

2020 TRI-STATE RUSSET POTATO VARIETY TRIAL REPORT

State Experiment Stations and
USDA-ARS Cooperating

Washington

Oregon

Idaho



2020 TRI-STATE POTATO VARIETY TRIAL REPORT

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Compiled by Chelsey Lowder

TABLE 1: 2020 Tri-State Potato Variety Trial - LOCATIONS, COOPERATORS, AND CULTURAL INFORMATION

Locations	Cooperators	Trial	Irrigation	Fertilizer (lb/A)	Planting Date	Harvest Date	Days to Vine Kill	Days to Harvest	Herbicides	Insecticides	Fungicides
Aberdeen Idaho (ID)	R. Spear J. Whitworth R. Novy B. Schneider C. Lowder	Early Late	Solid Set	325N-200P-5Mn 310N-100P-5Zn-5Mn Seed spacing: in row 10.0" rows 36"	30-Apr 28-Apr	26-Aug 23-Sep	106 126	118 148	TriCor 4F Matrix Eptam 7-E	Admire	
Ontario Oregon (HOR)	C. Shock E. Feibert	Early	Solid Set	235N-0.5Zn Seed spacing: in row 9.0" rows 36"	7-Apr	19-Aug	127	134	Dual Magnum Prowl H2O Eptam Matrix	Admire	Manzate Pro Stik Vertisan Luna Tranquility
Hermiston Oregon (HOR)	S. Sathuvalli M. Aguilar	Late	Pivot	375N-140P-200K-80S-5Mn-3.8Zn-2B-10Cl Seed spacing: in row 9.25" rows 34"	20-Apr	23-Sep	134	156	Dual Magnum Matrix Prowl	Admire Coragen Asana XL	Quadris Ridomil Omega Dithane Bravo
Othello (EWA) Washington	M Pavek R. Knowles N. Fuller Z. Holden	Early	Pivot	200N-200P-250K20-40S-2B Seed spacing: in row 12" rows 32"	5-Apr	31-Jul	106	117	PreEmerge: Outlook Prowl H2O Eptam	Platinum	Priaxor Chloronil Bravo Zing
Othello (LWA) Washington		Late	Pivot	380N-300P-400K-2B-40S Seed spacing: in row 11" rows 32"	2-Apr	15-Sep	113	166			

TABLE 2: 2020 Tri-State Potato Variety Trial - CLONE, PARENTS, FLOWER COLOR, ENTERED BY, SEED SOURCE, STAND, TUBER AND VINE CHARACTERISTICS, STEMS PER PLANT

No	Clone	Parents	Flower Color	Entered by	Use	Trial Year	Seed Source	Mean		Tuber				Vine			
								Stand %	Stems/Plant	Mean	Shape	Means	Skin	Mean	Size	Mean	Maturity
1	Ranger R.	Butte A6595-3	Red-purple	Check	Dual	Check	OR	97	2.0	4.4	Long	3.2	Med Russet	2.8	Medium	2.8	Med Early
2	R. Burbank	Early Rose ?	White	Check	Dual	Check	OR	97	2.4	4.1	Long	3.4	Med Russet	2.7	Medium	2.3	Early
3	R. Norkotah	ND9687-5 Rus ND9526-4 Rus	White	Check	Fresh	Check	OR	99	2.5	3.7	Obl-Lng	3.9	Med Russet	2.2	Small	1.8	Early
4	Clearwater R.	Bannock Russet A89152-4	M. Purple	Check	Dual	Check	OR	97	2.2	3.4	Oblong	3.9	Med Russet	3.2	Med-large	3.2	Medium
5	Shepody	Bake-King F58050	White	Check	Proc	Check	ID	99	1.9	3.8	Obl-Lng	1.8	White	2.0	Small	3.9	Med--late
6	A09119-4LB	A00472-20LB Premier Russet	L. Red Purple	ID	Dual	1	ID	95	2.1	2.7	Oblong	2.4	Light Russet	2.9	Medium	2.5	Early
7	A10594-4sto	A96953-13 A98345-1	Bud Abort	ID	Dual	1	ID	95	1.4	3.7	Obl-Lng	3.2	Med Russet	2.5	Small	1.8	Early
8	A11188-1	A98345-1 A98196-5	White	ID	Dual	1	ID	83	1.5	3.0	Oblong	2.4	Light Russet	3.1	Med-large	2.7	Med Early
9	A11271-2TE	A05066-7 A02144-2	White	ID	Dual	1	ID	93	2.0	2.9	Oblong	3.5	Med Russet	2.2	Small	2.5	Early
10	A12305-2adg	A96953-13 A02618-1	White	ID	Dual	1	ID	92	2.0	3.5	Oblong	3.7	Med Russet	2.9	Medium	3.1	Medium
11	AFA5661-8	Blazer Russet AF4342-3	White	ID	Dual	1	ID	90	1.7	3.1	Oblong	2.6	Light Russet	2.7	Medium	3.3	Medium
12	AOR11217-3	A01010-3 NDA070929B-3	Pink-Purple	OR	Dual	2	OR	96	2.1	3.8	Obl-Lng	4.1	Med Hvy Rus	3.0	Medium	2.4	Early
13	COA11013-2	AC99375-1RU CO03308-3RU	White	ID	Dual	2	OR	98	2.3	3.8	Obl-Lng	3.0	Light Russet	2.8	Medium	2.6	Med Early
Means								94	2.0	3.5		3.2		2.7		2.7	

