

2018 TRI-STATE RUSSET POTATO VARIETY TRIAL REPORT



State Experiment Stations and
USDA-ARS Cooperating

Washington

Oregon

Idaho

2018 TRI-STATE POTATO VARIETY TRIAL REPORT

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Compiled by Chelsey Lowder

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TABLE 2: 2018 Tri-State Potato Variety Trial - CLONE, PARENTS, FLOWER COLOR, ENTERED BY, USE, SEED SOURCE, STAND, TUBER AND VINE CHARACTERISTICS, STEMS PER PLANT

No	Clone	Parents	Flower Color	Entered by	Use	Trial Year	Seed Source	Mean Stand %	Stems/Plant	Tuber				Vine			
										Means	Shape	Means	Skin	Means	Size	Means	Maturity
1	Ranger Russet	Butte A6595-3	Red-purple	Check	Dual	Check	OR	98	2.1	4.4	Long	3.5	Med Russet	3.8	Med-large	3.2	Medium
2	Russet Burbank	Early Rose ?	White	Check	Dual	Check	OR	99	2.1	3.8	Obl-Lng	3.6	Med Russet	3.3	Med-large	2.7	Med Early
3	Russet Norkotah	ND9687-5 Rus ND9526-4 Rus	White	Check	Fresh	Check	OR	99	2.3	3.8	Obl-Lng	3.8	Med Russet	2.3	Small	1.8	Early
4	Shepody	Bake-King F58050	White	Check	Proc	Check	OR	96	2.1	3.1	Oblong	2.0	White	2.3	Small	3.5	Medium
5	A07098-4	Owyhee Russet A01025-4	White	ID	Dual	2	OR	99	2.5	3.1	Oblong	2.0	White	3.0	Medium	2.7	Med Early
6	A07547-4adg	Payette A93575-4adg	White	ID	Dual	1	ID	99	2.0	2.0	Round	1.9	White	2.9	Medium	2.6	Med Early
7	A07705-4	A00Etb12-2 A02768-1	White	ID	Fresh	2	OR	98	3.1	3.0	Oblong	2.7	Light Russet	3.3	Med-large	3.4	Medium
8	A08422-4VRsto	A96953-13sto A02618-1adg	White	ID	Dual	2	*OR	99	1.5	3.4	Oblong		Heavy Rus	2.0	Small	3.5	Medium
9	A08510-1LB	PA00V6-4 Rio Grande Russet	White	ID	Dual	2	OR	99	3.1	2.6	Oblong	2.7	Light Russet	3.3	Med-large	2.8	Med Early
10	A09022-4	Alturas Russet Premier Russet	White	ID	Dual	1	ID	99	2.2	2.8	Oblong	2.4	Light Russet	3.1	Med-large	2.8	Med Early
11	AOR08540-1	A02782-2 PA01N22-5	White	OR	Dual	1	OR	99	2.3	3.6	Obl-Lng	3.6	Med Russet	3.4	Med-large	3.2	Medium
12	AOR10204-3	COA05110-3 A05066-9	Lav-Purple	OR	Dual	1	OR	99	2.7	3.4	Oblong	3.8	Med Russet	3.3	Med-large	2.8	Med Early
13	OR12133-10	A98345-10 Silverton Russet	White	OR	Dual	1	OR	99	2.2	3.6	Obl-Lng	2.6	Light Russet	3.9	Med-large	3.4	Medium
14	POR12NCK50-1	PA99N82-4 Western Russet	Lav-Purple	OR	Dual	2	OR	98	2.1	3.6	Obl-Lng	4.0	Med Russet	3.2	Med-large	3.0	Med Early

Numerical values are means of all trial locations.

1.0-2.0=Round, 2.1-2.5=Round-Oblong, 2.6-3.5=Blocky, 3.6-4.0=Oblong, 4.1-5.0=Long

1.0-2.0=White, 2.1-3.0=Light Russet, 3.1-4.0=Medium Russet, 4.1-4.5=Medium Heavy Russet, 4.6-5.0 Heavy Russet

1.0-2.5=Small, 2.6-3.0=Medium, 3.1-4.0=Medium-Large, 4.1-4.5=Large, 4.6-5.0=Very Large

1.0-2.5=Early, 2.6-3.0=Medium-Early, 3.1-3.5=Medium, 3.6-4.0=Medium-Late, 4.1-4.5=Late, 4.6-5.0=Very Late

*Idaho supply Aberdeen

TABLE 3: 2018 Tri-State Potato Variety Trial - TOTAL YIELD (CWT/A) - EARLY AND LATE HARVEST

No.	Clone	Total Yield - Early Harvest (CWT/A)					Total Yield - Late Harvest (CWT/A)					
		ID	WA	Ont	Entry Mean	Rank	ID	WA	OR		Entry Mean	Rank
								Herm	KF			
1	Ranger Russet	395	421	727	514	4	435	899	944	624	725	6
2	Russet Burbank	352	515	625	497	8	411	869	821	661	580	11
3	Russet Norkotah	234	478	539	417	13	267	834	688	531	719	7
4	Shepody	195	528	609	444	11						
5	A07098-4	411	550	582	514	5	502	1036	699	640	719	7
6	A07547-4adg	337	490	567	465	10	381	834	646	511	851	3
7	A07705-4	407	511	639	519	3	597	1147	929	589	887	1
8	A08422-4VRsto	368	418	524	437	12						
9	A08510-1LB	424	479	625	509	7	531	950	790	531	701	9
10	A09022-4	309	386	433	376	14	385	836	535	449	551	12
11	AOR08540-1	383	510	635	509	6	556	1113	1061	672	851	3
12	AOR10204-3	467	532	625	541	1	595	1087	731	689	775	5
13	OR12133-10	404	536	661	534	2	536	1271	1110	634	887	1
14	POR12NCK50-1	348	497	637	494	9	416	885	827	654	695	10
Location Means		360	489	602	484		468	980	815	599	745	
LSD (.05)					90						123	

