

2002 TRI-STATE POTATO VARIETY TRIAL REPORT

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Compiled by Peggy Bain

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TABLE 1: 2002 Tri-State Potato Variety Trial - LOCATIONS, COOPERATORS, AND CULTURAL INFORMATION

Locations	Cooperators	Trial	Irrigation	Fertilizer N-P-K-S(lb/A)	Planting Date	Vine Kill Date	Harvest Date	Days to Vine Kill	Days to Harvest	Herbicides	Insecticides	Fungicides
Aberdeen Idaho (ID)	S. Love D. Corsini R. Novy T. Salaiz P. Bain	Late	Sprink.	250-120-40	29-Apr	3-Sep	17-Sep	127	141	Sencor Matrix Eptam 7E	Admire	Bravo
Hermiston Oregon (OR)	D. Hane, A. Mosley L. Leroux	Late	Pivot	330-80-250-40	3-Apr	10-Sep	23-Sep	160	173	Eptam Matrix	MoCap Admire Monitor Comite	Vapam Ridimil/Gold Bravo Dithane Quadris
Pasco (EWA) Washington	R. Thornton, R. Knowles G. Newberry E. Driskill R. Mullen	Early	Pivot	275-180-150	21-Mar	5-Jul	10-Jul	106	111	Dual II Sencor	Thimet Asana Fulfil	Quadris Bravo Vapam
Connell (LWA) Washington	R. Thornton R. Knowles G. Newberry E. Driskill Johnson Agri.	Late	Sprink.	340-242-129-115	1-May	17-Sep	23-Sep	139	145	Prowl Sencor	Success Fulfil Omega Monitor	Bravo Dithane Quadris K-Pam Gavel

TABLE 2: 2002 Tri-State Potato Variety Trial - CLONE, PARENTS, FLOWER COLOR, ENTERED BY, SEED SOURCE, STAND, TUBER AND VINE CHARACTERISTICS, METRIBUZIN REACTION

No	Clone	Parents	Flower Color	Entered by	Use	Trial Year	Seed Source	Mean Stand %	Tuber		Vine		Metr. Reaction AB ¹
									Shape	Skin	Size	Maturity	
1	Russet Burbank	Early Rose ?	White	Check	Dual	Ck	OR	97	Long	Med-russet	Med-large	Med-late	R
2	Ranger Russet	Butte A6595-3	Med Red-purple	Check	Dual	Ck	OR	97	Long	Med-russet	Med-large	Medium	MS
3	Russet Norkotah	ND9687-5 Rus ND9526-4 Rus	White	Check	Fresh	Ck	OR		Oblong	Med-heavy	Small	Early	VR
4	Shepody	Bake King F58050	Lt . Pink	Check	Proc	Ck	OR		Oval	White	Mediun	Early	VS
5	A91186-2	A83043-12 A85041-5	White	ID	Dual	2	OR	99	Long	Med-russet	Med-large	Medium	MS
6	A91814-5	NDA2031-2 Ivory Crisp	Med Red-purple	ID	Dehy/ Proc	2	OR	98	Round	White	Large	Med-late	MR
7	A92030-5	A8603-20 A83043-12	White	ID	Dual	2	OR	96	Blocky	Heavy Russet	Med-large	Medium	VR
8	A92294-6	A86332-7 Summit R	White	ID	Proc	1	ID	98	Long	White	Large	Med-late	VR
9	A93116-3	A84069-5 A86102-6	White	ID	Dual	2	OR	97	Long	Med-russet	Small	Med-late	R
10	A93157-6LS	A87149-4 A88108-7	White	ID	Dual	2	OR	98	Oblong	Med-russet	Med-large	Med-late	S
11	A94053-5	A86332-7 A84430-5	White	ID	Dual	1	ID	99	Oblong	Med-heavy	Mediun	Med-late	MR
12	AO94110-203	A87149-4 COA8926-4	White	OR	Dual	1	OR	95	Oval	Heavy Russet	Large	Late	VR
13	PA95A11-14	A8259-5 A77715-6	White	WA	Fresh	2	OR	95	Oval	Med-russet	Med-large	Early	MS

¹ Metribuzin Reaction measured at Aberdeen,

VR=very resistant, R=Resistant, MR=Moderately resistant, MS=moderately susceptible, S=susceptible VS=very susceptible.