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

TABLE 3: 2020 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 Herm	Entry Mean	Rank
1	Ranger Russet	474	622	653	583	7	488	1060	673	740	6
2	Russet Burbank	553	673	671	632	4	492	931	430	618	10
3	Russet Norkotah	544	554	565	554	10	408	844	387	546	12
4	Clearwater Russet	463	609	618	564	9	545	1060	673	759	3
5	Shepody	482	671	653	602	5					
6	A09119-4LB	447	569	690	569	8	469	930	680	693	7
7	A10594-4sto	434	514	632	527	13	304	842	690	612	11
8	A11188-1	524	663	736	641	2	496	926	814	746	4
9	A11271-2TE	480	522	580	527	12	471	948	525	648	9
10	A12305-2adg	474	676	766	639	3	528	1020	834	794	1
11	AFA5661-8	423	495	693	537	11	547	983	707	746	5
12	AOR11217-3	462	640	680	594	6	404	1012	644	687	8
13	COA11013-2	515	759	716	663	1	554	1048	710	771	2
Location Means		483	613	666	587		475	967	647	697	
LSD (.05)										106	

TABLE 4: 2020. 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 Herm	Entry Mean	Rank
1	Ranger Russet	386	539	476	467	12	362	776	408	516	10
		82	87	73	80	11	74	73	61	69	12
2	Russet Burbank	428	545	389	454	13	350	728	254	444	12
		77	81	58	72	13	71	78	59	69	11
3	Russet Norkotah	444	535	459	479	10	305	747	287	446	11
		82	96	81	86	9	75	89	74	79	9
4	Clearwater Russet	411	583	509	501	6	468	955	475	633	2
		89	96	82	89	5	86	91	73	83	5
5	Shepody	344	619	484	483	8					
		71	92	74	79	12					
6	A09119-4LB	382	524	611	506	5	407	690	540	546	7
		85	92	89	89	6	87	74	79	80	8
7	A10594-4sto	400	474	565	480	9	275	747	565	529	8
		92	92	89	91	3	90	89	82	87	1
8	A11188-1	484	642	682	603	1	429	711	497	546	6
		93	97	93	94	1	86	77	61	75	10
9	A11271-2TE	428	500	500	476	11	414	769	393	525	9
		89	96	86	90	4	88	81	75	81	6
10	A12305-2adg	415	652	564	543	3	438	885	668	664	1
		87	96	74	86	10	83	87	80	83	4
11	AFA5661-8	394	478	617	496	7	485	842	559	628	4
		93	97	89	93	2	89	86	79	84	3
12	AOR11217-3	400	616	559	525	4	333	901	536	590	5
		86	96	82	88	7	83	89	83	85	2
13	COA11013-2	427	729	576	577	2	432	898	562	631	3
		83	96	80	86	8	78	86	79	81	7
Location Means		411	572	538	507		392	804	479	558	
		85	93	81	87		82	83	74	80	
LSD (.05)										110	

