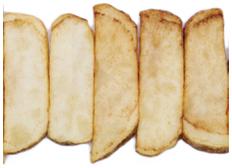
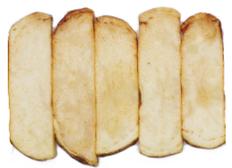
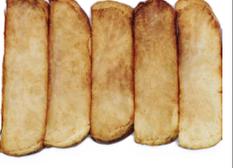
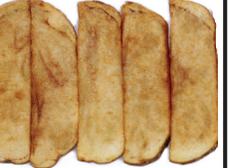
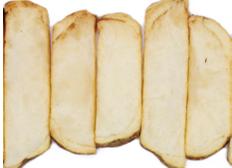
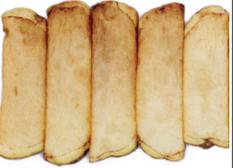
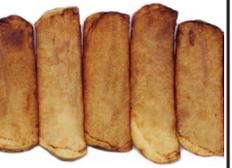
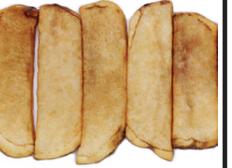
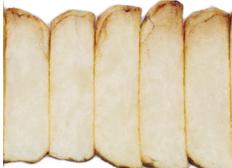
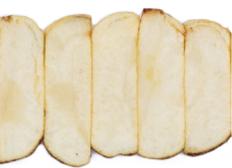
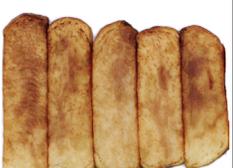
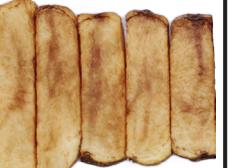
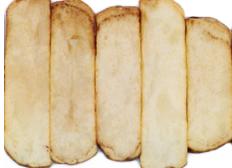
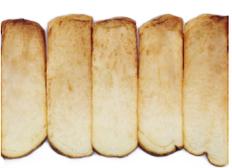
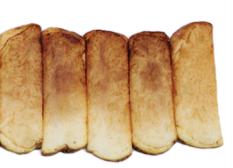
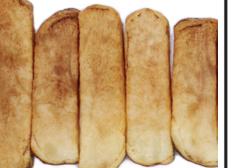


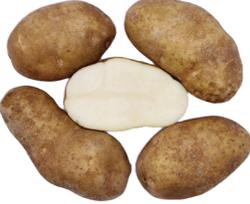


Tubers	WA Phase 2 (LRT) Comments
Clearwater Russet	
	<p>Tubers: Oblong to long tubers. Good skin set; moderate eye depth. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Light, Non-Uniform; 44°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform; Blanched = Relatively Dark, Non-Uniform.</p>
Ranger Russet	
	<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Light, Non-Uniform; 44°F = Unacceptably Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform; Blanched = Unacceptably Dark, Non-Uniform.</p>
Russet Burbank	
	<p>Tubers: Oblong tubers. Good skin set; shallow eyes. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Relatively Dark, Non-Uniform; 44°F = Unacceptably Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform; Blanched = Unacceptably Dark, Uniform.</p>
A12304-1sto	
	<p>Tubers: Oblong to long tubers. Good skin set; moderate eye depth. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Relatively Dark, Non-Uniform; 44°F = Unacceptably Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform; Blanched = Unacceptably Dark, Uniform.</p>
A12308-3adg	
	<p>Tubers: Oblong to long tubers. Poor skin set; shallow eyes. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Unacceptably Dark, Non-Uniform; 44°F = Unacceptably Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform; Blanched = Unacceptably Dark, Non-Uniform.</p>

Initial Fries	48° F Storage	44° F Storage	40° F Storage	40° F Blanching
Clearwater Russet				
Ranger Russet				
Russet Burbank				
A12304-1sto				
A12308-3adg				

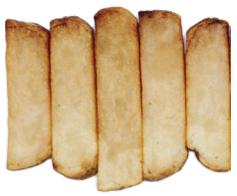
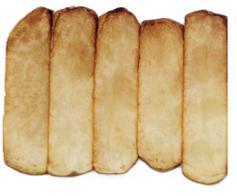
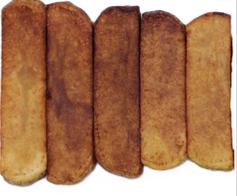
Tubers	WA Phase 2 (LRT) Comments
A13072-7	
	<p>Tubers: Round to oblong tubers. Good skin set; moderate eye depth. Fry color: At harvest: Relatively Dark, Uniform; 48°F= Light, Uniform; 44°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Uniform; Blanched = Relatively Dark, Uniform.</p>
A13091-5	
	<p>Tubers: Oblong tubers. Good skin set; moderately deep eyes. Fry color: At harvest: Relatively Dark, Uniform; 48°F= Light, Uniform; 44°F = Light, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform; Blanched = Relatively Dark, Non-Uniform.</p>
AOR13064-2	
	<p>Tubers: Oblong to long tubers. Good skin set; moderate eye depth. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Light, Uniform; 44°F = Light, Non-Uniform; 40°F = Light, Non-Uniform; Blanched = Light, Uniform.</p>
AOR15166-2	
	<p>Tubers: Oblong to long tubers. Good skin set; moderate eye depth. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Light, Uniform; 44°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform; Blanched = Relatively Dark, Non-Uniform.</p>
AOR15227-2	
	<p>Tubers: Oblong tubers. Good skin set; moderate eye depth. Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F= Light, Non-Uniform; 44°F = Relatively Dark, Non-Uniform; 40°F = Unacceptably Dark, Non-Uniform; Blanched = Relatively Dark, Non-Uniform.</p>

Initial Fries	48° F Storage	44° F Storage	40° F Storage	40° F Blanching
A13072-7				
				
A13091-5				
				
AOR13064-2				
				
AOR15166-2				
				
AOR15227-2				
				

Tubers	WA Phase 2 (LRT) Comments
OR11222-4	
	<p>Tubers: Oblong tubers. Good skin set; shallow eyes.</p> <p>Fry color: At harvest: Relatively Dark, Non-Uniform; 48°F = Relatively Dark, Non-Uniform; 44°F = Unacceptably Dark, Uniform; 40°F = Unacceptably Dark, Uniform; Blanched = Unacceptably Dark, Uniform.</p>



Sorting, sizing, and weighing tubers mid-season.

Initial Fries	48° F Storage	44° F Storage	40° F Storage	40° F Blanching
OR11222-4				
				



2025 Phase 2 (LRT) Trial

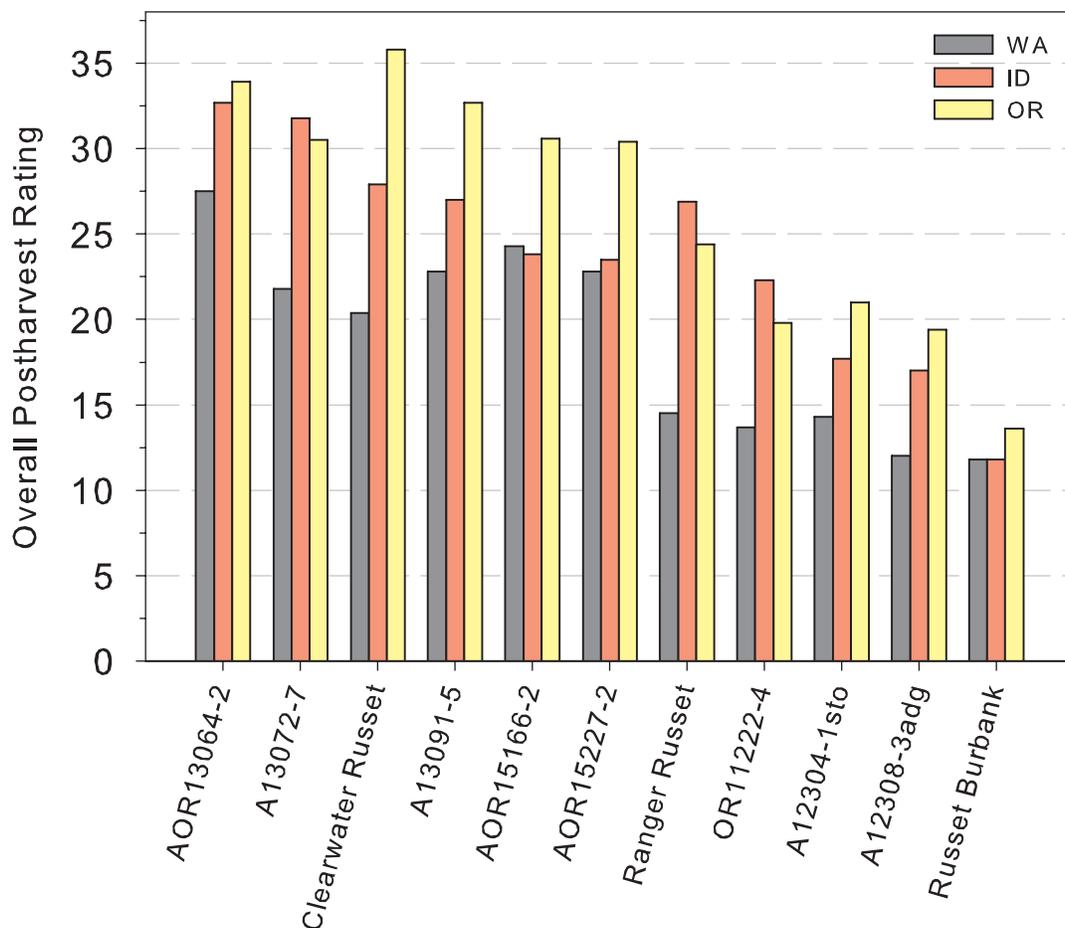
Accumulated Total Postharvest Ratings of Clones

Clone	WA		ID		OR		3 State av.
	Rating Total §	Discard §§	Rating Total §	Discard §§	Rating Total §	Discard §§	Rating Total
8 AOR13064-2	27.5		32.7		33.9		31.4
6 A13072-7	21.8	Sp. Gr.	31.8		30.5		28.0
1 Clearwater Russet	20.4		27.9		35.8		28.0
7 A13091-5	22.8	Sp. Gr.	27.0		32.7		27.5
9 AOR15166-2	24.3		23.8		30.6		26.2
10 AOR15227-2	22.8		23.5		30.4		25.6
2 Ranger Russet	14.5	40°F, Sp. Gr.	26.9		24.4		21.9
11 OR11222-4	13.7	40°F, Sp. Gr.	22.3	40°F	19.8	40°F, Sp.Gr.	18.6
4 A12304-1sto	14.3	44°F, 40°F	17.7	40°F	21.0		17.7
5 A12308-3adg	12.0	44°F, 40°F, Sp.Gr.	17.0	44°F, 40°F	19.4	40°F	16.1
3 Russet Burbank	11.8	44°F, 40°F, Sp.Gr.	11.8	44°F, 40°F, Sp.Gr.	13.6	40°F, Sp.Gr.	12.4
	18.7		23.8		26.5		23.0

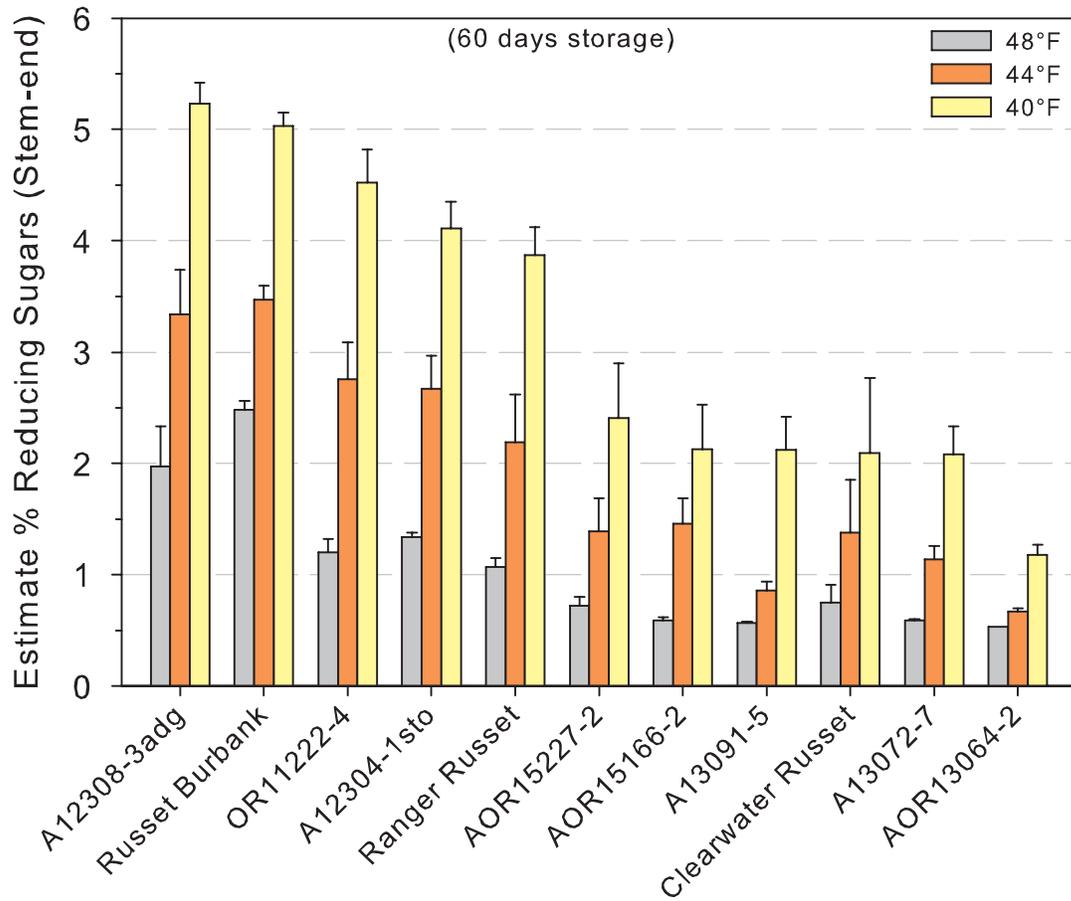
§ maximum rating possible = 38

§§ Values for the indicated evaluation are lower than the rejection level.

2025 Phase 2 (LRT) Postharvest Ratings



Phase 2 - 2025 LRT



Stem end estimated percent reducing sugars based on photovolt observations from the 2025 crop for Phase 2 entries. Values are average %RS estimates for entries grown in each state after storage for 60-days at 40°F, 44°F, or 48°F.



Inspecting a plant closely at the 2025 Seed Lot trials.