TABLE 3: 2002 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)			Entry Mean	Rank
		(EWA)	Entry Mean	Rank	(ID)	(OR)	(LWA)		
1	Russet Burbank	394	394	4	535	884	775	731	5
2	Ranger Russet	291	291	7	567	942	766	758	4
3	Russet Norkotah	396	396	3	-	-	-	-	-
4	Shepody	219	219	10	-	-	-	-	-
5	A91186-2	155	155	13	409	756	634	600	9
6	A91814-5	324	324	6	634	1295	836	922	1
7	A92030-5	325	325	5	425	670	738	611	8
8	A92294-6	415	415	2	641	1175	802	873	2
9	A93116-3	185	185	11	451	885	730	689	6
10	A93157-6LS	263	263	8	510	1035	763	769	3
11	A94053-5	233	233	9	412	617	540	523	10
12	AO94110-203	157	157	12	335	1003	722	687	7
13	PA95A11-14	466	466	1	-	-	-	-	-
Location Means		294	294		492	926	731	716	
LSD (.05)								164	

TABLE 4: 2002 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)/%			Entry Mean	Rank
		(EWA)	Entry Mean	Rank	(ID)	(OR)	(LWA)		
1	Russet Burbank	174	174	5	332	576	582	497	9
		44	44	12	62	65	75	67	10
2	Ranger Russet	155	155	6	462	767	671	633	4
		53	53	8	81	81	88	83	6
3	Russet Norkotah	314	314	1	-	-	-	-	-
		79	79	2	-	-	-	-	-
4	Shepody	139	139	9	-	-	-	-	-
		63	63	4	-	-	-	-	-
5	A91186-2	92	92	12	360	678	516	518	8
		60	60	5	88	90	81	86	3
6	A91814-5	146	146	8	543	921	686	717	1
		45	45	11	86	71	82	80	7
7	A92030-5	262	262	3	385	593	655	544	7
		81	81	1	91	89	89	89	2
8	A92294-6	207	207	4	444	1006	641	697	2
		50	50	10	69	86	80	78	8
9	A93116-3	109	109	11	332	789	671	597	6
		59	59	6	74	89	92	85	5
10	A93157-6LS	149	149	7	471	884	696	684	3
		57	57	7	92	85	91	90	1
11	A94053-5	116	116	10	360	450	395	402	10
		50	50	9	87	73	73	78	9
12	AO94110-203	54	54	13	273	900	622	598	5
		34	34	13	81	90	86	86	4
13	PA95A11-14	303	303	2	-	-	-	-	-
		65	65	3	-	-	-	-	-
Location Means		171	171		396	756	614	589	
		57	57		81	82	84	82	
LSD (.05)								160	

TABLE 5: 2002 Tri-State Potato Variety Trial - YIELD > 12 OZ (CWT/A & %) - EARLY AND LATE HARVEST