TABLE 5: 2020 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 Herm	Entry Mean	Rank
1	Ranger Russet	171	247	225	214	6	204	571	247	340	5
		36	40	34	37	6	41	54	37	44	7
2	Russet Burbank	83	228	191	167	11	52	420	101	191	10
		15	34	28	26	12	10	45	24	26	11
3	Russet Norkotah	130	111	185	142	13	72	411	68	184	11
		23	20	33	25	13	18	49	18	28	10
4	Clearwater Russet	134	103	214	150	12	166	559	71	265	9
		28	17	35	26	11	30	53	11	31	9
5	Shepody	230	391	313	311	2					
		47	58	48	51	2					
6	A09119-4LB	147	213	316	225	5	183	479	298	320	7
		33	37	46	39	4	38	51	44	45	6
7	A10594-4sto	156	209	379	248	3	77	569	372	339	6
		36	41	60	46	3	25	68	54	49	5
8	A11188-1	399	514	593	502	1	338	626	633	532	1
		76	78	81	78	1	68	68	78	71	1
9	A11271-2TE	215	143	169	176	10	278	497	280	352	4
		45	27	29	34	8	59	52	53	55	3
10	A12305-2adg	136	158	280	191	8	285	592	412	430	3
		29	23	37	30	10	54	58	49	54	4
11	AFA5661-8	128	164	274	189	9	346	644	339	443	2
		30	33	40	34	7	63	65	48	59	2
12	AOR11217-3	195	228	261	228	4	143	546	223	304	8
		41	36	38	38	5	35	54	35	41	8
13	COA11013-2	195	184	202	194	7	134	318	99	183	12
		38	24	28	30	9	24	30	14	23	12
Location Means		178	223	277	226		190	519	262	324	
		37	36	41	38		39	54	39	44	
LSD (.05)					108					97	

TABLE 6: 2020 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 Herm	Entry Mean	Rank
1	Ranger Russet	26	37	65	43	7	15	34	33	27	7
		6	6	10	7	9	3	3	5	4	8
2	Russet Burbank	78	42	53	58	3	89	39	28	52	5
		14	6	8	9	4	18	4	6	10	4
3	Russet Norkotah	64	64	66	65	2	65	34	63	54	3
		12	12	12	12	1	16	4	16	12	1
4	Clearwater Russet	38	66	67	57	4	42	46	123	70	2
		8	11	11	10	3	8	4	19	10	3
5	Shepody	22	32	46	34	12					
		5	5	7	6	12					
6	A09119-4LB	41	51	46	46	6	24	34	26	28	6
		9	9	7	8	6	5	4	4	4	7
7	A10594-4sto	23	44	34	34	11	22	21	26	23	10
		5	8	5	6	10	7	2	4	4	6
8	A11188-1	13	20	10	14	13	12	13	21	15	12
		2	3	1	2	13	2	1	3	2	12
9	A11271-2TE	16	50	58	41	8	10	25	22	19	11
		3	10	10	8	7	2	3	4	3	11
10	A12305-2adg	14	63	39	39	10	6	48	27	27	8
		3	9	5	6	11	1	5	3	3	10
11	AFA5661-8	21	54	43	40	9	17	30	33	27	9
		5	11	6	7	8	3	3	5	4	9
12	AOR11217-3	31	45	77	51	5	48	45	67	53	4
		7	7	11	8	5	12	4	10	9	5
13	COA11013-2	41	65	106	71	1	48	85	107	80	1
		8	9	15	10	2	9	8	15	11	2
Location Means		33	49	55	45		33	38	48	40	
		7	8	8	8		7	4	8	6	
LSD (.05)										28	

TABLE 7: 2020 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	Entry Mean	Rank
1	Ranger Russet	1.084	1.076	1.085	1.082	5	1.092	1.079	1.073	1.081	6
2	Russet Burbank	1.081	1.074	1.083	1.079	9	1.079	1.075	1.074	1.076	9
3	Russet Norkotah	1.078	1.070	1.074	1.074	12	1.079	1.068	1.069	1.072	11
4	Clearwater Russet	1.079	1.075	1.087	1.080	7	1.089	1.081	1.078	1.083	5
5	Shepody	1.076	1.070	1.079	1.075	11					
6	A09119-4LB	1.086	1.077	1.081	1.081	6	1.097	1.074	1.070	1.080	7
7	A10594-4sto	1.089	1.083	1.089	1.087	1	1.087	1.081	1.082	1.083	2
8	A11188-1	1.072	1.065	1.077	1.071	13	1.078	1.065	1.069	1.071	12
9	A11271-2TE	1.080	1.076	1.083	1.079	8	1.082	1.077	1.073	1.077	8
10	A12305-2adg	1.083	1.080	1.094	1.086	4	1.089	1.080	1.080	1.083	4
11	AFA5661-8	1.084	1.075	1.098	1.086	3	1.097	1.085	1.086	1.089	1
12	AOR11217-3	1.084	1.081	1.094	1.086	2	1.088	1.083	1.078	1.083	3
13	COA11013-2	1.077	1.078	1.078	1.078	10	1.083	1.075	1.070	1.076	10
Location Means		1.081	1.075	1.085	1.080		1.087	1.077	1.075	1.080	
LSD (0.5)										0.004	