TABLE 4: 2018. Tri-State Potato Variety Trial - YIELD OF U.S. #1'S (CWT/A & %) - EARLY AND LATE HARVEST

No.	Clone	U.S. No. 1's - Early Harvest (CWT/A)/%				U.S. No. 1's - Late Harvest (CWT/A)/%						
		ID	WA	Ont	Entry Mean	Rank	ID	WA	OR		Entry Mean	Rank
									Herm	KF		
1	Ranger Russet	330	398	575	434	9	338	800	773	470	595	7
		84	94	79	86	9	78	89	82	75	81	6
2	Russet Burbank	250	489	273	337	13	305	744	646	488	546	9
		71	95	44	70	14	73	86	79	74	78	11
3	Russet Norkotah	161	450	434	349	12	217	759	603	449	507	11
		69	94	80	81	12	80	91	88	85	86	2
4	Shepody	113	488	494	365	11						
		55	92	81	76	13						
5	A07098-4	333	526	492	450	3	414	981	514	434	586	8
		82	96	85	87	6	82	95	74	68	80	9
6	A07547-4adg	305	468	533	435	7	328	785	562	389	516	10
		90	95	94	93	2	86	94	87	76	86	3
7	A07705-4	292	507	505	435	8	471	1098	747	346	665	3
		71	99	79	83	11	79	96	80	59	79	10
8	A08422-4VRsto	356	416	452	408	10						
		96	99	86	94	1						
9	A08510-1LB	322	471	520	438	6	457	916	652	389	603	6
		76	98	83	86	8	86	96	83	73	84	4
10	A09022-4	250	368	335	318	14	322	755	373	283	433	12
		81	95	77	84	10	84	90	70	63	77	12
11	AOR08540-1	315	491	512	439	4	433	938	867	506	686	2
		82	96	81	86	7	78	84	82	75	80	8
12	AOR10204-3	403	500	522	475	1	501	913	585	530	632	4
		87	94	83	88	3	84	84	80	77	81	5
13	OR12133-10	326	526	548	467	2	408	1158	970	434	742	1
		81	98	83	87	5	76	91	87	68	81	7
14	POR12NCK50-1	273	488	555	439	5	365	856	720	511	613	5
		78	98	87	88	4	87	97	87	78	87	1
Location Means		288	470	482	413		380	892	668	436	594	
LSD (.05)		79	96	80	85		81	91	81	73	82	138

TABLE 5: 2018 Tri-State Potato Variety Trial - YIELD > 10 OZ (CWT/A & %) - EARLY AND LATE HARVEST

No.	Clone	U.S. No. 1's > 10 OZ - Early Harvest (CWT/A)/%					U.S. No. 1's >10 OZ - Late Harvest (CWT/A)/%					
		ID	WA	Ont	Entry Mean	Rank	ID	WA	OR		Entry Mean	Rank
								Herm	KF			
1	Ranger Russet	101	113	331	182	4	184	611	382	184	340	4
		25	27	45	33	4	43	68	40	30	45	1
2	Russet Burbank	83	116	104	101	11	134	489	129	138	222	9
		23	23	17	21	10	32	56	16	21	31	8
3	Russet Norkotah	28	132	185	115	9	45	469	220	147	220	10
		12	28	34	25	8	16	56	32	28	33	6
4	Shepody	35	325	328	229	1						
		16	62	54	44	2						
5	A07098-4	44	74	144	87	12	153	465	61	36	179	11
		11	13	25	16	12	30	45	9	6	22	12
6	A07547-4adg	110	256	271	212	2	165	600	262	51	269	5
		32	52	48	44	1	43	72	41	10	41	3
7	A07705-4	43	13	78	45	14	162	578	237	25	251	6
		11	3	12	8	14	27	50	26	4	27	10
8	A08422-4VRsto	111	112	206	143	7						
		28	27	39	31	6						
9	A08510-1LB	56	83	166	102	10	166	573	155	53	237	8
		13	17	27	19	11	31	60	20	10	30	9
10	A09022-4	54	59	67	60	13	120	525	34	15	173	12
		17	15	15	16	13	31	63	6	3	26	11
11	AOR08540-1	125	65	337	176	5	281	614	434	101	358	2
		31	13	53	32	5	51	55	41	15	40	4
12	AOR10204-3	148	278	191	206	3	324	714	258	81	344	3
		32	52	31	38	3	54	66	35	12	42	2
13	OR12133-10	98	152	249	167	6	252	795	439	70	389	1
		24	28	38	30	7	47	63	40	11	40	5
14	POR12NCK50-1	75	88	201	121	8	135	488	283	70	244	7
		21	18	32	23	9	31	55	34	11	33	7
Location Means		79	133	204	139		177	577	241	81	269	
LSD (.05)		21	27	34	27		36	59	28	13	34	
					104						104	

TABLE 6: 2018 Tri-State Potato Variety Trial - YIELD < 4 OZ (CWT/A & %) - EARLY AND LATE HARVEST