2025 Phase 2 (LRT) Trial

Prior to Storage

* ** ***

Clone	PHOTOVOLT READING					USDA	SPECIFIC		
	stem	bud	ave.	rtg §	DIFF	COLOR	GRAVITY	rtg	Range
Washington									
1 Clearwater Russet	30.5	44.8	37.6	4-	16.6	1	1.082	4	1.078 - 1.086
2 Ranger Russet	22.9	41.0	31.9	3-	18.1	2	1.073	0	1.072 - 1.073
3 Russet Burbank	20.3	42.9	31.6	3-	22.6	2	1.071	0	1.063 - 1.077
4 A12304-1sto	27.8	41.2	34.5	3-	13.7	1	1.076	1	1.070 - 1.080
5 A12308-3adg	16.1	47.7	31.9	3-	31.6	3	1.074	0	1.068 - 1.079
6 A13072-7	41.2	46.7	43.9	5+	6.6	0	1.068	0	1.065 - 1.072
7 A13091-5	44.2	52.2	48.2	5+	8.0	0	1.074	0	1.072 - 1.077
8 AOR13064-2	42.1	52.3	47.2	5-	10.9	0	1.079	2	1.075 - 1.083
9 AOR15166-2	39.0	50.7	44.9	5-	11.7	0	1.082	4	1.082 - 1.084
10 AOR15227-2	36.2	49.2	42.7	5-	13.0	0	1.088	5	1.079 - 1.093
11 OR11222-4	27.0	45.0	36.0	4-	18.0	1	1.061	0	1.057 - 1.063
Average		<i>LSD</i> _{0.05}	3.5		5.0		<i>0.006</i>		
	31.6	46.7	39.1		15.5	1			
Idaho									
1 Clearwater Russet	45.5	46.8	46.2	5+	5.6	0	1.091	4	1.090 - 1.092
2 Ranger Russet	39.0	43.9	41.5	5+	5.4	0	1.087	5	1.081 - 1.092
3 Russet Burbank	25.5	40.1	32.8	3-	15.8	1	1.073	0	1.065 - 1.081
4 A12304-1sto	29.4	40.9	35.1	3-	11.6	1	1.089	4	1.088 - 1.091
5 A12308-3adg	28.0	42.8	35.4	3-	14.8	1	1.090	4	1.086 - 1.093
6 A13072-7	48.3	47.5	47.9	5+	4.2	0	1.088	5	1.086 - 1.091
7 A13091-5	47.4	53.8	50.6	5+	6.4	0	1.096	1	1.095 - 1.096
8 AOR13064-2	46.6	52.2	49.4	5+	6.0	0	1.089	4	1.087 - 1.091
9 AOR15166-2	41.7	52.3	47.0	5-	10.6	0	1.095	2	1.093 - 1.096
10 AOR15227-2	41.2	53.1	47.2	5-	11.9	0	1.100	1	1.096 - 1.103
11 OR11222-4	32.6	46.2	39.4	4-	14.1	0	1.081	4	1.080 - 1.085
Average		<i>LSD</i> _{0.05}	3.1		4.9		<i>0.007</i>		
	38.7	47.2	43.0		9.7	0	1.089		
Oregon									
1 Clearwater Russet	47.0	48.8	47.9	5+	5.5	0	1.083	5	1.080 - 1.087
2 Ranger Russet	36.8	41.9	39.4	4-	11.3	0	1.083	5	1.080 - 1.088
3 Russet Burbank	30.5	44.8	37.6	4-	16.9	1	1.070	0	1.067 - 1.073
4 A12304-1sto	31.1	39.2	35.1	3-	9.2	0	1.088	5	1.085 - 1.092
5 A12308-3adg	39.2	50.6	44.9	5-	11.4	0	1.084	5	1.080 - 1.090
6 A13072-7	48.0	50.6	49.3	5+	5.0	0	1.081	4	1.078 - 1.083
7 A13091-5	49.7	52.4	51.1	5+	3.2	0	1.091	4	1.088 - 1.094
8 AOR13064-2	54.6	51.8	53.2	5+	3.1	0	1.090	4	1.088 - 1.095
9 AOR15166-2	51.1	52.7	51.9	5+	3.5	0	1.103	1	1.101 - 1.107
10 AOR15227-2	46.9	47.3	47.1	5+	6.8	0	1.098	1	1.097 - 1.099
11 OR11222-4	45.3	47.8	46.5	5+	5.5	0	1.072	0	1.071 - 1.076
Average		<i>LSD</i> _{0.05}	3.4		5.1		<i>0.006</i>		
	43.7	48.0	45.8		7.4	0	1.086		

Date test performed:

Washington	Oct. 9	Oct. 8
Idaho	Oct. 13	Oct. 9
Oregon	Oct. 14	Oct. 10

§ rtg = rating (1-5, 5 is best); av = average Photovolt reading; Diff = Absolute difference between stem and bud Photovolt reading. Stem to bud differences of nine or greater (-) lose one point and differences of less than nine (+) gain one point in the accumulated total postharvest rating.

Specific Gravity done by weight in air weight in water method.

2025 Phase 2 (LRT) Trial

Stored at 48°F after Arrival

Clone	FRENCH FRY	BRUISE POTENTIAL			
	TASTE PANEL	(percent)		[color 5=darkest]	
	rating	stem	bud	stem	bud
Washington					
1 Clearwater Russet	3.4	38	54	1.9	2.4
2 Ranger Russet	3.5	75	13	3.0	1.6
3 Russet Burbank	2.8	58	8	2.4	1.3
4 A12304-1sto	3.3	71	4	2.9	1.2
5 A12308-3adg	3.0	29	0	1.7	1.1
6 A13072-7	3.8	4	4	1.2	1.2
7 A13091-5	3.8	13	4	1.3	1.1
8 AOR13064-2	3.5	46	0	2.3	1.1
9 AOR15166-2	3.3	13	0	1.3	1.5
10 AOR15227-2	3.8	13	0	1.4	1.2
11 OR11222-4	2.7	17	13	1.5	1.5
<i>LSD</i> _{0.05}	0.5	27	16		
Average	3.4	34	9	1.9	1.4
Idaho					
1 Clearwater Russet	3.9	71	42	2.5	1.9
2 Ranger Russet	3.9	71	0	3.3	1.0
3 Russet Burbank	2.8	38	0	1.9	1.1
4 A12304-1sto	3.7	71	38	2.8	1.9
5 A12308-3adg	3.0	63	17	2.5	1.4
6 A13072-7	3.8	46	8	2.0	1.2
7 A13091-5	4.0	29	0	1.6	1.2
8 AOR13064-2	3.7	54	0	2.4	1.0
9 AOR15166-2	3.8	54	4	2.1	1.1
10 AOR15227-2	3.5	25	17	1.5	1.4
11 OR11222-4	3.3	50	4	2.0	1.1
<i>LSD</i> _{0.05}	0.5	31	18		
Average	3.6	52	12	2.2	1.3
Oregon					
1 Clearwater Russet	3.8	25	29	1.6	1.8
2 Ranger Russet	3.4	54	0	2.4	1.0
3 Russet Burbank	2.6	25	0	1.5	1.1
4 A12304-1sto	3.0	63	8	2.6	1.2
5 A12308-3adg	3.4	33	0	1.8	1.1
6 A13072-7	3.5	21	0	1.5	1.2
7 A13091-5	3.7	4	8	1.2	1.3
8 AOR13064-2	3.9	21	8	1.8	1.3
9 AOR15166-2	3.6	25	0	1.7	1.0
10 AOR15227-2	3.4	8	4	1.2	1.1
11 OR11222-4	2.8	4	0	1.1	1.0
<i>LSD</i> _{0.05}	0.5	26	15		
Average	3.4	26	5	1.7	1.2

Date test performed:

Washington

Oct. 28

Oct. 17

Idaho

Oct. 29

Oct. 21

Oregon

Oct. 30

Oct. 22

2025 Phase 2 (LRT) Trial

Stored at 48°F for 60 Days

Clone	PHOTOVOLT READING				DIFF	USDA COLOR	% REDUCING SUGAR		SPROUTING	
	stem	bud	ave	rtg §			stem	bud	(%)	length (in)
Washington										
1 Clearwater Russet	34.0	50.4	42.2	5-	16.4	0	1.1	0.5	23.1	0.25
2 Ranger Russet	32.2	44.4	38.3	4-	12.7	0	1.2	0.6	80.0	0.75
3 Russet Burbank	20.9	43.9	32.4	3-	23.0	2	2.5	0.6	0.0	0.00
4 A12304-1sto	29.4	41.8	35.6	4-	12.4	1	1.4	0.7	6.7	0.13
5 A12308-3adg	16.2	46.4	31.3	3-	30.3	3	3.4	0.5	0.0	0.00
6 A13072-7	42.8	46.6	44.7	5+	4.5	0	0.6	0.5	13.3	0.13
7 A13091-5	46.1	52.1	49.1	5+	6.1	0	0.5	0.5	13.3	0.50
8 AOR13064-2	49.1	52.8	51.0	5+	4.0	0	0.5	0.5	60.0	0.50
9 AOR15166-2	40.4	47.5	44.0	5+	8.1	0	0.7	0.5	6.7	0.50
10 AOR15227-2	34.1	52.2	43.1	5-	18.1	0	1.1	0.5	0.0	0.00
11 OR11222-4	27.1	41.3	34.2	3-	14.2	1	1.7	0.7	33.3	0.13
Average	<i>LSD</i> _{0.05}		3.5		4.1				19	
	33.9	47.2	40.5		13.6	1	1.3	0.6	21	0.26
Idaho										
1 Clearwater Russet	42.4	47.5	45.0	5+	6.6	0	0.6	0.5	15.3	0.13
2 Ranger Russet	36.2	45.8	41.0	5-	9.6	0	0.9	0.6	0.0	0.00
3 Russet Burbank	19.7	46.7	33.2	3-	27.0	3	2.7	0.5	0.0	0.00
4 A12304-1sto	30.1	37.1	33.6	3-	9.7	1	1.4	0.9	0.0	0.00
5 A12308-3adg	34.2	42.9	38.6	4-	9.7	0	1.0	0.6	0.0	0.00
6 A13072-7	44.8	47.0	45.9	5+	7.3	0	0.6	0.5	0.0	0.00
7 A13091-5	46.4	51.4	48.9	5+	5.2	0	0.5	0.5	0.0	0.00
8 AOR13064-2	46.9	48.6	47.8	5+	3.9	0	0.5	0.5	73.3	0.50
9 AOR15166-2	48.5	54.3	51.4	5+	5.8	0	0.5	0.5	0.0	0.00
10 AOR15227-2	45.0	54.7	49.9	5-	9.8	0	0.6	0.5	0.0	0.00
11 OR11222-4	35.6	47.4	41.5	5-	11.8	0	1.0	0.5	33.3	0.25
Average	<i>LSD</i> _{0.05}		3.1		3.9				15	
	39.1	47.6	43.3		9.6	0	0.9	0.6	11	0.08
Oregon										
1 Clearwater Russet	46.2	45.1	45.7	5+	6.8	0	0.5	0.6	87.5	0.50
2 Ranger Russet	33.6	41.1	37.4	4+	7.7	0	1.1	0.7	93.3	1.00
3 Russet Burbank	23.1	30.1	26.6	2-	13.1	2	2.2	1.4	6.3	0.13
4 A12304-1sto	32.1	37.8	35.0	3+	6.5	0	1.2	0.8	80.0	0.50
5 A12308-3adg	28.8	42.0	35.4	3-	14.5	1	1.5	0.7	53.3	0.25
6 A13072-7	44.1	44.5	44.3	5+	3.5	0	0.6	0.6	93.3	0.75
7 A13091-5	43.0	47.3	45.2	5+	6.5	0	0.6	0.5	92.9	1.00
8 AOR13064-2	46.5	44.3	45.4	5+	6.4	0	0.5	0.6	100.0	1.00
9 AOR15166-2	48.3	50.2	49.3	5+	4.0	0	0.5	0.5	100.0	0.75
10 AOR15227-2	46.5	50.0	48.3	5+	5.4	0	0.5	0.5	26.7	0.5
11 OR11222-4	36.0	46.6	41.3	5-	10.6	0	0.9	0.5	92.3	1.25
Average	<i>LSD</i> _{0.05}		4.0		5.2				19	
	38.9	43.6	41.2		7.7	0	0.9	0.7	75	0.69

Date test performed:

Washington

Nov. 29

Nov. 29

Dec. 6

Idaho

Dec. 4

Dec. 4

Dec. 8

Oregon

Dec. 8

Dec. 8

Dec. 10

§ rtg = rating (1-5, 5 is best); av = average Photovolt reading; Diff = Absolute difference between stem and bud Photovolt reading. Stem to bud differences of nine or greater (-) lose one point and differences of less than nine (+) gain one point in the accumulated total postharvest rating. Sprouting was rated after 60 days - storage.

2025 Phase 2 (LRT) Trial

Stored at 44°F for 45 Days

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Clone	PHOTOVOLT READING					USDA COLOR	% REDUCING SUGAR	
	stem	bud	ave	rtg §	DIFF		stem	bud
Washington								
1 Clearwater Russet	23.1	42.7	32.9	3-	19.5	2	2.2	0.6
2 Ranger Russet	17.9	36.6	27.3	2-	18.7	3	3.0	0.9
3 Russet Burbank	13.6	25.7	19.6	1-	12.6	4	4.0	1.9
4 A12304-1sto	14.6	30.4	22.5	1-	15.8	4	3.7	1.4
5 A12308-3adg	11.2	31.7	21.4	1-	20.5	4	4.9	1.2
6 A13072-7	28.0	36.7	32.3	3-	9.1	1	1.6	0.9
7 A13091-5	33.0	45.8	39.4	4-	12.8	0	1.1	0.6
8 AOR13064-2	38.9	49.3	44.1	5-	10.6	0	0.8	0.5
9 AOR15166-2	26.2	34.8	30.5	3-	11.7	1	1.8	1.0
10 AOR15227-2	20.8	45.5	33.1	3-	24.7	2	2.6	0.6
11 OR11222-4	13.2	19.4	16.3	0+	6.2	4	4.1	2.8
Average	21.8	<i>LSD</i> _{0.05} 36.2	3.3 29.0		4.7 14.8	2	2.7	1.1
Idaho								
1 Clearwater Russet	30.2	40.6	35.4	3-	10.9	1	1.4	0.7
2 Ranger Russet	25.1	37.9	31.5	3-	13.1	1	1.9	0.8
3 Russet Burbank	16.9	31.6	24.3	1-	14.7	3	3.2	1.2
4 A12304-1sto	20.1	26.7	23.4	1+	6.7	2	2.7	1.7
5 A12308-3adg	17.8	29.2	23.5	1-	11.4	3	3.1	1.5
6 A13072-7	38.8	39.4	39.1	4+	5.3	0	0.8	0.8
7 A13091-5	37.2	46.5	41.9	5-	9.3	0	0.9	0.5
8 AOR13064-2	41.2	46.6	43.9	5+	7.3	0	0.7	0.5
9 AOR15166-2	24.5	40.0	32.3	3-	15.5	2	2.0	0.7
10 AOR15227-2	33.6	49.1	41.3	5-	15.5	0	1.1	0.5
11 OR11222-4	23.8	28.1	26.0	2+	5.2	2	2.1	1.6
Average	28.1	<i>LSD</i> _{0.05} 37.8	3.2 32.9		4.1 10.4	1	1.8	1.0
Oregon								
1 Clearwater Russet	44.6	47.9	46.3	5+	5.5	0	0.6	0.5
2 Ranger Russet	27.8	38.6	33.2	3-	11.5	1	1.6	0.8
3 Russet Burbank	17.0	25.7	21.4	1+	8.9	3	3.2	1.9
4 A12304-1sto	27.7	36.1	31.9	3-	10.9	1	1.6	0.9
5 A12308-3adg	23.9	33.9	28.9	2-	10.5	2	2.1	1.1
6 A13072-7	34.5	39.6	37.1	4+	6.6	0	1.0	0.8
7 A13091-5	44.9	49.2	47.1	5+	6.3	0	0.6	0.5
8 AOR13064-2	51.8	47.6	49.7	5+	4.6	0	0.5	0.5
9 AOR15166-2	53.2	51.9	52.6	5+	3.1	0	0.6	0.5
10 AOR15227-2	46.8	48.3	47.6	5+	6.2	0	0.5	0.5
11 OR11222-4	24.1	28.2	26.1	2+	7.9	2	2.1	1.6
Average	36.0	<i>LSD</i> _{0.05} 40.6	4.5 38.3		4.5 7.5	1	1.3	0.9

Date test performed:

Washington

Nov. 29

Nov. 29

Idaho

Dec. 4

Dec. 4

Oregon

Dec. 8

Dec. 8

§ rtg = rating (1-5, 5 is best); av = average Photovolt reading; Diff = Absolute difference between stem and bud Photovolt reading. Stem to bud differences of nine or greater (-) lose one point and differences of less than nine (+) gain one point in the accumulated total postharvest rating.