TABLE 10: 2020 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	Means	ID	WA	Ont	ID	WA	Means	ID	WA	Ont	ID	WA	Herm	Means
1 Ranger Russet	2.3	2.3	2.0	2.6	2.3	2.0	2.2	5.0	5.0	5.0	5.0	2.0	4.4	5.0	5.0	5.0	5.0	3.5	4.1	4.6
2 Russet Burbank	2.1	1.3	1.0	2.1	1.8	1.8	1.7	5.0	5.0	5.0	5.0	1.0	4.2	5.0	5.0	5.0	4.6	3.8	4.5	4.6
3 Russet Norkotah	3.0	3.7	4.0	3.5	4.0	3.4	3.6	5.0	5.0	5.0	5.0	3.0	4.6	5.0	4.3	5.0	4.9	3.5	4.4	4.5
4 Clearwater Russet	3.5	4.0	4.0	3.8	4.0	3.4	3.8	5.0	5.0	5.0	5.0	1.0	4.2	5.0	3.7	5.0	4.8	4.0	4.4	4.5
5 Shepody	1.8	3.0	3.0				2.6	5.0	4.0	5.0			4.7	5.0	5.0	5.0				5.0
6 A09119-4LB	2.8	2.7	4.0	3.5	1.5	2.8	2.9	5.0	2.0	5.0	4.8	1.0	3.6	4.8	5.0	5.0	4.5	3.0	4.5	4.5
7 A10594-4sto	3.5	3.0	5.0	4.1	4.0	3.3	3.8	5.0	4.0	5.0	5.0	2.0	4.2	5.0	4.0	5.0	5.0	4.0	4.4	4.6
8 A11188-1	3.0	2.7	4.0	2.6	2.3	3.0	2.9	4.9	4.0	5.0	4.9	2.0	4.2	5.0	5.0	5.0	4.9	3.3	4.8	4.6
9 A11271-2TE	2.5	3.0	2.0	3.1	3.0	3.1	2.8	5.0	5.0	5.0	5.0	3.0	4.6	4.9	5.0	5.0	5.0	3.3	4.1	4.5
10 A12305-2adg	2.6	3.3	3.0	3.0	2.8	2.6	2.9	5.0	4.0	5.0	5.0	2.0	4.2	4.9	4.0	5.0	5.0	4.0	4.4	4.5
11 AFA5661-8	4.0	2.7	3.0	3.9	3.0	2.9	3.2	5.0	5.0	5.0	5.0	2.0	4.4	5.0	4.0	5.0	4.8	4.0	4.4	4.5
12 AOR11217-3	2.8	3.7	2.0	3.4	3.8	3.8	3.2	5.0	5.0	5.0	5.0	1.0	4.2	4.9	4.3	5.0	4.9	4.0	4.6	4.6
13 COA11013-2	3.0	3.3	3.0	3.1	2.5	3.1	3.0	4.9	5.0	5.0	5.0	1.0	4.2	5.0	4.0	5.0	4.9	4.0	4.6	4.6
Location Means	2.8	3.0	3.1	3.2	2.9	2.9	3.0	5.0	4.5	5.0	5.0	1.8	4.3	5.0	4.5	5.0	4.8	3.7	4.4	4.6

¹ Score 1-5, with 5=Best.

TABLE 11: 2020 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	4.1	4.5	5.0	4.3	5.0	3.4	3.8	5.0	4.6
2	Russet Burbank	4.6	4.5	3.4	3.7	5.0	2.9	3.2	5.0	4.8
3	Russet Norkotah	5.0	5.0	5.0	5.0	5.0	4.0	4.1	5.0	4.8
4	Clearwater Russet	4.7	4.9	5.0	4.8	5.0	2.9	3.5	5.0	5.0
5	Shepody	4.9		4.7		4.5			4.9	
6	A09119-4LB	4.2	3.8	5.0	4.8	3.5	2.4	3.7	5.0	4.6
7	A10594-4sto	5.0	4.8	4.5	4.8	4.5	3.3	3.8	5.0	4.7
8	A11188-1	5.0	4.8	5.0	4.9	4.5	2.1	3.4	4.0	4.5
9	A11271-2TE	4.9	4.5	4.9	4.5	5.0	3.9	3.7	5.0	4.6
10	A12305-2adg	5.0	4.7	5.0	4.7	4.5	3.0	3.9	4.9	4.6
11	AFA5661-8	4.3	4.2	5.0	4.0	5.0	3.4	4.5	4.9	4.7
12	AOR11217-3	5.0	4.8	4.9	4.9	5.0	2.9	3.4	5.0	4.8
13	COA11013-2	4.7	4.6	5.0	4.5	5.0	2.9	3.8	5.0	4.9
Means		4.7	4.6	4.8	4.6	4.7	3.1	3.7	4.9	4.7