No.	Clone	U.S. No. 1's > 12 OZ - Early Harvest (CWT/A)/%			U.S. No. 1's >12 OZ - Late Harvest (CWT/A)/%			Entry Mean	Rank
		(EWA)	Entry Mean	Rank	(ID)	(OR)	(LWA)		
1	Russet Burbank	4	4	6	127	184	142	151	8
		1	1	8	24	21	18	21	9
2	Ranger Russet	12	12	3	240	489	335	355	2
		4	4	3	42	52	44	46	3
3	Russet Norkotah	20	20	2	-	-	-	-	-
		5	5	2	-	-	-	-	-
4	Shepody	6	6	5	-	-	-	-	-
		3	3	4	-	-	-	-	-
5	A91186-2	2	2	8	104	214	98	139	9
		1	1	7	25	28	15	23	7
6	A91814-5	2	2	8	157	254	150	187	7
		1	1	10	25	20	18	21	10
7	A92030-5	36	36	1	191	375	421	329	3
		11	11	1	45	56	57	53	2
8	A92294-6	2	2	8	117	443	114	225	6
		0	0	11	18	38	14	23	6
9	A93116-3	3	3	7	215	512	448	392	1
		2	2	6	48	58	61	56	1
10	A93157-6LS	2	2	8	224	425	330	326	4
		1	1	9	44	41	43	43	4
11	A94053-5	0	0	12	115	99	130	115	10
		0	0	12	28	16	24	23	8
12	AO94110-203	0	0	12	147	473	207	276	5
		0	0	12	44	47	29	40	5
13	PA95A11-14	11	11	4	-	-	-	-	-
		2	2	5	-	-	-	-	-
Location Means		8	8		164	347	238	249	
LSD (.05)		2	2		34	38	32	35	
								133	

TABLE 6: 2002 Tri-State Potato Variety Trial - YIELD < 4 OZ (CWT/A & %) - EARLY AND LATE HARVEST

No.	Clone	Yield < 4 OZ - Early Harvest (CWT/A)/%			U.S. No. 1's < 4 OZ - Late Harvest (CWT/A)/%			Entry Mean	Rank
		(EWA)	Entry Mean	Rank	(ID)	(OR)	(LWA)		
1	Russet Burbank	123	123	10	30	70	63	54	6
		31	31	6	6	8	8	7	7
2	Ranger Russet	83	83	6	20	39	37	32	3
		29	29	5	4	4	5	4	3
3	Russet Norkotah	59	59	4	-	-	-	-	-
		15	15	2	-	-	-	-	-
4	Shepody	58	58	3	-	-	-	-	-
		26	26	3	-	-	-	-	-
5	A91186-2	51	51	2	26	46	41	38	5
		33	33	8	6	6	6	6	5
6	A91814-5	172	172	12	48	170	91	103	10
		53	53	12	8	13	11	11	9
7	A92030-5	43	43	1	16	29	21	22	1
		13	13	1	4	4	3	4	2
8	A92294-6	186	186	13	32	60	88	60	8
		45	45	10	5	5	11	7	6
9	A93116-3	60	60	5	12	35	21	23	2
		32	32	7	3	4	3	3	1
10	A93157-6LS	102	102	7	16	47	43	35	4
		39	39	9	3	5	6	4	4
11	A94053-5	108	108	9	28	99	58	62	9
		46	46	11	7	16	11	11	10
12	AO94110-203	102	102	8	42	61	75	59	7
		65	65	13	13	6	10	10	8
13	PA95A11-14	125	125	11	-	-	-	-	-
		27	27	4	-	-	-	-	-
Location Means		98	98		27	66	54	49	
LSD (.05)		35	35		6	7	7	7	32.8

TABLE 7: 2002 Tri-State Potato Variety Trial - SPECIFIC GRAVITY - EARLY AND LATE HARVEST

No. Clone	Specific Gravity - Early Harvest		Specific Gravity - Late Harvest				
	EWA	Rank	ID	OR	LWA	Entry Mean	Rank
1 Russet Burbank	1.065	7	1.075	1.081	1.091	1.082	8
2 Ranger Russet	1.062	12	1.080	1.084	1.091	1.085	6
3 Russet Norkotah	1.068	4	-	-	-	-	-
4 Shepody	1.062	11	-	-	-	-	-
5 A91186-2	1.064	9	1.078	1.074	1.087	1.080	9
6 A91814-5	1.067	5	1.086	1.077	1.100	1.088	3
7 A92030-5	1.067	5	1.083	1.080	1.093	1.085	5
8 A92294-6	1.069	2	1.087	1.087	1.103	1.092	1
9 A93116-3	1.049	13	1.069	1.079	1.078	1.075	10
10 A93157-6LS	1.069	3	1.080	1.082	1.097	1.086	4
11 A94053-5	1.072	1	1.091	1.086	1.096	1.091	2
12 AO94110-203	1.063	10	1.076	1.083	1.091	1.083	7
13 PA95A11-14	1.065	7	-	-	-	-	-
Location Means	1.065		1.081	1.081	1.093	1.085	
LSD (0.5)						0.007	