2025 Phase 2 (LRT) Trial

Stored at 40°F for 60 Days and Water Blanched

Clone	PHOTOVOLT READING (60 Days at 40°F)						PHOTOVOLT AFTER WATER BLANCHING (10 min @ 160°F)				
	stem	bud	ave	rtg §	DIFF	USDA COLOR	stem	bud	ave	Diff	USDA COLOR
Washington											
1 Clearwater Russet	16.9	29.7	23.3	1	13.5	3	24.3	37.8	31.1	13.9	2
2 Ranger Russet	12.4	20.5	16.4	0	8.2	4	18.7	28.3	23.5	9.9	3
3 Russet Burbank	10.8	15.7	13.3	0	5.0	4	17.8	22.7	20.2	6.0	3
4 A12304-1sto	10.7	18.9	14.8	0	8.3	4	17.5	24.9	21.2	7.5	3
5 A12308-3adg	9.1	20.5	14.8	0	11.4	4	15.1	26.7	20.9	11.6	3
6 A13072-7	18.1	26.1	22.1	1	8.2	3	27.3	32.3	29.8	5.9	1
7 A13091-5	16.7	29.1	22.9	1	12.4	3	26.4	36.2	31.3	10.2	1
8 AOR13064-2	31.6	44.0	37.8	4	12.4	0	36.3	43.9	40.1	7.7	0
9 AOR15166-2	19.2	27.2	23.2	1	11.5	3	29.0	33.3	31.2	9.4	1
10 AOR15227-2	12.5	30.9	21.7	1	19.0	4	24.7	41.4	33.0	16.7	2
11 OR11222-4	9.5	17.2	13.4	0	7.8	4	14.8	21.8	18.3	7.5	4
<i>LSD</i> _{0.05} Average	15.2	25.4	20.3		4.3	3	22.9	31.8	27.3	3.9	2
Idaho											
1 Clearwater Russet	23.2	30.9	27.1	2	8.5	2	30.4	36.7	33.5	7.7	1
2 Ranger Russet	14.8	28.5	21.6	1	13.7	4	25.1	30.7	27.9	7.2	1
3 Russet Burbank	9.9	20.3	15.1	0	10.4	4	16.9	27.8	22.4	11.1	3
4 A12304-1sto	14.8	21.7	18.3	0	7.0	4	21.9	28.2	25.1	6.3	2
5 A12308-3adg	10.6	17.2	13.9	0	6.6	4	19.1	24.9	22.0	6.4	3
6 A13072-7	30.9	28.1	29.5	2	5.0	1	37.9	32.0	35.0	6.7	0
7 A13091-5	25.9	34.3	30.1	2	8.4	1	35.3	41.9	38.6	6.6	0
8 AOR13064-2	29.4	38.5	33.9	3	9.2	1	36.9	40.6	38.8	4.9	0
9 AOR15166-2	17.9	33.0	25.4	2	15.9	3	27.4	41.3	34.3	14.0	1
10 AOR15227-2	26.8	47.8	37.3	4	21.0	1	25.6	45.5	35.5	20.0	1
11 OR11222-4	14.2	24.0	19.1	0	9.9	4	24.7	31.4	28.1	8.4	2
<i>LSD</i> _{0.05} Average	19.9	29.5	24.7		3.9	2.6	27.4	34.6	31.0	3.8	1.3
Oregon											
1 Clearwater Russet	37.1	40.7	38.9	4	8.1	0	41.0	40.4	40.7	5.3	0
2 Ranger Russet	15.2	30.1	22.7	1	14.9	3	22.0	35.9	29.0	13.9	2
3 Russet Burbank	11.7	18.3	15.0	0	6.6	4	16.1	20.8	18.4	6.1	3
4 A12304-1sto	15.2	29.5	22.3	1	14.2	3	24.9	34.5	29.7	10.1	2
5 A12308-3adg	11.7	22.8	17.2	0	11.1	4	18.9	30.4	24.6	11.5	3
6 A13072-7	25.2	30.7	27.9	2	5.7	1	34.5	36.6	35.6	4.4	0
7 A13091-5	31.6	38.1	34.9	3	6.9	0	37.5	43.1	40.3	6.2	0
8 AOR13064-2	37.4	39.7	38.6	4	5.1	0	44.2	43.7	43.9	4.7	0
9 AOR15166-2	46.7	52.7	49.7	5	6.6	0	44.4	49.6	47.0	6.1	0
10 AOR15227-2	32.7	42.1	37.4	4	13.1	0	39.1	41.7	40.4	7.5	0
11 OR11222-4	13.6	23.1	18.3	0	9.6	4	23.3	29.5	26.4	6.2	2
<i>LSD</i> _{0.05} Average	25.3	33.4	29.4		4.2	4.0	31.5	36.9	34.2	4.1	1

Date test performed:

Washington

Dec. 1

Dec. 1

Idaho

Dec. 3

Dec. 3

Oregon

Dec. 5

Dec. 5

Diff = Absolute difference between stem and bud Photovolt reading.

Entries Retained from the 2024 Trials Currently in Phase 2

Harvested fall of 2024

Held at 48° F until December 18, 2024

Stored at 44° F until analysis

Two clones, A12308-3adg & OR11222-4, were advanced from the 2024 Tri-State Trial into the 2025 Regional Trial. Seven clones were retained in the Regional Trial. When averaged across states, AOR15166-2 produced the lightest fries (49.8 ref units). AOR13064-2 produced the second lightest fries (49.3 ref units). The uniformity of fry color was unacceptable for all entries from WA. Averaged across states, Clearwater Russet, Ranger Russet, Russet Burbank, A12308-3adg, and OR11222-4 were non-uniform. Sprout length ranged from 0 to 1.3 inches across all samples. A12308-3adg had the longest sprouts on average at 1.3 (WA), 1.0 (ID), and 1.0 (OR) inches.

Clone	PHOTOVOLT READING				USDA COLOR	% REDUCING SUGAR			Sprouting	
	Stem	Bud	Avg.	DIFF		Stem	Bud	Avg.	Percent	Length (in.)
Washington										
1 Clearwater Russet	29.9	49.8	39.9	19.8	1	1.4	0.5	1.0	93%	0.5
2 Ranger Russet	22.3	43.5	32.9	21.3	2	2.3	0.6	1.5	73%	0.8
3 Russet Burbank	22.2	42.2	32.2	20.0	2	2.3	0.6	1.5	27%	0.5
4 A12308-3adg §	19.5	46.7	33.1	27.2	3	2.8	0.5	1.7	93%	1.3
5 A12304-1sto	27.7	40.0	33.8	12.3	1	1.6	0.7	1.2	0%	0.0
6 A13072-7	31.3	41.2	36.3	10.0	0	1.3	0.7	1.0	47%	0.5
7 A13091-5	29.6	46.2	37.9	17.7	1	1.4	0.5	1.0	87%	0.5
8 AOR13064-2	45.1	50.9	48.0	9.0	0	0.6	0.5	0.5	47%	0.8
9 AOR15166-2	39.6	50.7	45.1	11.2	0	0.8	0.5	0.6	33%	0.5
10 AOR15227-2	33.3	49.1	41.2	16.0	0	1.1	0.5	0.8	33%	0.8
11 CO15016-1RUsto	26.7	39.6	33.1	13.3	1	1.7	0.8	1.2	7%	0.3
12 OR11222-4 §	20.9	36.6	28.7	15.9	2	2.5	0.9	1.7	80%	0.5
		<i>LSD</i> _{0.05}	4.0	6.2					22	
Average	29.0	44.7	36.9	16.1	1.1	1.7	0.6	1.1	52%	0.6
Idaho										
1 Clearwater Russet	41.2	49.2	45.2	8.3	0	0.7	0.5	0.6	67%	0.5
2 Ranger Russet	34.7	42.6	38.6	7.9	0	1.0	0.6	0.8	86%	0.5
3 Russet Burbank	26.9	38.7	32.8	12.2	1	1.7	0.8	1.3	7%	0.3
4 A12308-3adg §	31.7	38.2	34.9	7.9	0	1.2	0.8	1.0	93%	1.0
5 A12304-1sto	36.7	40.7	38.7	4.4	0	0.9	0.7	0.8	33%	0.3
6 A13072-7	44.0	41.7	42.8	4.1	0	0.6	0.7	0.6	87%	0.8
7 A13091-5	51.6	52.0	51.8	2.7	0	0.5	0.5	0.5	67%	0.8
8 AOR13064-2	51.7	47.7	49.7	5.0	0	0.5	0.5	0.5	33%	0.8
9 AOR15166-2	51.7	49.3	50.5	3.6	0	0.5	0.5	0.5	47%	0.5
10 AOR15227-2	45.2	48.8	47.0	4.5	0	0.6	0.5	0.5	62%	0.3
11 CO15016-1RUsto	39.6	38.6	39.1	3.6	0	0.7	0.8	0.8	13%	0.3
12 OR11222-4 §	31.5	39.0	35.3	9.5	0	1.3	0.8	1.0	73%	0.8
		<i>LSD</i> _{0.05}	3.1	3.7					22	
Average	40.5	43.9	42.2	6.1	0.1	0.9	0.7	0.8	56%	0.5
Oregon										
1 Clearwater Russet	48.9	49.2	49.1	2.4	0	0.5	0.5	0.5	93%	0.8
2 Ranger Russet	25.8	33.8	29.8	10.0	1	1.8	1.1	1.5	93%	1.3
3 Russet Burbank	29.4	39.8	34.6	10.5	1	1.5	0.7	1.1	0%	0.0
4 A12308-3adg §	35.2	47.3	41.2	12.6	0	1.0	0.5	0.8	100%	1.0
5 A12304-1sto	37.2	45.5	41.3	8.8	0	0.9	0.6	0.7	73%	0.8
6 A13072-7	35.9	38.6	37.3	6.2	0	0.9	0.8	0.9	100%	1.0
7 A13091-5	50.4	50.5	50.5	2.0	0	0.5	0.5	0.5	20%	0.8
8 AOR13064-2	51.0	49.5	50.2	3.6	0	0.5	0.5	0.5	100%	1.0
9 AOR15166-2	55.1	52.7	53.9	3.3	0	0.5	0.5	0.5	100%	1.0
10 AOR15227-2	47.8	48.0	47.9	2.9	0	0.5	0.5	0.5	94%	1.0
11 CO15016-1RUsto	32.6	37.5	35.0	7.5	0	1.2	0.9	1.0	33%	0.5
12 OR11222-4 §	31.7	36.7	34.2	7.2	0	1.2	0.9	1.1	87%	0.8
		<i>LSD</i> _{0.05}	3.6	3.8					18	
Average	40.1	44.1	42.1	6.4	0.2	0.9	0.7	0.8	74%	0.8

Date test performed:

Washington April 30

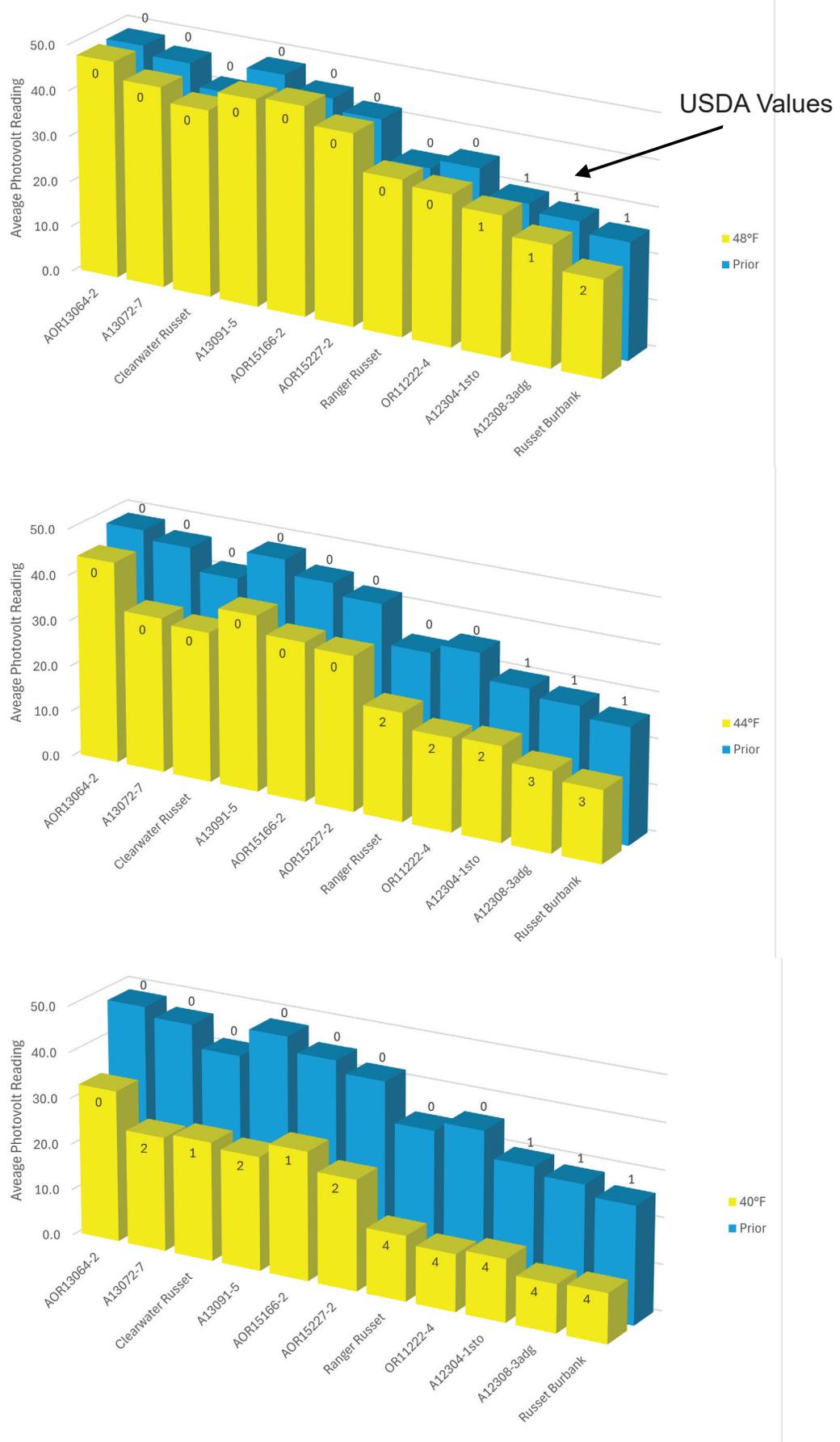
Idaho May 1

Oregon May 3

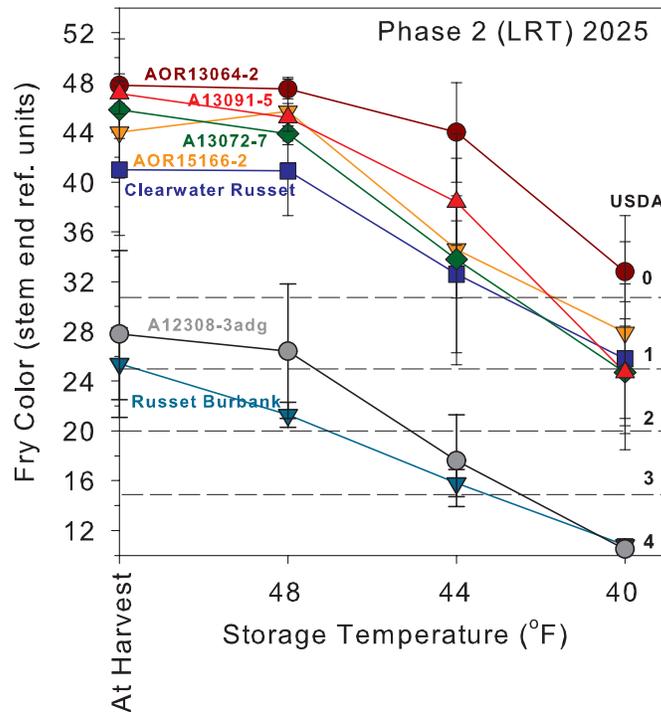
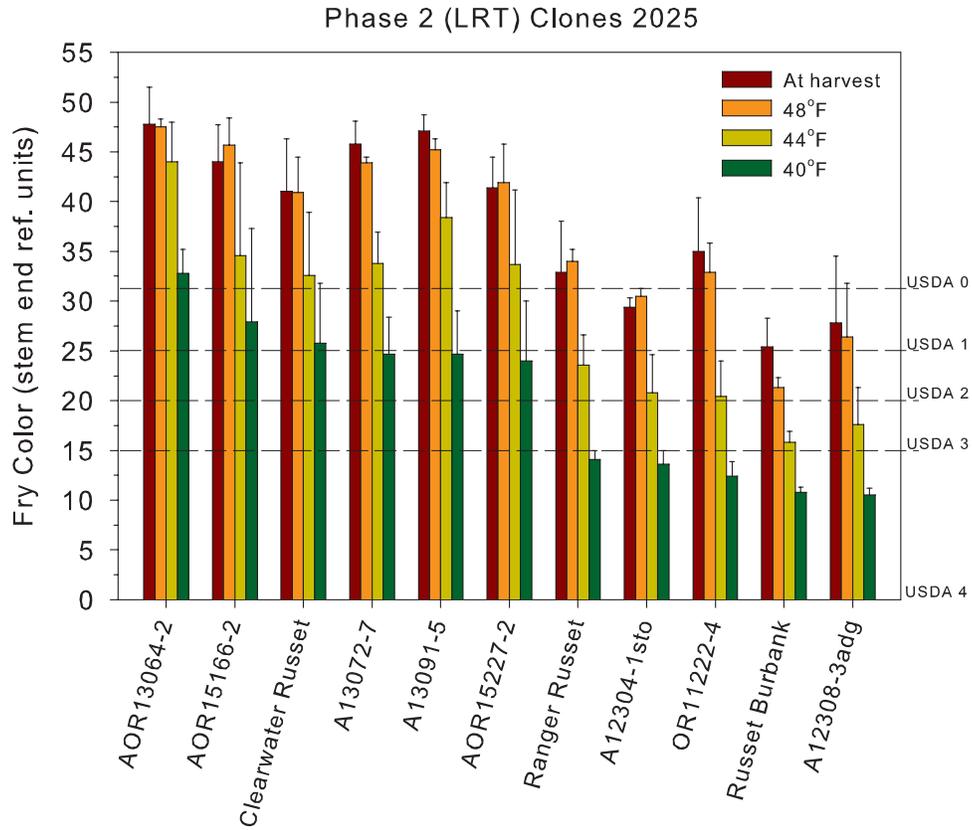
§ Advanced from 2024 Tri-State Trial.

Phase 2 - 3 State Average of Stem End

2025 Phase 2 (LRT) Trial



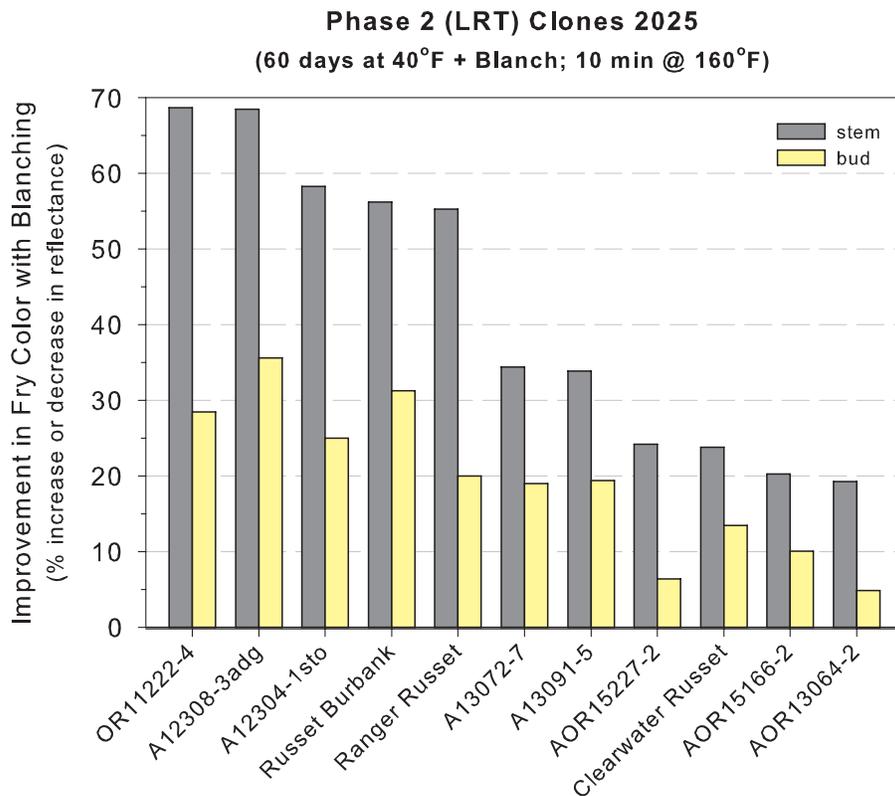
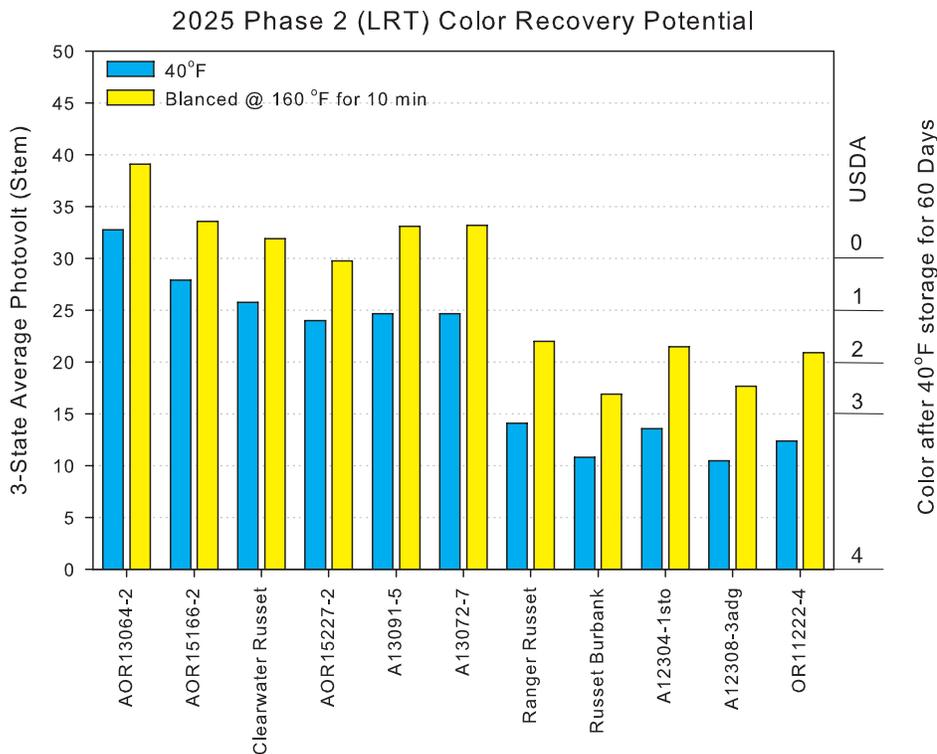
2025 Phase 2 (LRT) Trial



Top: At-harvest and after-storage French fry colors (stem end) of clones in Phase 2. 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 40°F-stored tubers. High reflectance values indicate light colored fries.

Bottom: Line graph depicting the effects of storage temperature on change in French fry processing quality (stem end fry color) of the most cold sweetening resistant (AOR13064-2*, A13091-5*, A13072-7, AOR15166-2, and Clearwater Russet) and susceptible (A12308-2adg* and Russet Burbank) clones in Phase 2. *Indicates similar performance of the clones last year. †Indicates top performance in Phase 1 before advancement to Phase 2.

2025 Phase 2 (LRT) Trial



Color recovery abilities of clones in the 2025 Phase 2 (3-state averages). Clones were stored at 40°F for 60 days after harvest and then blanched at 160°F for 10 mins. **Top:** Stem end fry color before and after blanching. Numbers on side indicate the USDA color rating of the stem end. **Bottom:** Percent improvement of stem and bud end fry color with blanching.

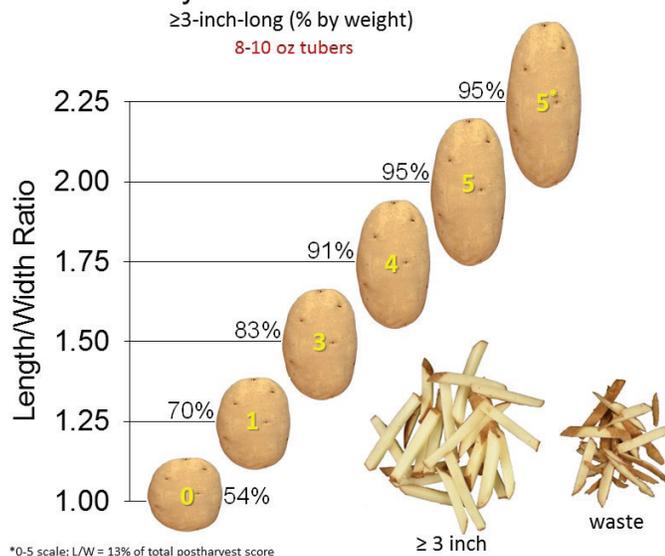
2025 Phase 2 (LRT) Trial

Length to Width Ratios of 8-10 oz Tubers

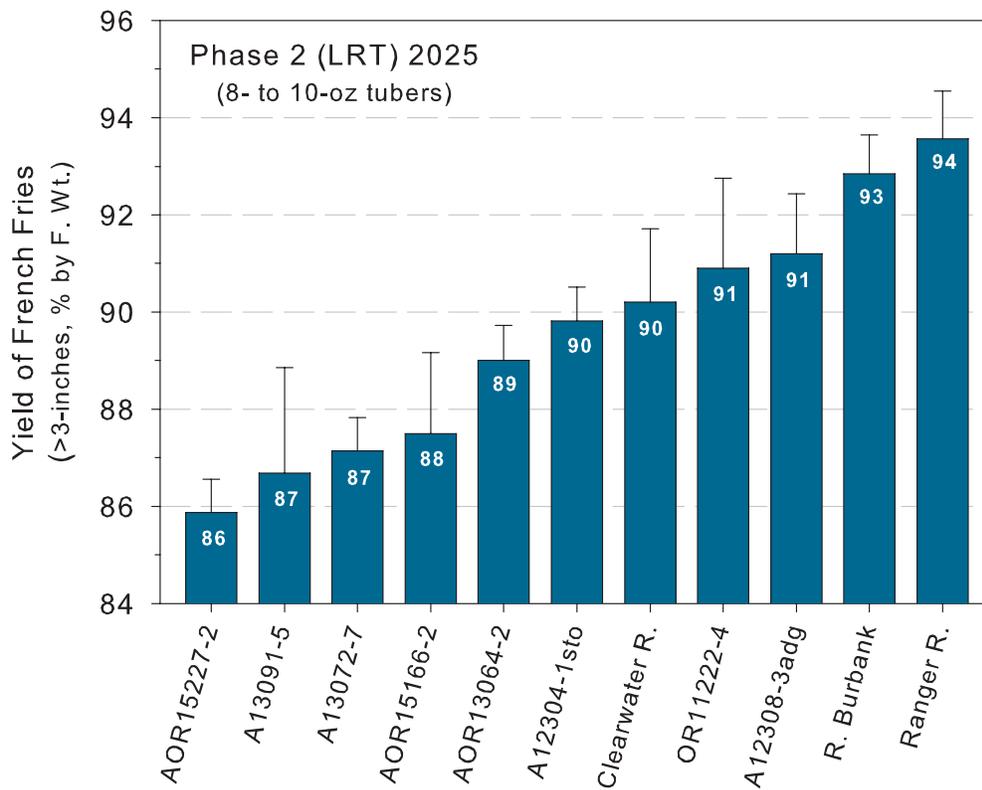
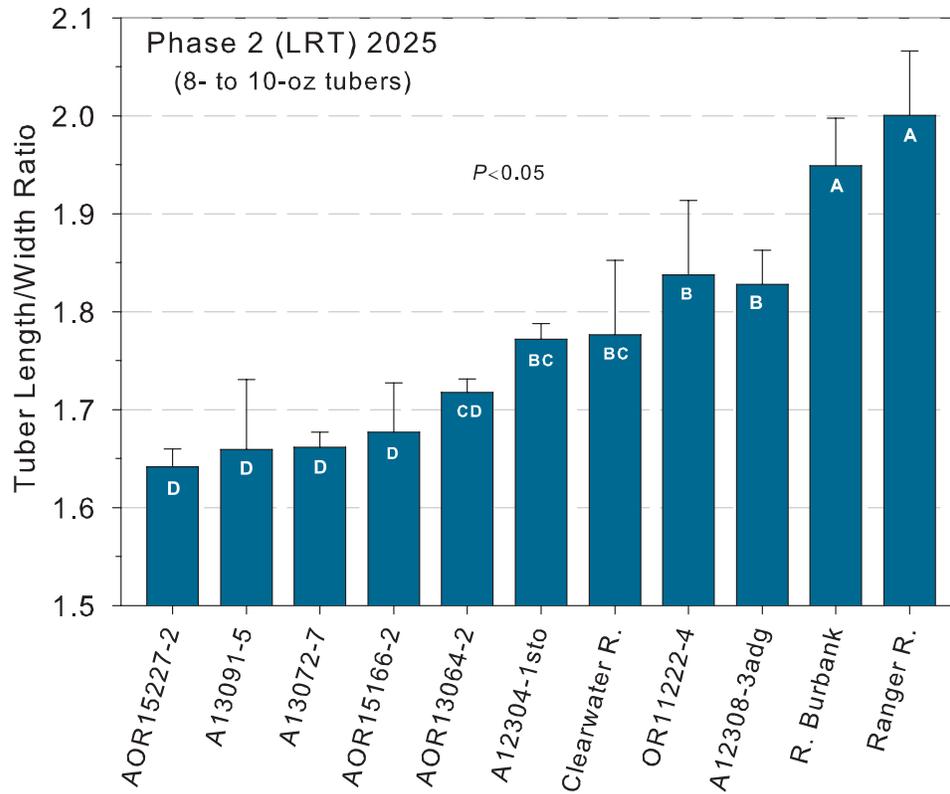
Clone	Phase 2 (Regional) Length to width ratio						3 State Avg.
	WA	rtg §	ID	rtg §	OR	rtg §	
1 Clearwater Russet	1.64	3	1.79	4	1.90	5	1.78
2 Ranger Russet	1.95	5	2.13	5	1.92	5	2.00
3 R. Burbank	2.03	5	1.86	5	1.96	5	1.95
4 A12304-1sto	1.80	5	1.75	4	1.77	4	1.77
5 A12308-3adg	1.83	5	1.89	5	1.77	4	1.83
6 A13072-7	1.63	3	1.68	4	1.67	4	1.66
7 A13091-5	1.52	3	1.75	4	1.71	4	1.66
8 AOR13064-2	1.73	4	1.74	4	1.69	4	1.72
9 AOR15166-2	1.69	4	1.76	4	1.59	3	1.68
10 AOR15227-2	1.61	3	1.64	3	1.68	4	1.64
11 OR11222-4	1.81	5	1.98	5	1.72	4	1.84
Average	1.75		1.81		1.76		1.77