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: 2020 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	
1	Ranger Russet	0.0	0.0	0.0	0.0	8.3	1.7	4.0	5.0	3.9	1.4	3.4
2	Russet Burbank	14.4 (Oth 43)	4.0	0.8	0.0	1.7	0.0	5.0	4.0	4.8	2.3	3.7
3	Russet Norkotah	0.0	0.0	0.0	0.0	3.3	0.0	5.0	5.0	4.5	2.0	3.8
4	Clearwater Russet	0.0	0.0	0.0	1.0	0.0	5.8	5.0	5.0	4.3	3.5	4.3
5	Shepody	0.8		0.0		3.3		5.0				
6	A09119-4LB	0.0	2.5	0.8	4.3	10.0	2.5	5.0	5.0	4.3	3.0	4.1
7	A10594-4sto	19.2 (Oth 55)	14.5 (Oth 26)	0.0	0.0	5.0	0.8	5.0	5.0	4.3	1.6	3.6
8	A11188-1	0.0	0.0	0.0	0.0	5.0	0.0	5.0	5.0	3.1	1.1	3.1
9	A11271-2TE	2.2	0.0	0.0	1.8	0.0	1.0	5.0	5.0	4.1	2.8	4.0
10	A12305-2adg	0.8	0.0	0.0	0.0	3.3	0.8	5.0	5.0	4.5	2.8	4.1
11	AFA5661-8	0.0	1.0	0.0	0.8	27.5 (Oth 55)	8.5	5.0	5.0	4.4	3.3	4.2
12	AOR11217-3	0.0	0.0	0.0	4.3	5.0	2.5	5.0	5.0	4.6	3.7	4.4
13	COA11013-2	0.0	5.0	9.4 (Ont 25)	10 (Oth 20)	8.3	5.8	5.0	5.0	4.6	3.2	4.3
Means		0.4	1.1	0.1	1.1	4.4	2.5	4.9	4.9	4.3	2.6	3.9

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: 2020 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	0.5	1.0	2.3	0.4	1.3	9	0.3	2.6	3.0	2.8	7	2.7	0.0	2.5	0.0	0.8
2	Russet Burbank	2.0	3.0	2.7	1.0	1.9	11	1.7	3.8	4.0	3.9	11	3.3	0.0	0.0	8.3	2.8
3	Russet Norkotah	1.9		2.3	0.5	1.4	10		4.0		4.0	12		0.0	0.0	0.0	0.0
4	Clearwater Russet	0.5	1.0	1.7	0.0	0.8	2	0.3	1.0	3.0	2.0	2	1.7	0.0	0.0	0.0	0.0
5	Shepody																
6	A09119-4LB	0.3	1.0	1.9	0.0	1.0	6	0.3	2.0	4.0	3.0	8	2.7	0.0	0.0	0.0	0.0
7	A10594-4sto	0.6	0.0	2.1	0.2	1.1	8	0.0	2.3	3.0	2.6	6	2.3	0.0	2.5	0.0	0.8
8	A11188-1	0.7	3.0	2.9	1.6	2.3	12	2.3	3.5	4.0	3.8	9	3.7	0.0	0.0	0.0	0.0
9	A11271-2TE	0.5	0.0	1.9	0.0	1.0	5	0.0	1.3	2.0	1.6	1	0.7	0.0	0.0	0.0	0.0
10	A12305-2adg	0.5	2.0	1.5	0.2	0.9	3	1.0	3.6	4.0	3.8	10	3.7	22.9	2.5	12.5	12.6
11	AFA5661-8	0.8	1.0	1.6	0.2	0.9	4	0.3	1.6	3.0	2.3	3	1.7	0.0	0.0	4.2	1.4
12	AOR11217-3	0.5	0.0	1.4	0.0	0.7	1	0.0	2.0	3.0	2.5	5	2.0	0.0	0.0	0.0	0.0
13	COA11013-2	0.5	1.0	2.2	0.3	1.0	7	0.3	1.8	3.0	2.4	4	1.7	0.0	2.5	0.0	0.8
Location Means		0.8	1.2	2.0	0.4	# 1.2		0.6	2.5	3.3	2.9		2.4	1.9	0.8	2.1	1.6

¹ Samples held for 1 (45°) and 2 (40°) week cool down period 6 (45°) and 8 (40°) weeks at storage temperature

² Samples held for 2 week cool down period - 12 weeks at 45° storage temperature.

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 - 8 weeks at 47° storage temperature.