No.	Clone	Yield < 4 OZ - Early Harvest (CWT/A)/%					Yield < 4 OZ - Late Harvest (CWT/A)/%					
		ID	WA	Ont	Entry Mean	Rank	ID	WA	OR		Entry Mean	Rank
								Herm	KF			
1	Ranger Russet	37	19	45	34	11	23	23	58	36	35	12
		9	5	6	7	11	5	3	6	6	5	12
2	Russet Burbank	38	54	52	48	8	32	26	98	73	57	6
		11	10	8	10	9	8	3	12	11	9	8
3	Russet Norkotah	51	40	54	48	7	44	33	58	48	46	10
		22	8	10	13	4	17	4	8	9	10	5
4	Shepody	41	23	38	34	12						
		24	4	6	12	6						
5	A07098-4	54	48	70	57	6	45	58	160	142	101	2
		13	9	12	11	7	9	6	23	22	15	3
6	A07547-4adg	27	18	28	24	13	27	13	50	94	46	9
		8	4	5	6	13	7	2	8	18	9	7
7	A07705-4	94	113	120	109	1	77	69	104	179	107	1
		23	22	19	21	1	13	6	11	30	15	2
8	A08422-4VRsto	12	19	33	21	14						
		4	4	6	5	14						
9	A08510-1LB	87	76	87	83	2	54	50	105	114	81	3
		21	16	14	17	2	10	5	13	22	13	4
10	A09022-4	46	49	80	59	4	36	22	125	121	76	4
		15	13	19	16	3	10	3	23	27	16	1
11	AOR08540-1	26	63	32	40	9	27	25	56	105	53	8
		7	12	5	8	10	5	2	5	16	7	10
12	AOR10204-3	24	23	60	36	10	24	16	55	81	44	11
		5	4	10	6	12	4	2	7	12	6	11
13	OR12133-10	54	52	67	58	5	30	30	66	134	65	5
		13	10	10	11	8	6	2	6	21	9	6
14	POR12NCK50-1	61	50	67	59	3	39	27	56	92	54	7
		18	10	10	13	5	10	3	7	14	8	9
Location Means		47	46	59	51		38	33	83	102	64	
LSD (.05)		14	9	10	11		9	3	11	17	10	
					18					30		

TABLE 7: 2018 Tri-State Potato Variety Trial - SPECIFIC GRAVITY - EARLY AND LATE HARVEST

No.	Clone	Specific Gravity - Early Harvest					Specific Gravity - Late Harvest					
		ID	WA	Ont	Entry Mean	Rank	ID	WA	Herm	KF	Entry Mean	Rank
1	Ranger Russet	1.078	1.085	1.079	1.081	5	1.086	1.082	1.082	1.089	1.085	3
2	Russet Burbank	1.073	1.085	1.072	1.077	9	1.077	1.078	1.080	1.083	1.079	8
3	Russet Norkotah	1.075	1.077	1.068	1.073	11	1.071	1.067	1.069	1.076	1.071	12
4	Shepody	1.068	1.074	1.072	1.071	13						
5	A07098-4	1.076	1.080	1.073	1.076	10	1.083	1.076	1.075	1.081	1.079	9
6	A07547-4adg	1.083	1.084	1.078	1.082	1	1.083	1.078	1.077	1.085	1.081	6
7	A07705-4	1.068	1.067	1.069	1.068	14	1.079	1.078	1.075	1.081	1.078	10
8	A08422-4VRsto	1.079	1.083	1.079	1.080	7						
9	A08510-1LB	1.076	1.080	1.085	1.080	6	1.085	1.077	1.089	1.085	1.084	5
10	A09022-4	1.081	1.086	1.077	1.081	2	1.086	1.075	1.079	1.080	1.080	7
11	AOR08540-1	1.078	1.080	1.085	1.081	4	1.086	1.082	1.086	1.082	1.084	4
12	AOR10204-3	1.070	1.073	1.073	1.072	12	1.076	1.076	1.075	1.079	1.076	11
13	OR12133-10	1.076	1.080	1.077	1.077	8	1.086	1.079	1.087	1.087	1.085	2
14	POR12NCK50-1	1.075	1.082	1.085	1.081	3	1.090	1.083	1.093	1.089	1.089	1
Location Means		1.075	1.080	1.076	1.077		1.082	1.078	1.081	1.083	1.081	
LSD (0.5)					0.006						0.004	

TABLE 10: 2018 Tri-State Potato Variety Trial - TUBER DISCRIPTORS

No. Clone		Tuber Uniformity ¹								Shatter ¹						Greening ¹								
		Early			Late				Entry	Early			Late			Entry	Early			Late			Entry	
		ID	WA	Ont	ID	WA	Herm	KF	Means	ID	WA	Ont	ID	Herm	KF	Means	ID	WA	Ont	ID	WA	Herm	KF	Means
1	Ranger Russet	3.4	2.3	4.0	2.5	2.5	4.5	3.0	3.2	4.9	5.0	5.0	4.9	4.6	5.0	4.9	5.0	5.0	5.0	4.6	5.0	4.4	4.1	4.7
2	Russet Burbank	2.1	2.7	3.0	2.5	2.0	4.6	2.2	2.7	4.8	5.0	5.0	4.6	4.8	5.0	4.9	4.0	5.0	5.0	4.6	4.0	4.5	4.5	4.5
3	Russet Norkotah	3.6	3.3	3.0	4.0	3.3	4.5	3.9	3.7	5.0	5.0	5.0	4.8	4.9	4.9	4.9	4.4	5.0	5.0	4.8	4.0	4.5	4.5	4.6
4	Shepody	1.8	2.0	3.0					2.3	4.9	5.0	5.0				5.0	3.8	5.0	5.0					4.6
5	A07098-4	4.0	3.7	3.0	4.0	2.5	4.4	3.1	3.5	4.0	5.0	5.0	3.8	3.9	4.0	4.3	4.5	5.0	5.0	3.9	4.3	4.8	4.0	4.5
6	A07547-4adg	3.5	3.7	4.0	3.5	2.8	4.5	3.4	3.6	4.9	5.0	5.0	4.8	4.5	4.6	4.8	4.5	5.0	5.0	4.5	4.0	4.8	3.8	4.5
7	A07705-4	3.5	2.7	2.0	3.5	2.0	4.4	3.0	3.0	4.8	5.0	5.0	4.6	4.5	4.3	4.7	4.9	5.0	5.0	4.1	4.0	4.4	4.6	4.6
8	A08422-4VRsto	3.4	3.0	3.0					3.1	3.1	4.0	5.0				4.0	5.0	5.0	5.0					5.0
9	A08510-1LB	3.3	3.0	4.0	3.1	2.3	4.6	3.9	3.4	4.8	5.0	5.0	4.1	4.3	4.3	4.6	4.6	5.0	5.0	4.9	5.0	4.5	4.9	4.8
10	A09022-4	3.3	3.0	3.0	3.8	2.8	4.4	3.6	3.4	4.0	4.0	5.0	3.6	3.8	2.3	3.8	4.8	5.0	5.0	4.8	5.0	4.6	3.9	4.7
11	AOR08540-1	3.5	3.7	4.0	2.6	2.8	4.4	3.3	3.5	4.1	5.0	5.0	4.4	4.5	4.6	4.6	4.5	5.0	5.0	4.1	1.3	4.3	3.6	4.0
12	AOR10204-3	3.0	3.0	3.0	3.6	2.8	3.1	3.3	3.1	4.8	5.0	5.0	4.4	4.3	4.8	4.7	4.8	5.0	5.0	4.0	4.0	4.4	3.8	4.4
13	OR12133-10	3.6	3.0	3.0	3.6	3.0	4.4	3.4	3.4	4.6	5.0	5.0	4.1	3.9	4.0	4.4	4.3	5.0	5.0	2.8	4.0	4.4	4.6	4.3
14	POR12NCK50-1	3.9	3.7	4.0	4.1	3.8	3.9	3.5	3.8	4.8	5.0	5.0	4.8	4.4	5.0	4.8	5.0	5.0	5.0	4.6	5.0	4.5	4.4	4.8
Location Means		3.3	3.0	3.3	3.4	2.7	4.3	3.3	3.3	4.5	4.9	5.0	4.4	4.3	4.4	4.6	4.6	5.0	5.0	4.3	4.1	4.5	4.2	4.6