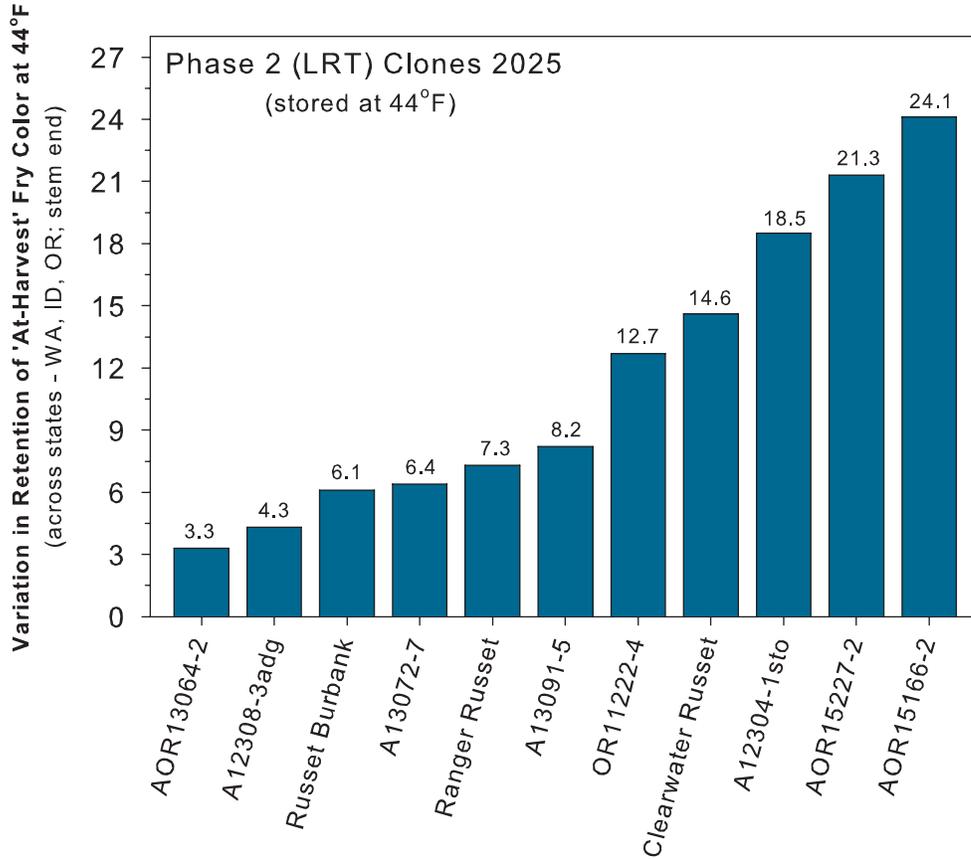
Clone	Phase 2 (Regional) Width to thickness ratio			3 State Avg.
	WA	ID	OR	
1 Clearwater Russet	1.29	1.16	1.25	1.23
2 Ranger Russet	1.20	1.17	1.22	1.20
3 R. Burbank	1.22	1.18	1.21	1.20
4 A12304-1sto	1.24	1.12	1.19	1.19
5 A12308-3adg	1.10	1.07	1.16	1.11
6 A13072-7	1.20	1.13	1.20	1.18
7 A13091-5	1.23	1.10	1.22	1.18
8 AOR13064-2	1.12	1.09	1.15	1.12
9 AOR15166-2	1.21	1.10	1.25	1.19
10 AOR15227-2	1.18	1.11	1.21	1.17
11 OR11222-4	1.07	1.08	1.13	1.09
Average	1.19	1.12	1.20	1.17

French Fry Yield vs Tuber L/W Ratio



2025 Phase 2 (LRT) Trial





Relative ranking of clones in Phase 2 (LRT) for variability in yield of French fries prepared from 8- to 10-oz tubers. Variability is expressed as the standard deviation (calculated across ID, WA and OR production sites) for the yield of fries ≥ 3 inches in length (% by fresh weight) from 8- to 10-oz tubers. High values reflect more variation in tuber shape and thus fry yield from state to state. For example, A13091-5 had a length to width ratio of 1.66, resulting in 87% of the tuber producing usable French fries ≥ 3 inches in length (page 84). However, tuber shape of this entry also varied the most across production sites (see above), resulting in fry yields ranging from 84 to 89% ($87 \pm 2.2\%$).

Pages 84-85: Tuber length to width ratios and the associated percentage yield of fries. Bars with same letter are not significantly different ($P \leq 0.05$).

2025 Tri-State Specialty Trial

Location: WSU Research Center – Othello, WA

Planting Date: April 1

Vine Kill Date: July 22

Harvest Date: August 4

Days Grown: 112

In-Row Spacing: 8 inches

The Tri-State Specialty trial is a part of the overall Tri-State Trial effort. This trial consists of clones with unique color and attributes which are primarily evaluated for fresh market suitability. This year's trial compared 4 local reference varieties to 8 new clones. The following is a summary of the Washington field and postharvest results.

Visual Standouts (nice color, skin, size distribution, & shape):

(See also: grading comments and US #1 yield ranking near front of book)

Red/Yellow flesh: COOR15108-1

Standcounts

➤ 60 Day

Full emergence: All entries were greater than 86% emerged at 60 days after planting.

Plant and Tuber Growth & Development

➤ 60 Day Stems per plant

Most: COOR15108-1 (3.7), A11576-1Ysto and Purple Majesty (3.5).

Fewest: POR18PG54-1 (2.2).

➤ Average Tuber Number Per Plant

Most: A11576-1Ysto (18.0) and A11569-1Y (16.4).

Fewest: POR18PG54-1 (5.7) and Yukon Gold (5.9).

➤ Average Tuber Size (oz)

Largest: POR18PG54-1 (7.5) and Yukon Gold (6.9).

Smallest: A11576-1Ysto and A11569-1Y (3.0).

Yield

➤ Total Yield and U.S. #1 Yield

Highest: Chieftain had the highest total (887 CWT/A) and the highest U.S. #1 yield (837 CWT/A). A11576-1Ysto had the second highest total yield (840 CWT/A) and second highest U.S. #1 yield (797 CWT/A).

Lowest: Yukon Gold had the lowest total (623 CWT/A) and A12224-2Y had the lowest U.S. #1 yield (569 CWT/A).

2025 Tri-State Red/Specialty Trial

Postharvest Information

The 2025 red & specialty trial consisted of four cultivars and eight numbered clones (5 red, 5 yellow, and 2 purple) for a total of 12 entries. An “*” in the summary below indicates similar performance and/or ranking in trials from previous years.

➤ Overall Postharvest Ratings

Highest scoring Overall: A11596-6R

Highest scoring Red: A11596-6R

Highest scoring Yellow: A12224-2Y

Highest scoring Purple: POR18PG54-1

➤ Boiling

Highest scoring Overall: COOR15108-1

Highest scoring Red: COOR15108-1

Highest scoring Yellow: A11569-1Y

Highest scoring Purple: POR18PG54-1

➤ Baking

Highest scoring Overall: A11569-1Y & Purple Majesty

Highest scoring Red: A11596-6R

Highest scoring Yellow: A11569-1Y

Highest scoring Purple: Purple Majesty*

➤ Microwaving

Highest scoring Overall: Modoc

Highest scoring Red: Modoc*

Highest scoring Yellow: Yukon Gold*

Highest scoring Purple: POR18PG54-1

Details:

- Similar to previous years, culinary scores were high with all entries receiving 68-82% of the total points possible in the 2025 culinary evaluations.
- The top scoring clone was **A11596-6R (Red)** with **61.2 points**, while **A11576-1Ysto (Yellow)** was the lowest with **51.3 points**. The difference between the top and bottom entries was **9.9 points**.
- Top red entries: **A11596-6R** and **Modoc** (average **60.3 points**).
- Top yellow entries: **A12224-2Y** and **A11569-1Y** (average **58.5 points**).
- **POR18PG54-1** was the only **purple** entry with **56.7 points**, higher than Purple Majesty (54.9).

Cooking Method Observations:

- **Boiling:**

- Red Clones

- In the boiled evaluations of red clones, flavor ratings were mostly “Bland”, with A11596-6R scoring “Good”. After-cooking darkening was “Moderate” to “Slight”. Texture ranged from “Creamy”

to “Fluffy”, with A11596-6R and COOR15108-1 rated highest. Tuber centers were “Mushy”. No sloughing was observed except for Chieftain which showed “Slight” sloughing.

Specialty Clones

In the boiled evaluations of specialty, flavor ratings were “bland” for all entries, but Yukon Gold was the lowest and POR18PG54-1 was the best. After-cooking darkening rated as “Moderate” to “Slight”. Texture varied from “Pasty” in POR18PG54-1 to “Fluffy” in A11569-1Y and TXA18020-1DY – all others were “Creamy”. Tuber centers were “Mushy”, except for A11569-1Y and A12224-2Y which rated as “Fully Cooked”. Sloughing ranged from “Severe” in Purple Majesty to “Slight” in A12224-2Y – All other entries had a “Moderate” sloughing rating.

- **Baking:**

Red Clones

In baked evaluations, flavor was “Bland”, with A11596-6R and Modoc scoring highest. All entries showed “Slight” after-cooking darkening except for A12211-6Rtrv which showed “Moderate” darkening. Texture was “Creamy” for all entries. Tuber centers were “Mushy”, with A12211-6Rtrv scoring highest. Sloughing ratings ranged between “Slight” to “None” across entries.

Specialty Clones

For baked samples, flavor rated as “Bland” across samples. All entries showed “Slight” after-cooking darkening, indicating good consistency across varieties. Texture was “Creamy”, with Yukon Gold and A11569-1Y standing out as “Fluffy”. Tuber centers ranged from “Mushy” to “Fully Cooked” in A12224-2Y. Sloughing ratings were uniform across all entries, scoring as “Slight”.

- **Microwaving:**

Red Clones

Microwaved samples of red clones rated as “Bland” for flavor, with A11596-6R scoring highest. After-cooking darkening was “Slight”, with A12211-6Rtrv scoring “Moderate”. Texture was generally “Creamy”. Tuber centers were “Mushy” to “Fully Cooked”. All Sloughing ratings showed “Slight” ratings except for COOR115108-1 rating as “Moderate”.

Specialty Clones

Microwaved samples showed flavor ratings that were “Bland”. After-cooking darkening was “Moderate” in A11576-1Ysto and “Slight” in all other entries. Texture varied between “Creamy” and “Fluffy”. Tuber centers rated as “Mushy”. Sloughing ratings were “Slight”, with Yukon Gold rating as “None”.

Chip Color (SFA):

(1–5 scale, 1=Lightest & 5=Darkest).

- Lightest chips: COOR15108-1 (SFA = 1.4)
- Darkest chips: Modoc and POR18PG54-1 (SFA =4.2)
- Overall average: 3.2

Cooking Time: (cook time for cores: 1.3 cm diameter x 1.3 cm long)

- Fastest cooking: Chieftain (2.9 min)
- Slowest cooking: Yukon Gold (4.7 min)
- Average time to breakdown: 4.0 minutes (stem: 4.2 min, bud: 3.7 min).