TABLE 14: 2020 Tri-State Potato Variety Trial - DISEASE EVALUATIONS, METRIBUZIN REACTION

No. Clone	Vert. Wilt/ Early Dying		Early Blight		Common Scab		Corky Ringspot		Reaction	Fusarium	Pecto-	Metr. Reaction
	AB ¹		AB ¹		AB ¹		PROS ³			Dry Rot	bacterium	
	AB ¹		Foliar		%		Incidence % Serious			F(sam)	Soft Rot	
	(0-9)*	AUDPC	(0-9)	AUDPC	Incidence (%)	Serious Defects	Incidence (%)	% Serious Defects		AB	AB	
									0-5=severe	0-5=severe	AB ⁵	
1 Ranger Russet	4.3	97	4.6	118	23.3	9.9	69.3	55.0	S	1.8	3.0	R
2 Russet Burbank	7.0	488.0	5.0	150	0.0	0.0	74.2	57.7	S	3.9	3.1	MR
3 Russet Norkotah	8.7	1332	3.3	131	5.3	2.8	46.9	31.4	S	2.0	1.8	R
4 Clearwater Russet	--	--	--	--	--	--	62.3	51.5	S	--	--	VR
5 Shepody	6.7	561	5.7	220	11.7	9.7	70.4	49.6	S	2.9	2.3	VS
6 A09119-4LB	4.0	92	7.0	688	58.4	17.7	49.2	32.6	S	3.9	3.5	MS
7 A10594-4sto	7.7	724	4.3	124	7.8	9.3	72.9	49.2	S	4.9	2.6	R
8 A11188-1	3.0	45	5.3	163	54.6	22.7	53.9	33.9	S	3.5	1.8	R
9 A11271-2TE	4.3	100	3.3	49	7.1	2.4	66.4	57.5	S	4.8	3.6	VR
10 A12305-2adg	4.3	108	3.3	63	15.5	4.2	77.3	56.1	S	4.1	2.7	MR
11 AFA5661-8	3.0	42	1.7	20	17.8	2.9	72.6	61.1	S	2.9	1.1	VR
12 AOR11217-3	7.3	554	4.0	290	20.8	7.1	57.4	44.2	S	4.7	3.7	S
13 COA11013-2	5.0	155	5.7	290	4.3	0.0	90.8	80.9	S	3.7	2.1	VR
MEANS	5.4	358.1	4.4	192.1	18.9	7.4	66.4	50.8		3.7	2.6	
LSD @ .05	2.0		1.6		22.0	21.0				0.8	0.9	
Castle Russet							0.0	0.0	R			

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

2 *Rhizoctonia solani* readings made by Nicole Baley, Klamath Falls, Oregon; scale as indicated with lowest number being most severe

3 Corky ringspot readings Prosser, WA by Rich Quick and Launa Cimrhakl

4 PVY readings Hermiston, OR from tuber sprouts by Sagar Suthavalli

5 Metribuzin Reaction measured at Aberdeen, ID by Chelsey Lowder. VR=very resistant, R=Resistant, MR=Moderately resistant, MS=moderately susceptible

TABLE 15: 2020 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	23.94	0.049	0.169	5.42	30.05	5.76
2	Russet Burbank	21.01	0.062	0.123	4.66	20.64	4.34
3	Russet Norkotah	21.18	0.082	0.116	4.62	20.96	3.64
4	Clearwater Russet	23.86	0.045	0.131	6.83	27.95	4.40
6	A09119-4LB	24.42	0.014	0.193	5.74	21.67	2.41
7	A10594-4sto	23.58	0.026	0.105	5.75	20.85	5.75
8	A11188-1	20.40	0.018	0.212	5.49	24.59	5.68
9	A11271-2TE	22.44	0.020	0.124	5.59	24.53	3.59
10	A12305-2adg	23.64	0.066	0.211	6.44	24.21	4.20
11	AFA5661-8	23.80	0.130	0.210	6.64	24.70	12.21
12	AOR11217-3	23.03	0.028	0.112	6.51	25.92	6.06
13	COA11013-2	21.72	0.042	0.118	5.26	26.93	9.73
Means		22.75	0.049	0.152	5.75	24.42	5.65

FWB = fresh weight basis DWB = dry weight basis

Glycoalkaloids: The 2020 Lenape check from Aberdeen was 41.95 mg/100g

TABLE 16: 2020 Tri-State Potato Variety Trial - MERIT SCORES (1-5(best))