¹ Score 1-5, with 5=Best.

TABLE 11: 2018 Tri-State Potato Variety Trial - EXTERNAL DEFECTS - GROWTH CRACKS, SECOND GROWTH,
SHATTER BRUISE, SCAB - MEANS OF LOCATIONS

No.	Clone	Growth Cracks ¹		Second Growth ¹		Shatter Bruise ¹			Scab ¹	
		Early	Late	Early	Late	Early	Late	AB ²	Early	Late
1	Ranger Russet	4.7	4.2	5.0	4.6	5.0	4.3	3.2	4.8	4.5
2	Russet Burbank	3.9	3.9	3.7	3.9	5.0	3.4	2.8	5.0	5.0
3	Russet Norkotah	5.0	4.9	4.6	4.8	5.0	4.4	3.4	4.8	5.0
4	Shepody	4.6		4.2		5.0			4.7	
5	A07098-4	5.0	4.9	5.0	4.9	5.0	2.9	2.6	4.9	4.8
6	A07547-4adg	4.9	4.8	4.9	4.8	5.0	3.3	3.2	4.6	4.4
7	A07705-4	5.0	5.0	5.0	4.8	5.0	3.8	3.2	4.8	4.8
8	A08422-4VRsto	5.0		5.0		4.5			4.9	
9	A08510-1LB	5.0	5.0	5.0	5.0	5.0	3.6	2.9	4.8	4.7
10	A09022-4	4.6	5.0	5.0	4.8	4.5	2.9	2.8	4.8	4.8
11	AOR08540-1	4.9	-	5.0	-	5.0	3.3	2.9	5.0	4.9
12	AOR10204-3	4.5	4.4	4.3	4.4	5.0	3.6	3.6	5.0	4.9
13	OR12133-10	4.5	4.8	4.8	4.8	5.0	2.9	3.3	5.0	4.8
14	POR12NCK50-1	4.9	4.9	5.0	4.9	5.0	2.7	2.9	5.0	4.8
Means		4.8	4.7	4.8	4.7	4.9	3.4	3.1	4.9	4.8

¹ Score 1-5, with 1=severe, 5=none.

² Aberdeen shatter scores obtained from bruise evaluation conducted using a shatter chamber [1-5(none)].

TABLE 12: 2018 Tri-State Potato Variety Trial - INTERNAL DEFECTS - HOLLOW HEART PLUS BROWN CENTER, INTERNAL BROWN SPOT, VASCULAR DISCOLORATION/NET NECROSIS, BLACKSPOT - MEANS OF LOCATIONS

No.	Clone	Percent Hollow Heart plus Brown Center		Percent Internal Brown Spot		Percent Vascular Discoloration		Blackspot Bruise				Means Late only
		Early	Late	Early	Late	Early	Late	Washington ²		Herm	AB ³	
		Early	Late	Early	Late	Early	Late	Early	Late	Herm	AB ³	Late only
1	Ranger Russet	0.0	0.0	0.0	0.0	0.0	5.6	2.0	2.0	3.1	1.7	2.3
2	Russet Burbank	3.4	1.5	2.5	2.5	0.0	3.5	2.0	3.0	3.1	1.9	2.7
3	Russet Norkotah	0.0	1.3	0.0	0.6	5.8	1.9	3.0	4.0	4.3	2.0	3.4
4	Shepody	0.0		0.0		3.3		4.0				
5	A07098-4	1.1	1.3	0.0	1.3	0.0	2.6	3.0	3.0	4.1	1.4	2.8
6	A07547-4adg	0.0	3.8	0.0	4.4	0.0	2.5	3.0	4.0	4.5	3.9	4.1
7	A07705-4	0.0	0.6	1.7	10.6	0.0	3.8	3.0	4.0	4.3	2.0	3.4
8	A08422-4VRsto	1.9		0.8		1.7		3.0				
9	A08510-1LB	0.0	0.0	0.0	0.0	1.7	0.8	4.0	4.0	3.9	3.9	3.9
10	A09022-4	0.0	0.0	0.0	0.6	0.0	7.5	2.0	4.0	4.4	3.5	4.0
11	AOR08540-1	0.0	5.0	0.0	0.0	1.7	0.7	4.0	4.0	4.0	2.8	3.6
12	AOR10204-3	0.0	0.0	0.0	1.3	0.0	4.4	4.0	3.0	4.1	3.4	3.5
13	OR12133-10	0.0	0.0	0.8	5.6	10.0	7.5	3.0	3.0	3.3	1.7	2.7
14	POR12NCK50-1	0.0	1.9	0.0	0.6	0.0	9.6	3.0	4.0	4.0	3.6	3.9
Means		0.5	1.3	0.4	2.3	1.7	4.2	3.1	3.5	3.9	2.6	3.4