Overall Culinary Evaluation Scores

Clone	Boiled (25 Max)	Oven Baked (25 Max)	Microwaved (25 Max)	Total (75 Max)
3 A11596-6R	22.7	18.8	19.8	61.2
2 Modoc	21.3	17.9	20.2	59.4
8 A12224-2Y	20.4	18.9	19.2	58.5
7 A11569-1Y	21.4	19.0	18.0	58.4
6 Yukon Gold	19.1	18.7	19.8	57.5
4 A12211-6Rtrv	20.7	18.2	18.4	57.3
1 Chieftain	20.4	17.2	19.3	56.9
12 POR18PG54-1	20.5	17.0	19.2	56.7
5 COOR15108-1	22.8	16.8	17.0	56.6
10 TXA18020-1DY	20.5	16.5	18.0	55.0
11 Purple Majesty	19.0	19.0	16.9	54.9
9 A11576-1Ysto	18.6	16.5	16.2	51.3

Chipped: Aug. 19

Boiled: Aug. 21

Microwaved: Aug. 26

Baked: Aug. 19

Cooking Time: Aug. 29

2025 Tri-State Specialty Trial

Summaries

ENTRY	TOTAL YIELD					EXTERNAL DEFECTS		
	CWT/A	Tons/A	US # 1's*	US # 2's*	Culls*	1 = Severe	5 =None	
			> 0 oz	> 0 oz	> 0 oz	Knobs	Growth Cracks	Green
Red Skin/White Flesh								
Chieftain	887	44.3	94	2	4	5	4	4
Modoc	720	36.0	94	4	2	4	5	4
A11596-6R	695	34.8	92	6	2	5	4	4
A12211-6Rtrv	653	32.7	94	5	1	5	5	5
COOR15108-1	668	33.4	96	4	0	5	5	5
Yellow Flesh								
Yukon Gold	623	31.2	93	4	3	4	5	4
A11569-1Y	744	37.2	94	3	3	4	5	4
A12224-2Y	637	31.9	89	4	7	5	5	4
A11576-1Ysto	840	42.0	95	3	2	5	5	4
TXA18020-1DY	816	40.8	90	8	2	5	5	4
Purple/Purple Flesh								
Purple Majesty	666	33.3	87	10	3	5	5	5
POR18PG54-1	652	32.6	88	11	1	5	5	5

ENTRY	US # 1 YIELD							Specific Gravity
	CWT/A	Tons/A	0-2 oz*	2-4 oz*	4-6 oz*	6-10 oz*	> 10 oz*	
			-----%-----					
Red Skin/White Flesh								
Chieftain	837	41.8	1	4	7	20	10	1.068
Modoc	678	33.9	2	8	9	11	3	1.068
A11596-6R	638	31.9	4	12	10	5	0	1.066
A12211-6Rtrv	614	30.7	1	5	10	13	2	1.069
COOR15108-1	641	32.1	3	13	10	6	0	1.077
Yellow Flesh								
Yukon Gold	578	28.9	0	2	5	12	10	1.081
A11569-1Y	701	35.0	4	19	10	1	0	1.073
A12224-2Y	569	28.5	2	12	10	4	1	1.070
A11576-1Ysto	797	39.8	5	22	11	2	0	1.080
TXA18020-1DY	737	36.8	1	9	13	12	1	1.083
Purple/Purple Flesh								
Purple Majesty	581	29.1	2	11	10	6	0	1.073
POR18PG54-1	574	28.7	0	2	5	13	9	1.062

* Percent values may not total 100% due to rounding

ENTRY	SKIN SET	TUBER SHAPE	60 DAY STAND	STEMS PER PLANT	AVERAGE TUBER		SIZE UNIFORMITY	SHAPE UNIFORMITY
	1 = Poor 5 = Good	1 = Round 5 = Long	% Emerged	Above Ground	WEIGHT	NUMBER	1 = Poor 5 = Good	1 = Poor 5 = Good
					Ounces	Tubers/Plant		
Red Skin/White Flesh								
Chieftain	3.0	1.0	94	2.9	6.5	9.0	3.0	4.0
Modoc	4.0	1.0	86	3.1	4.3	11.2	4.0	4.0
A11596-6R	3.0	1.0	90	2.8	3.4	13.7	4.0	2.0
A12211-6Rtrv	3.8	1.5	86	2.8	4.9	8.7	4.0	3.5
COOR15108-1	3.3	1.0	90	3.7	3.5	12.7	4.0	4.0
Yellow Flesh								
Yukon Gold	3.5	1.5	95	2.7	6.9	5.9	3.0	3.0
A11569-1Y	4.0	2.0	94	2.9	3.0	16.4	4.0	3.0
A12224-2Y	4.0	1.0	93	2.7	3.7	11.2	4.0	3.3
A11576-1Ysto	4.0	1.0	93	3.5	3.0	18.0	4.0	3.0
TXA18020-1DY	4.0	2.0	89	2.8	4.5	11.8	3.0	2.0
Purple/Purple Flesh								
Purple Majesty	4.0	2.0	93	3.5	3.9	11.1	4.0	3.0
POR18PG54-1	3.3	1.0	88	2.2	7.5	5.7	2.8	2.5



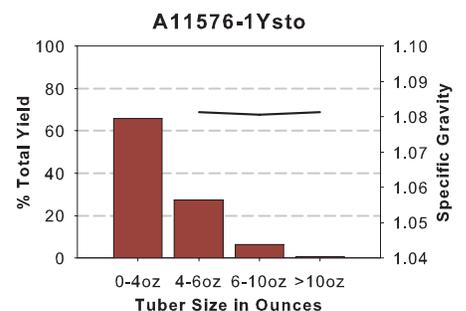
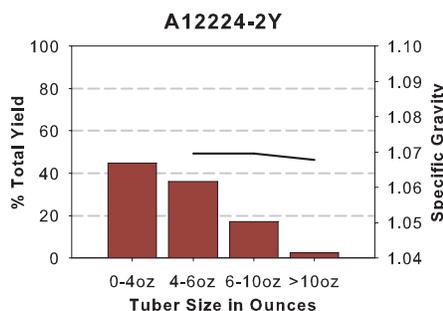
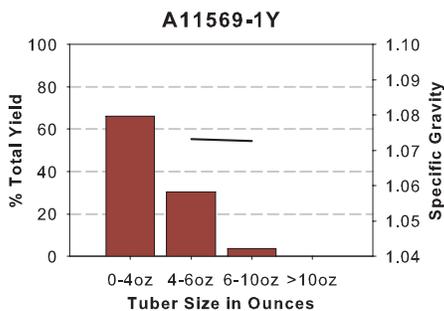
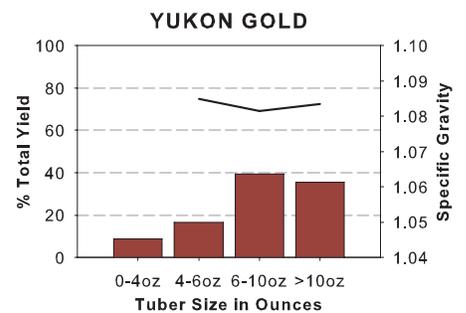
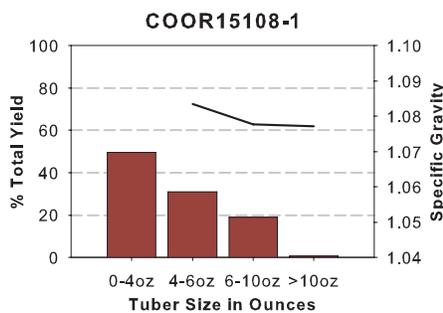
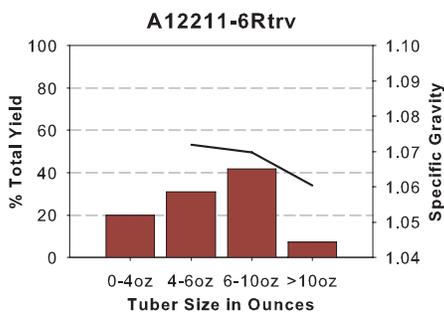
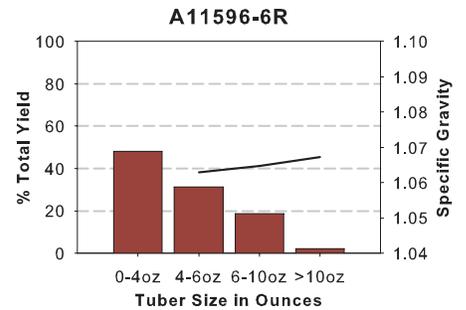
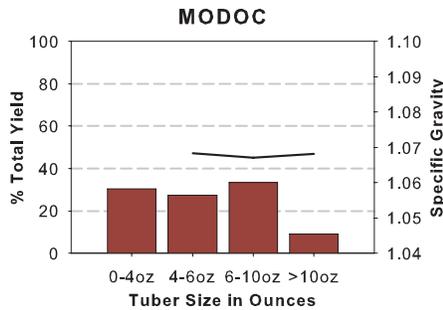
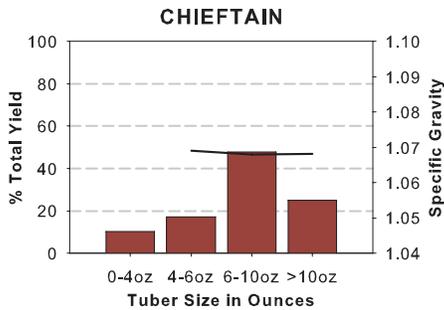
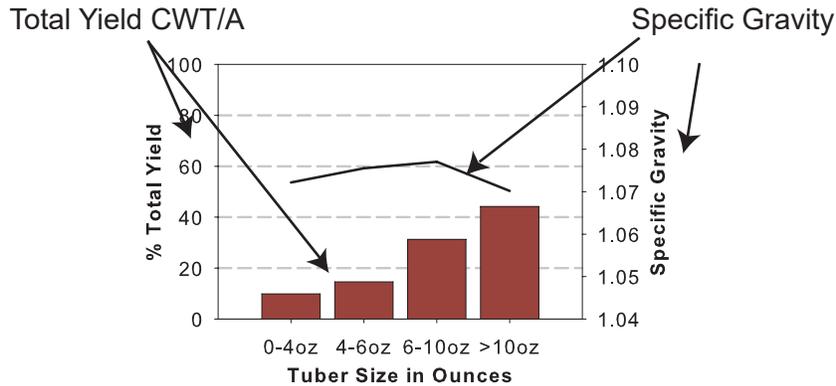
P.h.D. student Jake Meeuwsen stands on the numerous bags from his irrigation study.

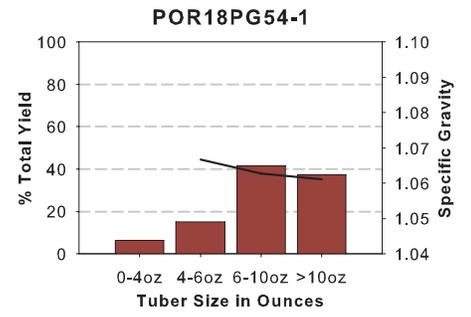
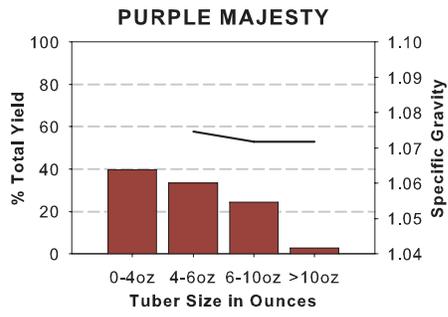
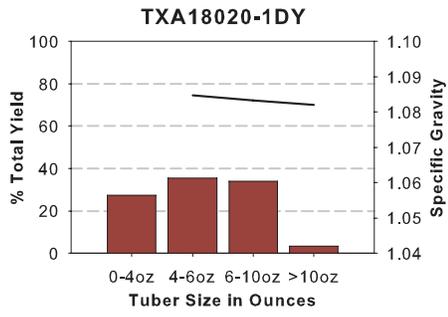
2025 Tri-State Specialty Trial

Tuber Yield and Specific Gravity Distributions

Note: Specific Gravity is based on a sample of U.S. #1 tubers within each size category

8 inch In-Row Spacing





2025 Washington Tri-State Specialty Trial

Red Clone Culinary Evaluation

Boiled

	Clone	Flavor	After Cooking Darkening	Texture	Tuber Center	Sloughing	Total Rating
1	Chieftain	3	4	3	3	4	17
2	Modoc	3	4	3	3	5	18
3	A11596-6R	4	4	4	4	5	21
4	A12211-6Rtrv	3	3	3	4	5	18
5	COOR15108-1	3	4	3	4	5	19
	<i>LSD_{0.05}</i>	0.8	0.5	0.7	0.8	0.4	2.7
	Average	3.2	3.8	3.2	3.6	4.8	18.6

Oven Baked

	Clone	Flavor	After Cooking Darkening	Texture	Tuber Center	Sloughing	Total Rating
1	Chieftain	3	4	3	3	5	18
2	Modoc	4	4	3	4	4	19
3	A11596-6R	4	4	3	4	5	20
4	A12211-6Rtrv	3	3	3	4	4	17
5	COOR15108-1	3	4	3	3	4	17
	<i>LSD_{0.05}</i>	0.8	0.5	0.9	0.9	0.6	2.9
	Average	3.4	3.8	3.0	3.6	4.4	18.2

Microwaved

	Clone	Flavor	After Cooking Darkening	Texture	Tuber Center	Sloughing	Total Rating
1	Chieftain	4	4	4	4	4	20
2	Modoc	4	4	3	5	4	20
3	A11596-6R	4	4	3	5	4	20
4	A12211-6Rtrv	3	3	3	4	4	17
5	COOR15108-1	3	4	3	4	3	17
	<i>LSD_{0.05}</i>	0.8	0.6	0.7	0.6	0.6	2.7
	Average	3.6	3.8	3.2	4.4	3.8	18.8

*Differences between clones equal to or greater than the LSD 0.05 are significant.

2025 Washington Tri-State Specialty Trial

Specialty Clone Culinary Evaluation

Boiled

	Clone	Flavor	After Cooking Darkening	Texture	Tuber Center	Sloughing	Total Rating
6	Yukon Gold	2	4	3	4	3	16
7	A11569-1Y	3	4	4	5	3	19
8	A12224-2Y	3	3	3	5	4	18
9	A11576-1Ysto	3	3	3	4	3	16
10	TXA18020-1DY	3	4	4	4	3	18
11	Purple Majesty	3	3	3	4	2	15
12	POR18PG54-1	4	3	2	4	4	17
	LSD_{0.05}	0.9	0.6	0.9	0.7	0.9	3.9
	Average	3.0	3.4	3.1	4.3	3.1	17.0

Oven Baked

	Clone	Flavor	After Cooking Darkening	Texture	Tuber Center	Sloughing	Total Rating
6	Yukon Gold	4	4	4	4	4	20
7	A11569-1Y	3	4	4	4	4	19
8	A12224-2Y	4	4	3	5	4	20
9	A11576-1Ysto	3	4	3	3	4	17
10	TXA18020-1DY	3	4	3	3	4	17
11	Purple Majesty	3	4	3	4	4	18
12	POR18PG54-1	3	4	3	3	4	17
	LSD_{0.05}	0.9	0.6	0.9	0.9	0.7	2.7
	Average	3.3	4.0	3.3	3.7	4.0	18.3

Microwaved

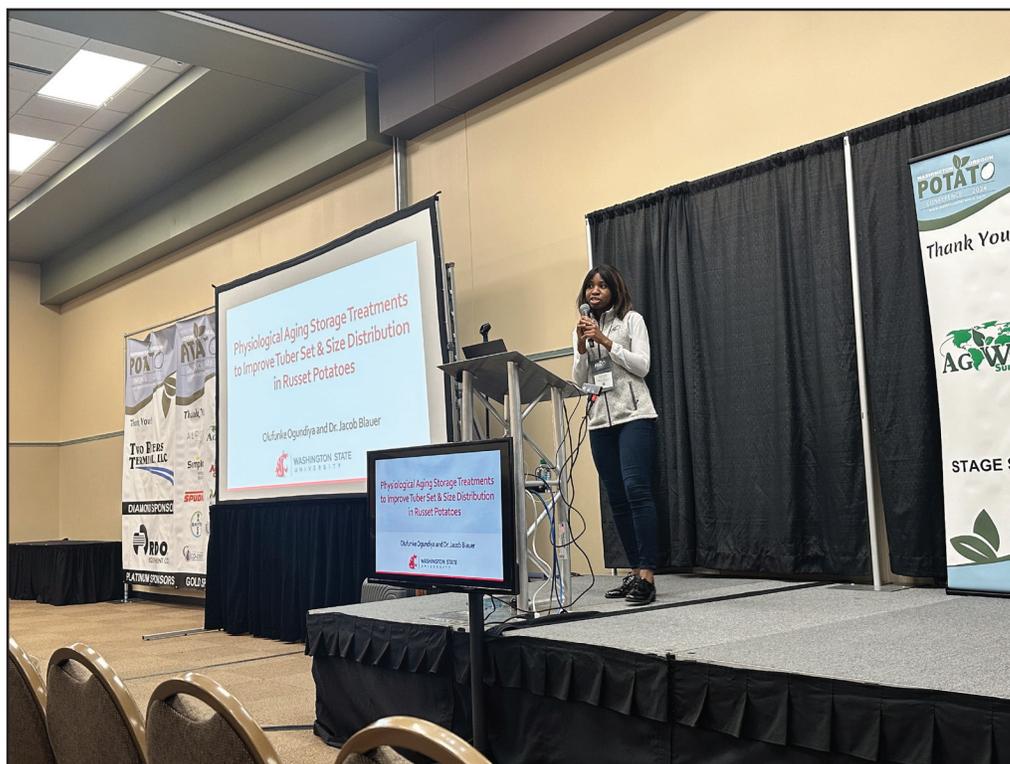
	Clone	Flavor	After Cooking Darkening	Texture	Tuber Center	Sloughing	Total Rating
6	Yukon Gold	4	4	4	4	4	20
7	A11569-1Y	3	4	4	4	4	19
8	A12224-2Y	4	4	3	5	4	20
9	A11576-1Ysto	3	4	3	3	4	17
10	TXA18020-1DY	3	4	3	3	4	17
11	Purple Majesty	3	4	3	4	4	18
12	POR18PG54-1	3	4	3	3	4	17
	LSD_{0.05}	0.9	0.6	0.9	0.9	0.7	2.7
	Average	3.3	4.0	3.3	3.7	4.0	18.3

*Differences between clones equal to or greater than the LSD 0.05 are significant.