No.	Clone	Field Performance Fresh Merit							Field Performance Process Merrit						Post-Harvest Process* 3 State Mean	
		Early		Late		LATE	RANK	Early	ID	Late		LATE	RANK			
		ID	WA	ID	WA	Herm		MEANS		WA	ID	WA		Herm		MEANS
1	Ranger Russet	2.1	1.8	2.3	1.6	2.0	2.0	10	1.8	3.0	3.8	3.0	3.3	4	25.5	
2	Russet Burbank	2.1	1.3	2.1	1.3	1.0	1.5	12	1.6	2.0	1.6	1.0	1.5	12		18.4
3	Russet Norkotah	2.8	1.7	3.1	3.5	3.0	3.2	2	1.6	2.0	1.5	2.0	1.8	11		27.2
4	Clearwater Russet	3.1	2.0	3.4	2.5	3.0	3.0	4	2.2	4.0	4.1	3.0	3.7	1		
5	Shepody	1.5							3.3							24.3
6	A09119-4LB	2.5	0.8	3.1	1.2	2.5	2.3	9	1.3	3.5	0.9	2.0	2.1	9		
7	A10594-4sto	3.3	1.3	3.6	2.3	3.5	3.2	3	2.4	2.5	2.3	4.0	2.9	7		28.3
8	A11188-1	3.0	1.6	2.8	0.5	2.0	1.7	11	3.3	2.5	1.5	2.0	2.0	10		13.9
9	A11271-2TE	2.1	1.2	3.0	2.2	2.5	2.6	5	1.0	3.5	1.0	2.0	2.2	8		27.5
10	A12305-2adg	2.5	3.0	2.3	2.3	3.0	2.5	6	4.4	3.0	4.2	3.5	3.6	3		23.1
11	AFA5661-8	3.5	0.9	3.6	1.5	2.0	2.4	8	1.5	3.0	4.1	2.5	3.2	5		25.1
12	AOR11217-3	2.5	4.3	3.1	3.1	4.0	3.4	1	4.8	3.0	4.5	3.5	3.7	2		28.7
13	COA11013-2	3.0	2.4	2.9	2.1	2.5	2.5	7	4.1	3.5	2.9	2.5	3.0	6		27.3
Location Means		2.6	1.8	2.9	2.0	2.6	2.5	6.5	2.5	3.0	2.7	2.6	2.7		24.5	

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

TABLE 17: 2020 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	740		516 69	Low	9.9	1.081	1.3	3.3 2.0			
2 Russet Burbank	Check	Dual	618		444 69	Low Low	7.1	1.076	1.9	1.5 1.5	Low Low	Uniformity 1.7	
3 Russet Norkotah	Check	Fresh	546	Low	446 79		6.6	Small	1.072	1.4	1.8 3.2		
4 Clearwater Russet	Check	Dual	759		633 83		7.0		1.083	0.8	3.7 3.0	High	
5 Shepody	Check	Proc	602	*	483 79	* *	9.1	*	1.075	*	3.3 1.5	* * Low	
6 A09119-4LB	1	Dual	693		546 80		8.8		1.080	1.0	2.1 2.3		
7 A10594-4sto	1	Dual	612		529 87	High	9.0		1.083	1.1	2.9 3.2	HH E-19.2 L-14.5	
8 A11188-1	1	Dual	746		546 75		13.4	Large	1.071	Low	2.3 1.7	High	
9 A11271-2TE	1	Dual	648		525 81		9.7		1.077	1.0	2.2 2.6		
10 A12305-2adg	1	Dual	794	High	664 83	High	9.4		1.083	0.9	3.6 2.5		
11 AFA5661-8	1	Dual	746		628 84		10.1	Large	1.089	High	0.9	3.2 2.4	L/W 1.60 Vas 27.5
12 AOR11217-3	2	Dual	687		590 85		7.5		1.083	0.7	Low	3.7 3.4	High High
13 COA11013-2	2	Dual	771		631 81		6.4	Small	1.076	1.0	3.0 2.5		IBS E-9.4 L-10.0
Late Means			697		558 80		8.8		1.079	1.2	2.8 2.4		