¹ Rating of Stem-end Browning + VD

² Score 1-5, with 1=severe, 5=none.

³ Aberdeen blackspot scores from an abrasive peel test [1-5(none)].

TABLE 13: 2018 Tri-State Potato Variety Trial - FRENCH FRY COLOR (00-4.0(darkest)), AND PERCENT SUGAR ENDS

No.	Clone	Fry 44 or 45°							Fry 40°					Sugar Ends			
		ID ¹	WA	Ont ²	Herm ⁴	All Entries		Postharvest 3 state mean. ³	ID ¹	WA	All Entries		Postharvest 3 state mean. ³	ID ¹	Ont ²	Herm	Entry Mean
						Mean	Rank				Mean	Rank					
1	Ranger Russet	1.2	1.0	2.1	0.8	1.3	5	0.3	1.8	4.0	2.9	9	2.7	4.2	0.0	4.2	2.8
2	Russet Burbank	1.2	3.0	2.8	1.4	2.1	8	1.7	2.3	4.0	3.1	12	3.0	4.2	10.0	29.2	14.4
3	Russet Norkotah	2.8		2.6	1.7	2.3	11		2.4		2.4	5		8.3	5.0	0.0	4.4
4	Shepody			2.0													
5	A07098-4	1.4	3.0	2.9	2.1	2.3	12	1.3	1.8	4.0	2.9	10	2.7	0.0	0.0	4.2	1.4
6	A07547-4adg	0.9	1.0	1.4	0.5	1.0	3	0.3	1.4	3.0	2.2	4	2.3	0.0	0.0	0.0	0.0
7	A07705-4	1.9		2.6	1.1	1.9	7		1.9		1.9	3		12.5	0.0	4.2	5.6
8	A08422-4VRsto			2.2													
9	A08510-1LB	1.4	0.0	1.7	0.8	1.0	4	0.0	1.3	2.0	1.6	2	0.7	0.0	0.0	8.3	2.8
10	A09022-4	0.4	0.0	1.4	0.4	0.5	1	0.0	0.5	1.0	0.7	1	0.3	0.0	0.0	0.0	0.0
11	AOR08540-1	2.4	3.0	2.2	1.5	2.3	10	2.0	2.3	4.0	3.1	11	3.0	12.5	2.5	16.7	10.6
12	AOR10204-3	1.8	3.0	2.5	1.4	2.2	9	2.0	1.8	4.0	2.9	8	2.3	0.0	10.0	0.0	3.3
13	OR12133-10	1.1	1.0	2.7	0.7	1.4	6	0.7	1.5	4.0	2.8	7	1.3	8.3	12.5	8.3	9.7
14	POR12NCK50-1	1.0	0.0	1.2	0.7	0.7	2	0.0	1.1	4.0	2.6	6.0	1.7	0.0	0.0	8.3	2.8
Location Means		1.4	1.5	2.2	1.1	1.6		0.8	1.7	3.4	2.4		2.0	4.2	3.3	7	4.8

¹ Samples held for 6 week cool down period - 7 weeks at storage temperature.

² Samples held for 84 days at 48°.

³ Three state average processed at Washington - For complete postharvest results see <http://www.potatoes.wsu.edu/>

⁴ Samples held for 2 week cool down period - 9 weeks at 47° storage temperature.

TABLE 14: 2018 Tri-State Potato Variety Trial - DISEASE EVALUATIONS, METRIBUZIN REACTION