Chipping and Boiling Evaluations

Clone	Entry	Chips	Time to Breakdown (min)		
		SFA	Stem	Bud	Average
Chieftain	1	3.3	3.1	2.8	2.9
Modoc	2	4.2	4.8	3.3	4.0
A11596-6R	3	3.1	4.6	4.0	4.3
A12211-6Rtrv	4	3.4	4.1	3.6	3.8
COOR15108-1	5	1.4	3.3	4.0	3.7
Yukon Gold	6	2.9	5.6	3.7	4.7
A11569-1Y	7	2.7	4.2	3.5	3.8
A12224-2Y	8	3.4	4.9	4.3	4.6
A11576-1Ysto	9	2.2	4.0	4.1	4.1
TXA18020-1DY	10	3.8	4.8	3.8	4.3
Purple Majesty	11	3.8	3.2	3.6	3.4
POR18PG54-1	12	4.2	4.5	3.7	4.1
	LSD_{0.05}	0.5	1.2	0.5	
	Average	3.2	4.2	3.7	4.0

*Differences between clones equal to or greater than the LSD 0.05 are significant.
SFA 1 (lightest) to 5 (darkest).



Olufunke Ogundiya gives a talk at the WA/OR Potato Conference.



Transporting heat boxes to Othello.



Installing heat boxes.



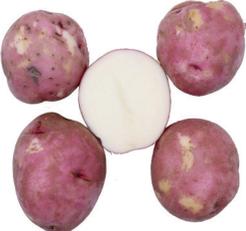
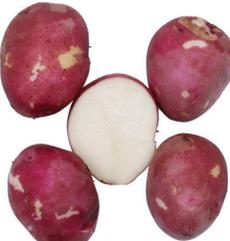
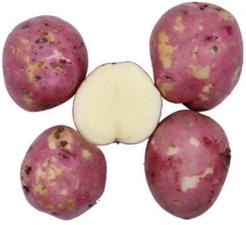
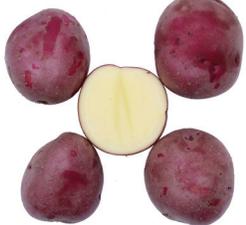
The engineers behind the heat boxes. Led by Dr. Soumik Banerjee (right).

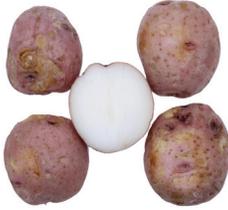
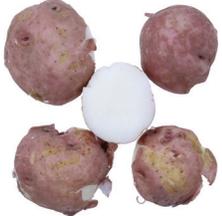
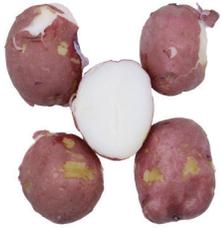
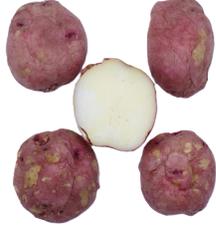
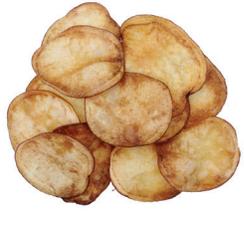
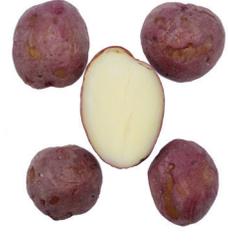
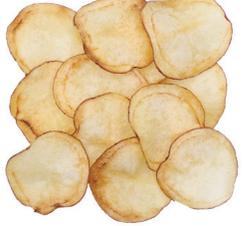
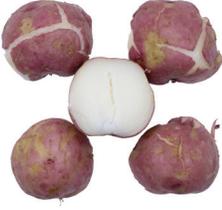


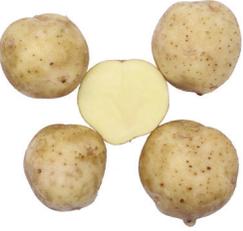
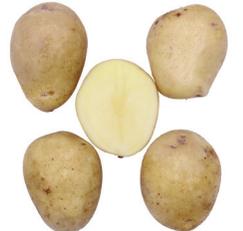
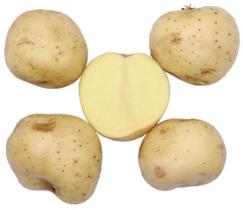
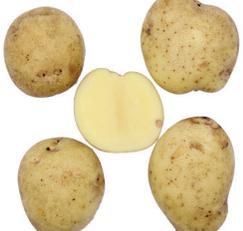
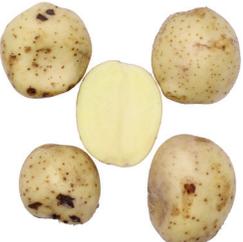
Plots growing inside the heat box.

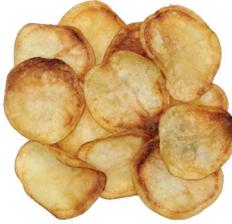
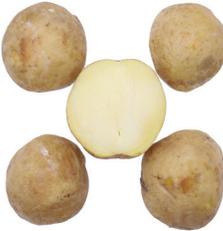
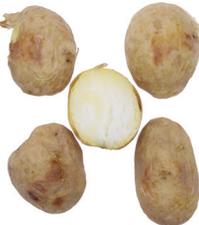
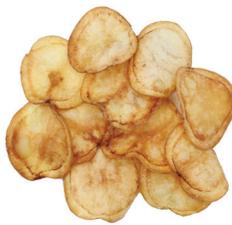
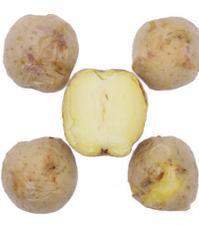
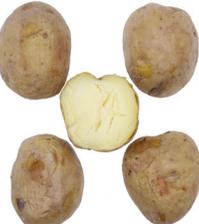
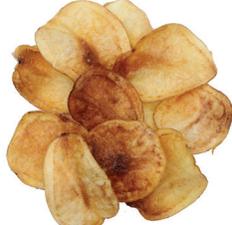
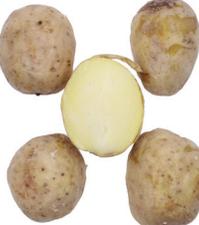


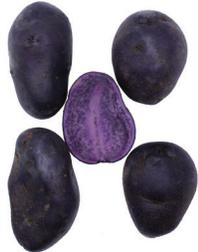
Research plots with and without the heat boxes mid June in Othello, WA.

Tubers	WA Tri-State Specialty Trial Comments
Chieftain	
	<p>Tubers: Round tubers. Fair skin set; moderate eye depth.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, no sloughing.</p> <p>Boiled: Slight sloughing, slight after cooking darkening, creamy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center, slight sloughing.</p>
Modoc	
	<p>Tubers: Round tubers. Good skin set; shallow eyes.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: No sloughing, slight after cooking darkening, creamy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, creamy texture, bland flavor, fully cooked tuber center, slight sloughing.</p>
A11596-6R	
	<p>Tubers: Round tubers. Fair skin set; moderate eye depth.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, no sloughing.</p> <p>Boiled: None sloughing, slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, creamy texture, bland flavor, fully cooked tuber center, slight sloughing.</p>
A12211-6Rtrv	
	<p>Tubers: Round to oblong tubers. Good skin set; very shallow eyes.</p> <p>Baked: Moderate after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: None sloughing, moderate after cooking darkening, creamy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Moderate after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p>
COOR15108-1	
	<p>Tubers: Round tubers. Fair skin set; shallow eyes.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: None sloughing, slight after cooking darkening, creamy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, moderate sloughing.</p>

Chips	Baked	Boiled	Microwaved
Chieftain			
			
Modoc			
			
A11596-6R			
			
A12211-6Rtrv			
			
COOR15108-1			
			

Tubers	WA Tri-State Specialty Trial Comments
Yukon Gold	
	<p>Tubers: Round to oblong tubers. Good skin set; shallow eyes.</p> <p>Baked: Slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: Moderate sloughing, slight after cooking darkening, creamy texture, unacceptable flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center, no sloughing.</p>
A11569-1Y	
	<p>Tubers: Round to oblong tubers. Good skin set; shallow eyes.</p> <p>Baked: Slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center, slight skin.</p> <p>Boiled: Moderate sloughing, slight after cooking darkening, fluffy texture, bland flavor, fully cooked tuber center.</p> <p>Microwaved: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p>
A12224-2Y	
	<p>Tubers: Round tubers. Good skin set; moderate eye depth.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, fully cooked tuber center, slight sloughing.</p> <p>Boiled: Slight sloughing, moderate after cooking darkening, creamy texture, bland flavor, fully cooked tuber center.</p> <p>Microwaved: Slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center, slight sloughing.</p>
A11576-1Ysto	
	<p>Tubers: Round tubers. Good skin set; shallow eyes.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: Moderate sloughing, moderate after cooking darkening, creamy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Moderate after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p>
TXA18020-1DY	
	<p>Tubers: Round to oblong tubers. Good skin set; shallow eyes.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: Moderate sloughing, slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, fluffy texture, bland flavor, mushy tuber center, slight sloughing.</p>

Chips	Baked	Boiled	Microwaved
Yukon Gold			
			
A11569-1Y			
			
A12224-2Y			
			
A11576-1Ysto			
			
TXA18020-1DY			
			

Tubers	WA Tri-State Specialty Trial Comments
<p>Purple Majesty</p> 	<p>Tubers: Round to oblong tubers. Good skin set; shallow eyes.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: Severe sloughing, moderate after cooking darkening, creamy texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p>
<p>POR18PG54-1</p> 	<p>Tubers: Round tubers. Fair skin set; moderately deep eyes.</p> <p>Baked: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p> <p>Boiled: Slight sloughing, moderate after cooking darkening, pasty texture, bland flavor, mushy tuber center.</p> <p>Microwaved: Slight after cooking darkening, creamy texture, bland flavor, mushy tuber center, slight sloughing.</p>



Bins fill up quickly during the sorting process.

Chips	Baked	Boiled	Microwaved
Purple Majesty			
			
POR18PG54-1			
			



A purple flower in the 2025 Seed Lot Trial.

2025 Tri-State Chip Trial

Summaries

ENTRY	TOTAL YIELD					EXTERNAL DEFECTS		
	CWT/A	Tons/A	US # 1's*	US # 2's*	Culls*	1 = Severe	5 = None	
			> 0 oz	> 0 oz	> 0 oz	Growth		
% of Total Yield					Scab	Cracks	Green	
Atlantic	959	48.0	94	2	4	4	5	4
Lamoka	922	46.1	96	2	2	4	5	5
Snowden	1114	55.7	93	4	3	2	5	4
A15311-6Ctrv	1031	51.6	86	1	14	2	1	4
A16150-1C	723	36.1	99	0	1	3	5	4
AOR15304-7	809	40.4	97	0	3	2	4	4
AOR10902-2	712	35.6	96	0	4	4	5	4
OR16ER.2.1435	892	44.6	92	1	7	4	4	4

* 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	US # 1 YIELD						Specific Gravity	
	CWT/A	Tons/A	0-2 oz*	2-4 oz*	4-6 oz*	6-10 oz*		> 10 oz*
			%-----					
Atlantic	901	45.1	2	14	24	40	20	1.087
Lamoka	889	44.5	2	12	23	45	18	1.084
Snowden	1035	51.7	1	12	29	43	15	1.083
A15311-6Ctrv	885	44.3	1	9	14	38	39	1.073
A16150-1C	715	35.7	4	28	44	24	1	1.083
AOR15304-7	783	39.2	5	24	34	29	8	1.081
AOR10902-2	682	34.1	7	35	37	20	1	1.086
OR16ER.2.1435	817	40.9	4	15	25	37	19	1.077

* 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	SKIN	L x W	60 DAY STAND	STEMS PER PLANT	AVERAGE TUBER		SIZE	SHAPE
	SET	RATIO			WEIGHT	NUMBER	UNIFORMITY	UNIFORMITY
	1 = Poor	1 = Round	% Emerged	Above Ground	Ounces	Tubers/Plant	1 = Poor	1 = Poor
	5 = Good	5 = Long					5 = Good	5 = Good
Atlantic	5.0	1.1	83	3.2	6.0	10.0	3.0	2.0
Lamoka	5.0	1.1	91	2.6	6.2	9.3	3.0	3.0
Snowden	4.0	1.0	87	3.4	6.1	11.4	2.0	2.0
A15311-6Ctrv	5.0	1.1	89	2.5	7.6	8.5	2.0	4.0
A16150-1C	5.0	1.0	93	2.4	4.5	10.1	3.0	3.7
AOR15304-7	5.0	1.0	85	3.7	4.6	11.1	2.0	2.3
AOR10902-2	5.0	1.1	89	2.9	4.0	11.3	2.3	2.7
OR16ER.2.1435	5.0	1.1	87	3.0	5.7	9.9	2.3	1.0

* Percent values may not total 100% due to rounding

Planting Date: April 3rd
Harvest Date: September 8

Vine Kill Date: August 29th
Days grown: 148

2025 Tri-State Chip Trial

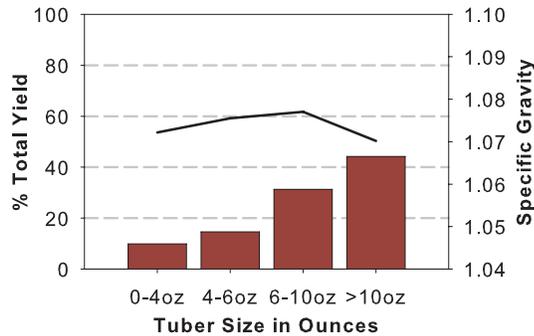
Tuber Yield and Specific Gravity Distributions

Note: Specific Gravity is based on a sample of U.S. #1 tubers within the 6-10 oz category