* Early only

TABLE 18: 2020 Early Tri-State Potato Variety Trial - COMMENTS BY STATE

Entry	Clone	Early Idaho	Early Washington	Early Ontario
1	Ranger Russet	Curves (3); deeper eyes, crooked ends, points (2)	Long, skinny, lots of rot.	irregular, 3 curved, 2 small, 2 pointy, 3 thin, growth cracks
2	Russet Burbank	Good for RB, few bumps/misshapen (2)	Lots of rot and knobs.	2 knobs, 3 irregular, 4 pointy, 3 curved, 3 growth cracks, 2 bottleneck
3	Russet Norkotah	Few points, curves (2); not real uniform	Smaller, with dark russeting, typy.	irregular, 3 small, pointy
4	Clearwater Russet	Blocky, few curves (2); few bulging eyes	Small, dark russet, typy.	
5	Shepody	Not uniform (4); bulging eyes, misshapen (2)	Large, light skin, nonuniform shape.	3 irregular, 4 pointy, 3 curved, growth cracks, bottleneck, heart
6	A09119-4LB	Splotchy skin, shorter (2)	Nonuniform shape, short, light skin.	3 growth cracks, bottleneck, 2 irregular, small, round
7	A10594-4sto	Tapered (4); uniform (2)	Good length and size, ugly skin.	skin cracks
8	A11188-1	Big (3); flat (2) few points, nice shape	Powdery scab, large, looks like Shepody.	2 irregular, 3 oversize, 2 pointy
9	A11271-2TE	Tapered (4); ugly, skinned (2)	Small, short, not an early variety, medium russet.	low yield, 2 round, irregular, undersized, small, early die
10	A12305-2adg	Not uniform, few points, curves (2)	A bit short, smaller, skinning, not an early variety.	4 curved, 2 irregular, 4 pointy, heart
11	AFA5661-8	Uniform (4); shorter, nice shape (2)	Light russet, range of sizes, a bit short. Ugly.	growth cracks, curved, pointy
12	AOR11217-3	Skinning, few bumps (2);	Typy, looks like Norkotah, Dark Russet, long.	heart, 2 curved, 2 small, 2 pointy, thin

TABLE 19: 2020 Late Tri-State Potato Variety Trial - COMMENTS BY STATE

Entry	Clone	Late Idaho	Late Washington	Late Hermiston
1	Ranger Russet	Curves(4); points, flat (2)	A bit flat, good length, eyes a bit deep.	pty x3, curvy x4, snakey x4, mouse damage x3, knobs x4, irregular x2
2	Russet Burbank	Not uniform, bumps (3); small, misshapen (2)	Good length, lots of knobs and US #2s.	bottle x3, db x4, cruvy x3, irregular x4, knobs x2, pty x2, ugly x3
3	Russet Norkotah	Small (4); low yield (3); few points	Nice shape, skin and size.	pty x3, tuberworm x4, typy x3
4	Clearwater Russet	Flat, nice shape, few points (2) few ats	A bit short, typy.	dotty-pixel x3, pty x2, short x3, typy x4, heart shaped x2
6	A09119-4LB	Bumps (3); few points, shorter (2);	Plump, some round, some rot, rough shapes.	pty x2, virus x2, short x3, GC x4, blocky x2
7	A10594-4sto	Uniform, nice shape (3); few tapered (2)	Nice uniform shape, good length, feathery skin.	flakey x4, deep eyes x4, blocky x2, typy x3
8	A11188-1	Big (3); curves (2); points, flat	Large, lumpy, plump shape, light skin.	blocky x2, XL 4, lenticels x4, triangular x2, bottle x2, pty x2
9	A11271-2TE	Points/tapered (4); few deeper eyes, few bulging eyese, patchy	Small ones, round, severe greening.	blocky x4, deep eyes x4, pty x3, irregular x2, flakey x2, GC x2
10	A12305-2adg	Curves (3); uniform, points, bumps (2); rot	Ok length, lots of US #2s.	curvy x2, snakey x2, pty x4, dagger x4, GC x2, sticky x2, bottle x2
11	AFA5661-8	Blocky (3); bud end cracking (2)	A bit short, light skin, mix of shapes.	knobs x3, lenticels x2, irregular x2, pty x2, blocky x2
12	AOR11217-3	Few bumps, few bulging eyes (2)	Good length, shape mostly uniform, somewhat typy.	typy x4, nice x4, dotty-pixel x4, skinning x3, spr x2, FM x2
13	COA11013-2	Bumps (4); uniform (3); curves (2)	Smaller, good length, lots of 2s. Feathery skin, ok shape.	bottle x4, pty x3, flakey x3, spr x3, thin x3

TABLE 20: 2020 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	37.0	19.6	84.0	45.0
2	Russet Burbank	45.3	21.1	77.0	36.0
3	Russet Norkotah	56.1	23.7	78.0	33.0
4	Clearwater Russet	59.6	31.2	82.0	43.0
5	Shepody	0.0	0.0	0.0	0.0
6	A09119-4LB	41.8	19.5	76.0	35.0
7	A10594-4sto	57.2	24.1	87.0	37.0
8	A11188-1	21.8	10.1	87.0	40.0
9	A11271-2TE	59.2	28.1	82.0	39.0
10	A12305-2adg	60.5	30.8	83.0	42.0
11	AFA5661-8	42.2	20.8	85.0	42.0
12	AOR11217-3	59.8	30.3	85.0	43.0
13	COA11013-2	49.7	26.0	72.0	38.0
		45.4	21.9	75.2	36.4