TABLE 8: 2002 Tri-State Potato Variety Trial - AVERAGE TUBER SIZE, AND TUBER SHAPE

No. Clone	Average Tuber Size (oz)					Tuber Shape (1-5, 1 = round, 5 = long)				
	WA Pasco E	ID L	OR L	WA Connell L	Entry Mean Late only	WA Pasco E	ID L	OR L	WA Connell L	Entry Mean
1 Russet Burbank	4.3	8.9	8.0	7.5	8.1	4.3	4.3	5.0	4.7	4.6
2 Ranger Russet	4.5	9.6	11.2	9.6	10.1	3.8	5.0	5.0	4.2	4.5
3 Russet Norkotah	5.6	-	-	-	5.6	3.8	-	-	-	3.8
4 Shepody	4.5	-	-	-	4.5	3.0	-	-	-	3.0
5 A91186-2	4.3	7.6	8.3	7.4	7.8	4.0	4.0	5.0	4.0	4.3
6 A91814-5	3.3	7.0	6.0	6.6	6.5	1.3	2.5	2.0	2.0	2.0
7 A92030-5	6.2	10.0	11.0	11.3	10.8	3.3	3.0	3.0	3.0	3.1
8 A92294-6	3.7	8.2	9.2	6.6	8.0	4.0	4.0	5.0	3.0	4.0
9 A93116-3	4.3	11.7	11.4	11.7	11.6	3.7	4.0	5.0	3.7	4.1
10 A93157-6LS	3.8	9.6	9.5	8.8	9.3	3.0	4.0	5.0	3.5	3.9
11 A94053-5	3.5	7.6	6.6	7.3	7.2	2.3	4.0	5.0	3.2	3.6
12 AO94110-203	2.9	7.2	9.5	7.2	8.0	2.7	4.0	3.0	2.8	3.1
13 PA95A11-14	4.6	-	-	-	4.6	3.0	-	-	-	3.0
Location Means	4.3	8.7	9.1	8.4	8.7	3.3	3.9	4.3	3.4	3.7
LSD (0.5)					1.3					NS

TABLE 9: 2002 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 Russet Burbank	3.5	2.7	3.3	3.7	5.0	4.5	3.0	5.0	5.0
2 Ranger Russet	3.0	4.1	4.5	4.7	4.3	4.9	3.4	5.0	4.9
3 Russet Norkotah	4.7	-	4.3	-	5.0	-	-	5.0	-
4 Shepody	5.0	-	4.0	-	5.0	-	-	5.0	-
5 A91186-2	5.0	3.4	4.5	4.9	5.0	4.8	3.2	5.0	4.9
6 A91814-5	5.0	4.5	5.0	4.8	5.0	4.7	4.0	5.0	3.6
7 A92030-5	4.5	4.6	4.0	4.9	5.0	3.7	3.2	5.0	5.0
8 A92294-6	5.0	3.4	4.7	4.5	5.0	4.9	3.2	5.0	4.8
9 A93116-3	4.7	4.3	4.3	3.7	5.0	4.3	3.4	5.0	4.9
10 A93157-6LS	4.8	4.5	5.0	4.9	5.0	4.9	3.4	5.0	5.0
11 A94053-5	5.0	3.7	5.0	4.9	4.0	4.8	3.5	5.0	5.0
12 AO94110-203	5.0	4.8	5.0	4.9	4.5	4.3	3.1	5.0	5.0
13 PA95A11-14	4.2	-	4.2	-	4.8	-	-	5.0	-
LSD (.05)	NS		NS					NS	