No. Clone	Vert. Wilt/ Early Dying		Early Blight		Common Scab		Rhizoc.		Corky Ringspot		Pecto- bacterium	Root Knot Nematode ⁵		Metr.		
	Early Dying		AB ¹		AB ¹		AB ¹		Corky Ringspot		Soft Rot	HERM		Reaction		
	AB ¹	HERM	Foliar		Foliar		Foliar		KLAM ³	PROS ⁴	AB	HERM		Reaction		
	(0-9)*	AUDPC	(0-9)*	AUDPC	(0-9)	AUDPC	Incidence (%)	% Serious Defects	(1-5=none) ³	Incidence (%)	% Serious Defects	reaction	0-5 ¹	Avg #/tuber	reaction	AB ⁶
1 Ranger Russet	5.0	235	8.2	1656	3.7	72	94.7	70.8	4.8	55.4	44.3	S	2.4	55.5	S	MR
2 Russet Burbank	7.0	525	8.3	1515	3.0	40	49.9	5.5	4.7	47.6	29.4	S	3.4	55.2	S	MR
3 Russet Norkotah	9.0	1055	9.3	2400	2.7	27	53.9	17.7	5.0	6.8	3.0	MR	2.9	53.0	S	MR
4 Shepody	5.3	289	--	--	5.3	165	87.2	58.2	--	20.0	9.3	MS	3.7	--	--	--
5 A07098-4	6.0	308	7.8	1694	4.7	107	64.4	20.5	5.0	29.2	19.2	S	4.8	58.2	S	MS
6 A07547-4adg	8.0	756	7.5	1569	4.3	135	49.5	31.9	4.5	21.7	11.6	S	4.7	41.8	S	MS
7 A07705-4	2.0	22	5.8	686	1.7	14	56.2	30.3	3.5	22.5	15.2	S	3.7	63.2	S	R
8 A08422-4VRsto	4.0	81	7.5	1531	5.0	125	50.5	23.1	--	42.5	27.0	S	4.2	61.5	S	MR
9 A08510-1LB	5.3	301	5.3	515	3.7	81	46.2	22.9	4.6	29.2	12.7	S	3.9	72.6	S	MR
10 A09022-4	6.0	299	8.0	1788	3.3	63	80.7	44.3	4.3	9.2	5.4	MS	3.4	56.7	S	S
11 AOR08540-1	3.0	33	6.7	1175	3.0	29	15.6	5.4	4.8	29.2	16.3	S	3.1	89.5	S	MS
12 AOR10204-3	3.3	45	7.5	1519	4.0	87	21.5	7.1	4.8	35.0	22.1	S	3.0	48.3	S	MR
13 OR12133-10	5.3	236	5.2	600	2.7	27	64.0	25.9	2.3	51.7	41.8	S	3.3	75.4	S	MR
14 POR12NCK50-1	6.3	351	8.0	1493	5.0	119	45.1	15.5	3.1	20.8	13.9	S	3.0	66.5	S	MS
MEANS	5.4	323.8	7.3	1395.4	3.7	78.0	55.7	27.1	4.3	30.0	19.4		3.5	61.3		
LSD @ .05	1.5				1.4		31.0	18.0					1.5			
Castle Russet (POR06V12-3)										0.8	0.2					

¹ Evaluations made at Aberdeen, Idaho by Jonathan Whitworth; scale as indicated with highest number being most severe. For 0 to 9: 0=no symptoms;

1= trace; 2=1-5%; 3=5-10%; 4=10-20%; 5=25-40%; 6=40-60%; 7=60-70%; 8=75-90%; 9=90-100% dead or dying with typical disease symptoms.

Early Blight and Vert. Wilt AUDPC: Area Under the Disease Progress Curve based on foliar readings taken on 3 separate readings after planting.

Common Scab and Net Necrosis serious defects are the number of tubers with a 3 rating (0-5 scale) or higher, divided by the total number of tubers examined. Net necrosis data from PLRV-infected plots.

For 0 to 5: 0=none, 5=severe as a combination of tuber area and degree impacted by Pectobacterium inoculations.

² Evaluations made at Corvallis, Oregon by Solomon Yilma; 1=no foliar injury; 3=5-10%; 5=25-40%; 7=60-75%; 8=75-90%; 9=90-100%.

Late blight AUDPC=area under the disease progress curve. Higher number indicates more disease over time; % of tubers examined with any late blight symptoms.

³ *Rhizoctonia solani* readings made by Brian Charlton, Klamath Falls, Oregon; scale as indicated with lowest number being most severe

⁴ Corky ringspot readings Prosser, WA by Rich Quick and Launa Hamlin

⁵ Root knot nematode reactions at Hermiston, OR. Readings based on a tuber peel and visual count of nematodes

⁶ Metribuzin Reaction measured at Aberdeen, ID. VR=very resistant, R=Resistant, MR=Moderately resistant, MS=moderately susceptible, S=susceptible VS=very susceptible

TABLE 15: 2018 Solids, Dextrose and Sucrose, Protein, Vitamin C and Glycoalkaloids
- Tubers Grown at Aberdeen, Idaho

No.	Clone	Solids Oven Dry (%)	Sugars		Protein (%DWB)	Vitamin C (mg/100g FWB)	Glycoalkaloids (mg/100gFWB)
			Dextrose (%FWB)	Sucrose (%FWB)			
1	Ranger Russet	21.62	0.072	0.174	6.46	31.19	3.62
2	Russet Burbank	20.71	0.073	0.150	5.58	24.79	3.01
3	Russet Norkotah	19.12	0.081	0.107	5.60	22.11	2.21
6	A07547-4adg	20.65	0.061	0.167	5.64	24.84	7.50
7	A07705-4	22.53	0.017	0.212	7.65	31.13	5.03
8	A08422-4VRsto	20.51	0.102	0.139	5.46	20.61	1.73
9	A08510-1LB	21.93	0.075	0.170	6.49	23.12	9.34
10	A09022-4	22.53	0.011	0.167	7.60	25.04	6.32
12	AOR10204-3	21.58	0.119	0.188	5.91	22.03	2.45
13	OR12133-10	19.86	0.122	0.151	6.96	18.74	1.26
14	POR12NCK50-1	22.37	0.065	0.172	5.95	31.25	3.29
Means		23.09	0.036	0.143	7.05	25.74	2.86

FWB = fresh weight basis DWB = dry weight basis

Glycoalkaloids: The 2018 Lenape check from Aberdeen was 37.5 mg/100g

TABLE 16: 2018 Tri-State Potato Variety Trial - MERIT SCORES (1-5(best))