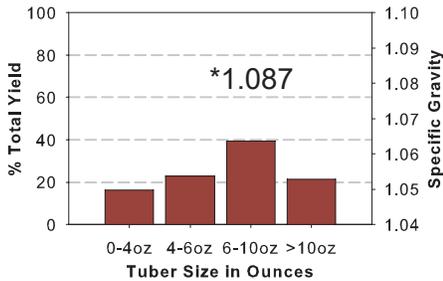
8 inch In-Row Spacing

Total Yield CWT/A

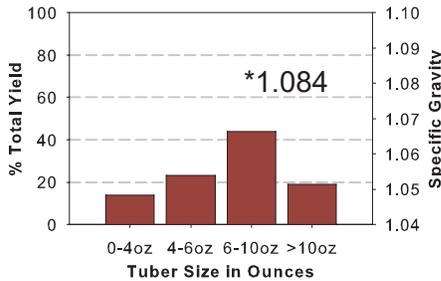
Specific Gravity



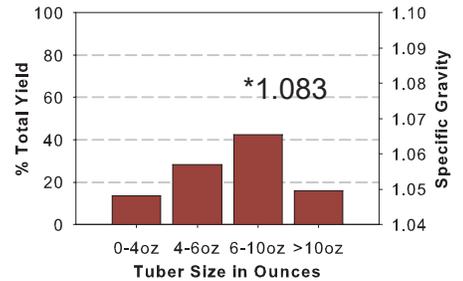
ATLANTIC



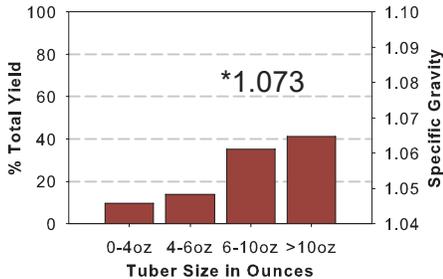
Lamoka



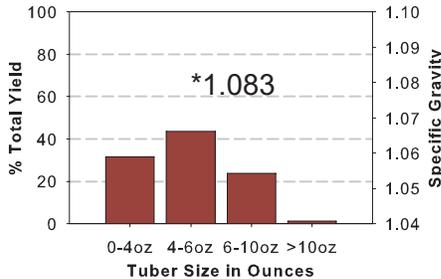
Snowden



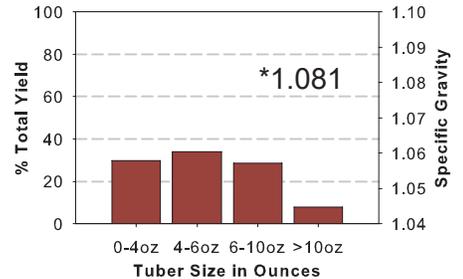
A15311-6Ctrv



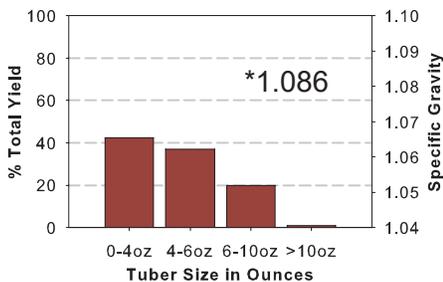
A16150-1C



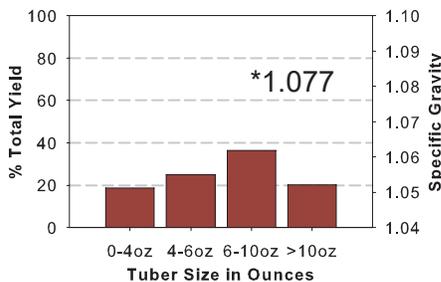
AOR15304-7



AOR10902-2



OR16ER.2.1435



2025 WA Chip Trial

Postharvest Information

Five experimental chipping clones were evaluated in 2025 along with Atlantic, Lamoka, and Snowden as check cultivars. Samples were from WSU's Othello, WA Research station. An asterisk in the summary below indicates similar performance and/or ranking in trials from the previous year.

➤ Overall Fry Color

Lightest Fry Color: AOR15304-7

Darkest Fry Color: A15311-6CTrv

➤ Harvest Fry Color

Lightest Fry Color: AOR10902-2

Darkest Fry Color: A15311-6CTrv

➤ 44°F Fry Color

Lightest Fry Color: AOR15304-7 & A16150-1C

Darkest Fry Color: Snowden & A15311-6CTrv

➤ 48°F Fry Color

Lightest Fry Color: AOR15304-7

Darkest Fry Color: Atlantic*

Details:

- When averaged over the three frying intervals (Harvest & 60 days at 48°F & 44°F), AOR15304-7 produced the lightest chips (1.9) as referenced with the SFA color chart (1-5 [darkest]). A16150-1C had the second lightest overall color of the experimental clones (2.1; the lightest in 2024), slightly lighter than Lamoka (2.3).

When fried directly out of the field, AOR10902-2 averaged the lightest chips with a score of 1.2 and AOR15304-7 was the second lightest (1.4).

- Snowden and A15311-6CTrv scored the darkest out of the field at with a SFA score of 2.4 and 2.6, respectively.
- AOR15304-7 & A16150-1C were the lightest after 60 days storage at 44°F with both rating as 3.2.
- Snowden and A15311-6CTrv were again the darkest out of the 44°F storage both rating as 5.0. As reference, Atlantic scored a 4.6 under the same conditions.
- AOR15304-7 and A16150-1C* were the lightest after 60 days at 48°F, rating 1.0 & 1.2, respectively.
- Atlantic was the darkest scoring clone out of the 48°F storage with a score of 3.2. A15311-6CTrv and OR16ER.2.1435 were similar both scoring 3.0.
- A16150-1C is the only repeated experimental line in the 2025 evaluations. Performance was similar to slightly better than the 2024 cropping season. Interestingly, the 48°F storage treatment appeared to be warm enough to condition the chips for all tested entries which resulted in the lightest fry color after 60 days storage.

2025 Tri-State Chip Trial

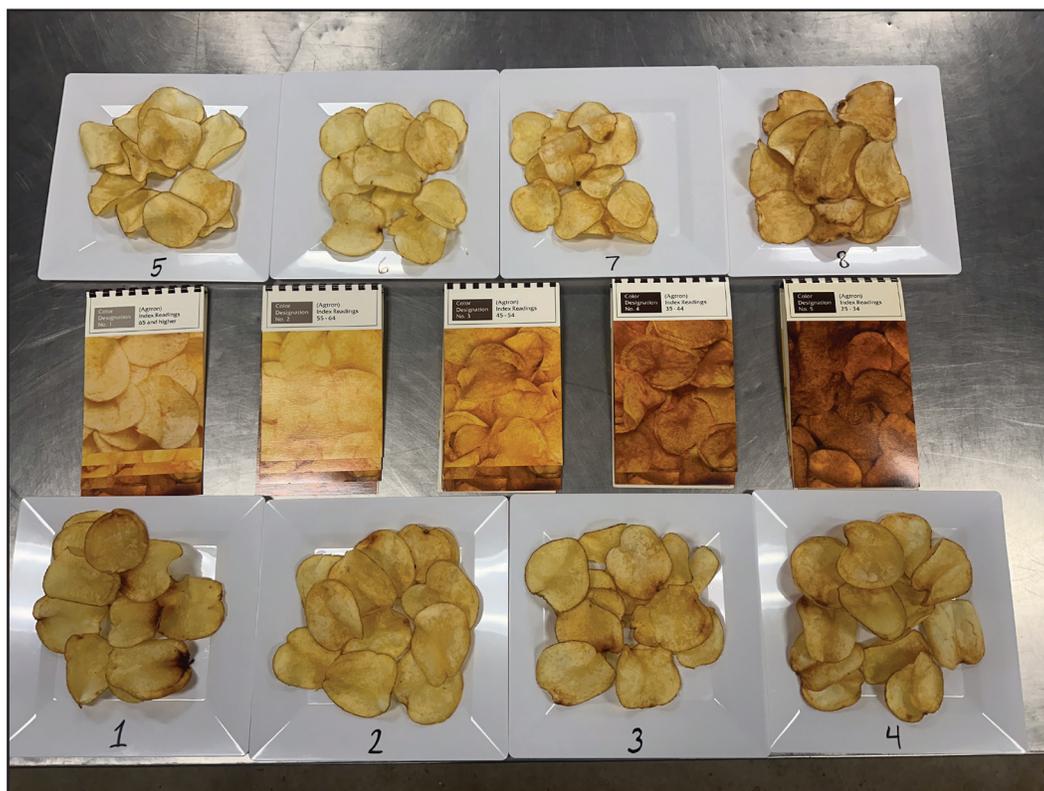
Postharvest Assessments for Storability and Color

	Clone	SFA Ratings		
		Prior to Storage	48°F Storage	44°F Storage
1	Atlantic	2.0	3.2	4.6
2	Lamoka	1.8	1.4	3.8
3	Snowden	2.4	2.6	5.0
4	A15311-6CTrv	2.6	3.0	5.0
5	A16150-1C	2.0	1.2	3.2
6	AOR15304-7	1.4	1.0	3.2
7	AOR10902-2	1.2	2.4	4.0
8	OR16ER.2.1435	2.2	3.0	4.0
Average		1.9	2.1	4.1

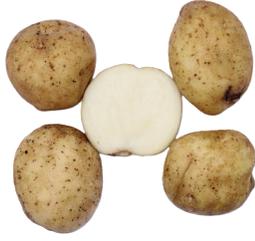
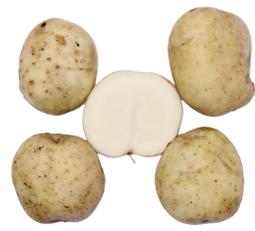
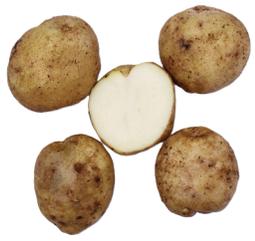
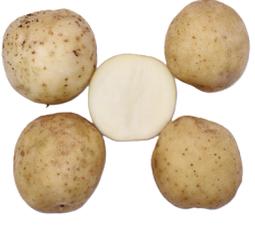
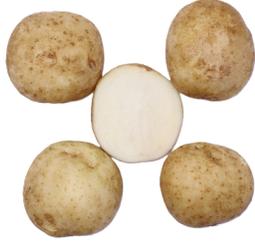
Date test performed:

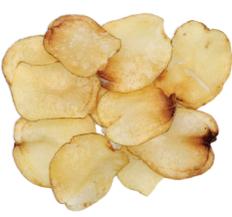
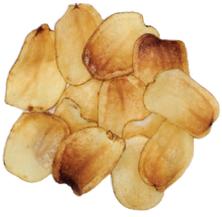
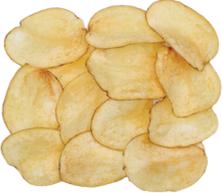
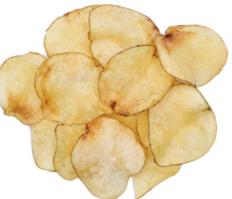
Prior to storage Sept. 18
 48°F Nov. 17
 44°F Nov. 17

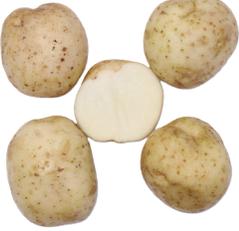
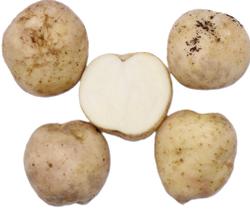
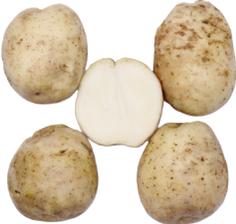
*Chips were stored for 60 days at 48°F.



The 2025 Chip Trial samples layed out for SFA evaluations

Tubers	WA Tri-State Chip Trial Comments
Atlantic	
	<p>Tubers: Round tubers. Very good skin set; moderate eye depth. Fry color: At harvest: Light; 48°F Acceptable; 44°F Unacceptable.</p>
Lamoka	
	<p>Tubers: Round tubers. Very good skin set; moderate eye depth. Fry color: At harvest: Light; 48°F Light; 44°F Acceptable.</p>
Snowden	
	<p>Tubers: Round tubers. Good skin set; deep eyes. Fry color: At harvest: Light; 48°F Light; 44°F Unacceptable.</p>
A15311-6Ctrv	
	<p>Tubers: Round tubers. Very good skin set; shallow eyes. Fry color: At harvest: Light; 48°F Acceptable; 44°F Unacceptable.</p>
A16150-1C	
	<p>Tubers: Round tubers. Very good skin set; shallow eyes. Fry color: At harvest: Light; 48°F Light; 44°F Acceptable.</p>

Initial Chips	48° F Storage	44° F Storage
Atlantic		
		
Lamoka		
		
Snowden		
		
A15311-6Ctrv		
		
A16150-1C		
		

Tubers	WA Tri-State Chip Trial Comments
<p>AOR15304-7</p> 	<p>Tubers: Round tubers. Very good skin set; moderately deep eyes. Fry color: At harvest: Light; 48°F Light; 44°F Acceptable.</p>
<p>AOR10902-2</p> 	<p>Tubers: Round tubers. Very good skin set; moderately deep eyes. Fry color: At harvest: Light; 48°F Light; 44°F Unacceptable.</p>
<p>OR16ER.2.1435</p> 	<p>Tubers: Round tubers. Very good skin set; moderately deep eyes. Fry color: At harvest: Light; 48°F Acceptable; 44°F Unacceptable.</p>

Initial Chips	48° F Storage	44° F Storage
AOR15304-7		
		
AOR10902-2		
		
OR16ER.2.1435		
		

Index of Clones and Cultivars

Early Harvest Tri-State Trial	22-27	
A10020-3sto	A16051-3	Russet Norkotah TX278
A12287-1LB	AOR15152-2	Shepody
A12327-5VR	AOR15194-2	
A13085-2	AOR16066-5	
A15082-9	AOR1853-7	
A15254-5	Ranger Russet	
A16023-13	Russet Burbank	
Late Harvest Tri-State Trial	28-51	
A10020-3sto	A16051-3	Russet Burbank
A12287-1LB	AOR15152-2	Russet Norkotah TX278
A12327-5VR	AOR15194-2	
A13085-2	AOR16066-5	
A15082-9	AOR1853-7	
A15254-5	Clearwater Russet	
A16023-13	Ranger Russet	
Early Harvest Regional Trial	52-57	
A12308-3adg	CO15070-4RU	
A13072-7	CO16238-4RUsto	
A13091-5	OR11222-4	
AOR13064-2	Ranger Russet	
AOR15166-2	Russet Burbank	
AOR15227-2	Russet Norkotah TX278	
CO15016-1RUsto	Shepody	
Late Harvest Regional Trial	58-85	
A12304-1sto	Clearwater Russet	Russet Norkotah TX278
A12308-3adg	CO15016-1RUsto	
A13072-7	CO15070-4RU	
A13091-5	CO16238-4RUsto	
AOR13064-2	OR11222-4	
AOR15166-2	Ranger Russet	
AOR15227-2	Russet Burbank	
Tri-State Specialty Trial	86-103	
A11569-1Y	Chieftain	TXA18020-1DY
A11576-1Ysto	COOR15108-1	Yukon Gold
A11596-6R	Modoc	
A12211-6Rtrv	POR18PG54-1	
A12224-2Y	Purple Majesty	
Tri-State Chip Trial	104-111	
A15311-6Ctrv	Atlantic	
A16150-1C	Lamoka	
AOR10902-2	OR16ER.2.1435	
AOR15304-7	Snowden	