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 10: 2002 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 Net Necrosis/ Vascular Discoloration		Blackspot Bruise ¹		
		Early	Late	Early	Late	Early	Late	Early	Late	AB ²
1	Russet Burbank	0.0	2.3	0.0	6.3	n/a	0.5	5.0	4.5	3.6
2	Ranger Russet	0.0	0.0	0.0	0.0	n/a	4.0	5.0	5.0	3.1
3	Russet Norkotah	0.0	-	0.0	-	n/a	-	5.0	-	-
4	Shepody	0.0	-	0.0	-	n/a	-	5.0	-	-
5	A91186-2	0.0	1.0	0.0	0.0	n/a	1.0	5.0	5.0	3.4
6	A91814-5	0.0	0.0	0.0	0.0	n/a	5.0	5.0	4.0	3.7
7	A92030-5	0.0	6.0	0.0	0.0	n/a	3.0	5.0	5.0	2.8
8	A92294-6	0.0	0.0	0.0	0.0	n/a	1.5	5.0	5.0	4.2
9	A93116-3	0.0	1.3	0.0	0.0	n/a	0.0	5.0	5.0	4.1
10	A93157-6LS	0.0	12.0	0.0	0.0	n/a	0.0	5.0	4.6	2.9
11	A94053-5	0.0	4.3	0.0	2.0	n/a	12.0	5.0	5.0	3.2
12	AO94110-203	0.0	1.3	0.0	0.0	n/a	1.5	5.0	5.0	2.7
13	PA95A11-14	1.0	-	0.0	-	n/a	-	5.0	-	-
Means		0.1	2.8	0.0	0.8		2.9	5.0	4.8	3.4
LSD (.05)			7.1		NS		NS			

¹ Score 1-5, with 1=severe, 5=none.

² Aberdeen blackspot scores from an abrasive peel test [1-5(none)].

TABLE 11: 2002 Tri-State Potato Variety Trial - FRENCH FRY COLOR (00-4.0(darkest)), AND PERCENT SUGAR ENDS

No. Clone	Fry 45°				Fry 40°	% Sugar Ends		
	ID ¹	HRM ²	Mean	Rank	ID ¹	ID	HRM	Entry Mean
1 Russet Burbank	1.4	0.7	1.1	9	3.4	42	3	23
2 Ranger Russet	1.2	0.4	0.8	7	3.1	21	0	11
3 Russet Norkotah	-	-	-	-	-	-	-	-
4 Shepody	-	-	-	-	-	-	-	-
5 A91186-2	0.6	0.0	0.3	3	2.5	4	0	2
6 A91814-5	0.3	0.2	0.3	2	1.9	0	3	2
7 A92030-5	1.2	0.0	0.6	6	3.3	13	0	7
8 A92294-6	1.0	0.1	0.6	4	2.7	83	0	42
9 A93116-3	2.0	0.0	1.0	8	3.7	42	3	23
10 A93157-6LS	0.3	0.1	0.2	1	0.7	0	0	0
11 A94053-5	1.1	0.0	0.6	4	2.2	58	3	31
12 AO94110-203	2.1	0.1	1.1	10	3.7	0	0	0
13 PA95A11-14	-	-	-	-	-	-	-	-
Location Means	1.1	0.2	0.6		2.7	26	1	14

¹ Samples held for 4 week cool down period - 6 weeks at storage temperature.