No.	Clone	Field Performance									Field Performance						Post-Harvest	Post-Harvest Process* 3 State Mean
		Fresh Merit			Process Merrit						Late							
		Early	Late	LATE	Early	Late	Herm	LATE	RANK	WA								
ID	WA	Ont	ID	WA	Herm	KF	MEANS	RANK	WA	ID	WA	Herm	MEANS	RANK	WA			
1	Ranger Russet	3.1	1.4	5.0	2.4	0.9	2.5	2.3	2.0	9	3.4	3.0	2.4	3.0	2.8	5	3.3	3.7
2	Russet Burbank	1.9	1.9	2.0	2.1	0.5	2.5	2.0	1.8	11	3.8	2.5	1.3	2.5	2.1	10	2.3	2.5
3	Russet Norkotah	3.1	2.3	5.0	3.4	2.1	4.0	4.6	3.5	1	2.6	1.5	1.6	1.6	1.6	12		
4	Shepody	1.8		4.0							3.4							
5	A07098-4	4.0	1.4	5.0	3.8	1.4	3.2	1.1	2.4	8	2.9	3.0	1.2	1.5	1.9	11	1.9	2.7
6	A07547-4adg	3.0	1.2	5.0	2.8	0.2	3.0	1.0	1.7	12	2.7	4.0	1.1	2.5	2.5	6	2.9	3.2
7	A07705-4	3.3	0.8	5.0	3.3	2.0	3.0	2.1	2.6	4	1.2	2.5	2.1	2.5	2.4	8		
8	A08422-4VRsto	3.0	1.4	5.0							3.1							
9	A08510-1LB	3.0	2.8	5.0	3.0	0.9	3.0	2.6	2.4	7	2.1	3.5	2.6	3.0	3.0	3	2.6	3.5
10	A09022-4	2.9	0.4	5.0	3.1	0.8	2.8	1.3	2.0	10	1.7	5.0	1.9	2.0	3.0	4	3.7	4.1
11	AOR08540-1	3.4	3.0	5.0	2.5	1.3	3.0	3.5	2.6	5	3.9	1.5	2.5	3.0	2.3	9	2.6	2.6
12	AOR10204-3	2.9	3.8	4.0	3.5	1.5	3.5	3.6	3.0	3	3.4	3.0	1.9	2.5	2.5	7	1.8	2.1
13	OR12133-10	2.9	2.1	5.0	3.0	2.0	3.0	2.3	2.6	6	4.4	3.5	3.9	3.0	3.5	1	2.6	3.5
14	POR12NCK50-1	3.5	2.9	5.0	4.0	2.2	3.5	3.3	3.2	2	4.1	4.0	2.6	3.0	3.2	2	2.6	3.9
Location Means		3.0	1.9	4.6	3.1	1.3	3.1	2.5	2.5		3.0	3.1	2.1	2.5	2.6		2.6	

* For Complete information and procedures see Washington at www.potatoes.wsu.edu/

TABLE 18: 2018 Tri-State Potato Variety Trial - SUMMARY

Clone	Year in Trial	Use	Yield Late	% US#1's	Tuber Size	Specific Gravity	45 Fry Color	P F	Merit Score	Comments
1 Ranger Russet	Check	Dual	725	595 81	8.7	1.085	1.3	2.8 2.0		
2 Russet Burbank	Check	Dual	580	546 78	7.7	1.079	2.1	2.1 1.8		
3 Russet Norkotah	Check	Fresh	719	507 86	7.0	1.071	Low 2.3	1.6 3.5	Low High	
4 Shepody	Check	Proc	444*	365* 76*	7.2*	1.071*	Low			
5 A07098-4	2	Dual	719	586 80	6.1	Small 1.079	2.3	1.9 2.4		shatter bruise
6 A07547-4adg	1	Dual	851	516 86	8.2	1.081	1.0	2.5 1.7		L/W 1.32 Low
7 A07705-4	2	Fresh	887	High 665 79	6.3	Small 1.078	1.9	2.4 2.6		IBS 10.6%
8 A08422-4VRsto	2	Dual	437*	408* 94*	6.8*	1.080*				
9 A08510-1LB	2	Dual	701	603 84	6.6	1.084	1.0	3.0 2.4		
10 A09022-4	1	Dual	551	Low 433 77	Low Low	6.6	1.080	0.5 2.0	Good	under 4 oz 16 %
11 AOR08540-1	1	Dual	851	686 80	8.3	1.084	2.3	2.3 2.6		sugar ends 10.6%
12 AOR10204-3	1	Dual	775	632 81	8.8	1.076	2.2	2.5 3.0		
13 OR12133-10	1	Dual	887	High 742 81	High	8.2	1.085	1.4	3.5 2.6	High VD 10% blackspot bruise
14 POR12NCK50-1	2	Dual	695	613 87	High	7.4	1.089	0.7 3.2	Good	
	Late Means		745	594 82	7.5	1.081	1.6	2.6 2.5		

TABLE 18: 2018 Early Tri-State Potato Variety Trial - COMMENTS BY STATE

Entry	Clone	Early Idaho	Early Washington	Early Ontario
1	Ranger Russet	MHR: few misshapen/curves (2); few bulging eyes/ats	Mostly typy, dark russet, spotty skin.	water rot, 2 curved, 2 Curved, pointed, irregular shape, IrregularShape, 2 heart shape, 2 growth cracks
2	Russet Burbank	MHR: bumps misshapen (3); bulging eyes (2)	Large, somewhat typy, with some points	curved, Curved, 3 knobs, Knobs, irregular shape, Irregular Shape, lumpy, jelly end rot, 2 Bottle Neck
3	Russet Norkotah	HR: few misshapen, uniform, low yield (2)	Mostly typy, ok size, some spotty russteing.	curved, growth cracks, water rot
4	Shepody	LR: not uniform, patchy skin (3); low yield (2); few bulging eyes/misshapen	Large, rough, with light skin.	
5	A07098-4	MLR: blocky good shape (4); uniform (3);	Light russet, plump, small, not an early variety.	4 Sprouts, extensive sprouting, irregular shape, pointed, heart shape, swollen lenticels
6	A07547-4adg	LR; short (2); some russetting, few bulging eyes/ats	Chipper? Round with light skin.	3 chipper?, 2 round, Round, too round, nice
7	A07705-4	MR: some misshapen (2); few bulging eyes/points not uniform	Light russetting, some pointy, ok length, a bit flat.	sprouts, 3 Sprouts, 2 Rounds, too small, pointed, Pointed
8	A08422-4VRsto	MR: pear shaped (4); flat (2) possible rot issue	Light russet, some lenticils on most. A bit short.	3 growth cracks, low yield, 3 irregular shape, curved, odd shape, inconsistent shape, lumpy
9	A08510-1LB	MR: blocky (2); few misshapen/ats odd russetting	Light Russetting, smooth, small, some round.	flat, 2 heart shape, 3 too round
10	A09022-4	MR: short (2); few misshapen, not uniform, odd russetting	Light Russetting, short and small.	small, round, too round, 2 Round, low yield, Sprouts, growth cracks
11	AOR08540-1	HR: good/smooth eyes (3); few points/ "u" shaped (2)	Smooth russet skin, good length and size.	2 Nice, 2 irregular shape, 2 curved, Curved, pointed, Pointed, swollen lenticels, heart shape
12	AOR10204-3	HR: few points/misshapen/bumps (3); few bumps, not uniform	Large and long, dark russet, pointy, skin set not so good.	pointed, 3 Pointed, curved, knobs, irregular shape, heart shape
13	OR12133-10	MR: slight checking, few misshapen, slight brow, not pretty	Light russet, spotty prescab. Good length, a bit flat.	2 irregular shape, 2 sprouts, water rot, curved, Pointed, inconsistent shape, swollen lenticels
14	POR12NCK50-1	HR: few bulging eyes (2); few curves/bumps	Typy, dark skin, skin set not good.	nice, Nice, 2 irregular shape, sprouts, chain

TABLE 19: 2018 Late Tri-State Potato Variety Trial - COMMENTS BY STATE

Entry	Clone	Late Idaho	Late Washington	Late Hermiston	Klamath Falls
1	Ranger Russet	MHR: misshapen (4); curves (3)	Large, shape nonuniform, some typy.	Curvy x 4, tip GC x 2, deep eyes x 2, bottle x 2, db x1, nice x 1	long skinny, few crooks, erratic size
2	Russet Burbank	MHR: misshapen (4), not uniform, bumps	Good length, irregular shape.	bottle x 4, rot x 1, db x 1, pty x 4, tip GC x1	small, growth cracks, few misshapes
3	Russet Norkotah	HR: small, low yield (3); uniform (2)	Mostly typy, some irregular shapes, good skin.	Pr. Eyes x 4, typy x 4, mix x1, pty x 2, scurf x1	typy, nice
5	A07098-4	MLR: nice shape, blocky (2) few bumps/misshapen	Smaller ones that are round, bad skin, some sprouting.	short x 2, pty x 2, sticky x 4, sprout x 1, cracky skin x 3, bottle x 1	process only, typy, TNC
6	A07547-4adg	LR: deep ends (3); some blocky/round, some checking	Flat round river rock, larger, a chipper?	Round x 4, cracky skin x 2, deep eyes x 3, deep stem end x 3	round and small, green ends
7	A07705-4	MR: few points/bumps/bulging eyes (2)	Pears with bad skin, light russet with road mapping.	Pty x 4, triangular x 3, bottle x 4, curvy x 1, flat	pointy stem ends, pears, crook and misshapes, rhizoc
9	A08510-1LB	MR: some flat/blocky (3)	Somewhat typy, but short, light russetting.	flat x 4, short x 3, round x 3, pointy x 2, sticky	no size, round and plump. Erratic russet patches
10	A09022-4	MR: patchy skin, some blocky/round/pear shaped	Short/round with spotty skin	short x 4, pty x 2, silver scurf, SN x 1, db x 1, bottle	Shatter, pink ends, small and round
11	AOR08540-1	HR: some "u" shaped/misshapen (2); few curves/points	A lot of green, shorter tubers, irregular shapes.	curvy x 2, pty x 3, tip GC x 2, db x 1, bottle x 2, bulging eyes x 1, rodent damage x 1	green ends, fresh potential, small, nice skin
12	AOR10204-3	HR: some dimpling/points/misshapen (2)	Large and typy, some irregular shapes.	typy x 4, skinning x 4, GC x1, rhizoc x 1, knob x 1	Fresh potential, few misshapes
13	OR12133-10	MR: some curves (3); tapered/pear shaped (2)	Variable shapes with light skin.	flat x 1, flakey x 3, greenig x 1, pty x 2, sprouting x 1, triangular x1, SB x 1	erratic size, chicken tracks, rhizoc
14	POR12NCK50-1	HR: nice shape, patchy skin (3); few bulging eyes (2)	Typy, ok length, nice skin.	Pty x 1, typy x 4, sticky x 4, lenticels x1, Fresh Market	Fresh potential, dented, rhizoc, deep eyes

TABLE 20: 2018 Tri-State Harvest Potato Variety Trials
WASHINGTON STATE POSTHARVEST EVALUATIONS

Entry	Late Clone	Carton Yield		Process Yield	
		100-50 count (US 1's 7-18 oz) % of Total Yield	Tons/A	US 1's and 2's > 6 oz % of Total Yield	Tons/A
1	Ranger Russet	64.1	28.8	88.8	39.8
2	Russet Burbank	61.9	26.9	80.9	35.2
3	Russet Norkotah	71.6	29.9	84.9	35.4
4	Shepody	0.0	0.0	0.0	0.0
5	A07098-4	67.9	35.2	82.8	42.9
6	A07547-4adg	55.7	23.2	89.8	37.5
7	A07705-4	68.6	39.3	81.7	46.9
8	A08422-4VRsto	0.0	0.0	0.0	0.0
9	A08510-1LB	56.8	27.0	84.4	40.2
10	A09022-4	69.2	28.9	86.1	36.1
11	AOR08540-1	62.5	34.8	81.4	45.2
12	AOR10204-3	61.4	33.3	85.5	46.4
13	OR12133-10	65.3	41.5	88.2	56.1
14	POR12NCK50-1	70.8	31.3	88.7	39.3
		55.4	27.1	73.1	35.8