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

TABLE 12: 2002 Tri-State Potato Variety Trial - DISEASE EVALUATIONS

No. Clone	Vert. Wilt/ Early Dying		Early Blight	Late Blight			Common Scab	Leafroll Net Necrosis		Corky Ringspot	Root- knot	Erwinia Soft Rot
	AB ¹	HERM ²		Foliar		Tuber		AB ¹	AB ¹			
	0-9	0-9	0-9	MTVER	CORV ³	CORV ³	AB ¹	AB ¹	HERM ²	PROSSER ⁵	AB ¹	
				AUDPC ⁴	0-9	% by Wt.	(%)	(%)	(%)			0-5
1 R. Burbank	6.7	8.5	4.3	2227	9.0	19	0	0	3	53	S	1.3
2 Ranger	3.5	4.7	4.2	2072	9.0	51	5	8	63	52	S	1.5
3 R. Norkotah	9.0	9.0	9.0	2556	9.0	18	0	2	20	35	S	3.3
4 Shepody	6.5	6.5	6.4	2082	9.0	30	0	0	8	-	-	1.9
5 A91186-2	5.5	7.4	4.8	2066	9.0	3	2	1	15	26	S	2.7
6 A91814-5	3.2	2.0	4.0	1930	9.0	42	11	0	5	36	S	0.8
7 A92030-5	6.3	9.0	5.3	2217	9.0	15	0	0	30	30	S	1.2
8 A92294-6	1.3	0.2	2.7	1638	-	-	8	-	25	-	-	0.3
9 A93116-3	2.7	7.2	3.7	1636	9.0	30	0	0	0	26	S	1.0
10 A93157-6LS	2.5	0.0	3.5	2140	9.0	18	3	0	13	60	S	3.7
11 A94053-5	3.7	7.2	4.8	2104	-	-	0	13	78	20	S	1.7
12 AO94110-203	3.2	1.2	4.3	2087	9.0	13	0	-	18	52	S	0.1
13 PA95A11-14	7.0	-	5.5	2470	-	-	7	0	3	0	S	-
MEANS	4.7	5.2	4.8	2094	9.0	23.7	2.8	2.2	21.3			1.6
LSD (.05)	1.8		1.3	217			0.8					1.7

¹ Evaluations made at Aberdeen, Idaho by Dennis Corsini; scale as indicated with highest number being most severe.

² Evaluations made at Hermiston, Oregon by Dan Hane; scale as indicated with highest number being most severe.

³ Evaluations made at Corvallis, Oregon by Al Mosley; scale as indicated with highest number being most severe.

⁴ Evaluations made at Mount Vernon, Washington by Debbie Inglis; AUDPC = area under disease progress curve.

⁵ Evaluations made at Prosser, Washington by Chuck Brown: R=resistant, MR=moderately resistant, MS=moderately susceptible, S=suceptible.

TABLE 13: 2002 Tri-State Potato Variety Trial - MERIT SCORES (1-5(best))

No.	Clone	Process						Fresh					
		Early WA	ID	OR	WA	MEANS	RANK	Early WA	ID	OR	WA	MEANS	RANK
1	Russet Burbank	3.0	2.5	2.0	3.0	2.5	9	4.0	3.0	1.0	3.0	2.3	8
2	Ranger Russet	1.0	4.0	4.0	3.0	3.7	5	4.0	3.0	3.0	4.0	3.3	3
3	Russet Norkotah	5.0	-	-	-	-	-	5.0	-	-	-	-	-
4	Shepody	1.0	-	-	-	-	-	2.0	-	-	-	-	-
5	A91186-2	4.0	3.5	4.0	2.0	3.2	6	3.0	3.5	4.0	5.0	4.2	2
6	A91814-5	4.0	4.5	2.0	5.0	3.8	3	2.0	2.3	1.0	2.0	1.8	10
7	A92030-5	4.0	3.0	2.0	3.0	2.7	7	5.0	4.3	1.0	1.0	2.1	9
8	A92294-6	5.0	3.5	5.0	5.0	4.5	2	4.0	2.5	2.0	4.0	2.8	6
9	A93116-3	1.0	1.5	4.0	1.0	2.2	10	3.0	2.3	3.0	4.0	3.1	4
10	A93157-6LS	5.0	5.0	5.0	4.0	4.7	1	3.0	5.0	5.0	5.0	5.0	1
11	A94053-5	5.0	3.5	4.0	4.0	3.8	3	2.0	3.8	3.0	2.0	2.9	5
12	AO94110-203	3.0	2.0	3.0	3.0	2.7	7	1.0	4.0	2.0	2.0	2.7	7
13	PA95A11-14	2.0	-	-	-	-	-	5.0	-	-	-	-	-
Location Means		3.3	3.3	3.5	3.3	3.4		3.3	3.4	2.5	3.2	3.1	

