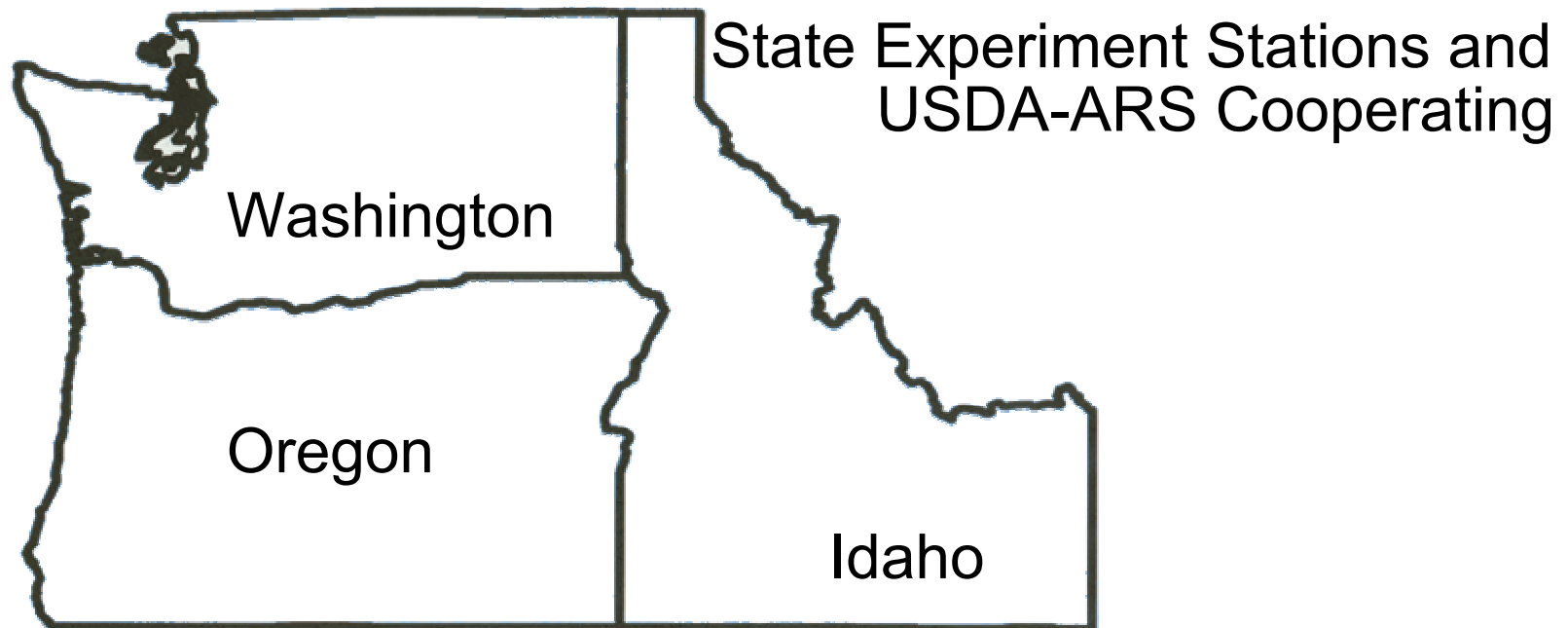


1999 TRI-STATE POTATO VARIETY TRIAL REPORT



1999 TRI-STATE POTATO VARIETY TRIAL REPORT

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Compiled by Peggy Bain

Revision - 2/14/2002

TABLE 1: 1999 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, R. Novy, D. Corsini	Late	Sprink.	240-150-80-44	5-May	8-Sep	23-Sep	126	141	Metribuzin, Matrix Eptam	Admire Monitor	Bravo Fulfil
Hermiston Oregon (OR)	D. Hane, A. Mosley	Late	Pivot	344-78-60-6	12-Apr	14-Sep	30-Sep	155	171	Sencor Matrix	Gauche Temik Phorate	Ridomil Dithane Roural Curzate Bravo Nucop Break-Thru
Pasco (PWA)	R. Thornton, N. Fuller, J. Rupp, G. Newberry	Early	Sprink.	150-0-0	7-Apr	14-Aug	30-Aug	129	145	Sencor	Asana	None
Warden (WWA) Washington	R. Thornton, N. Fuller, J. Rupp, G. Newberry	Late	Pivot	321-486-400	19-Apr	17-Sep	27-Sep	151	161	Sencor Prowl	Admire Monitor Furadan Dimethoate Comite	Ridomil Roval Bravo Super Tin Polyram

TABLE 2: 1999 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	98	Long	Med-russet	Large	Med-late	MR
2	RANGER RUSSET	Butte A6595-3	Med Red-purple	Check	Dual	Ck	OR	100	Long	Med-russet	Medium	Med-late	R
5	A89219-7	A8340-4 A82314-1	White	ID	Process	2	OR	97	Oblong	White	Medium	Late	R
6	A9045-7	Ranger Russet Russet Legend	V Lt Red-purple	ID	Dual	1	OR	100	Long	Lt-russet	Medium	Late	VR
7	A90586-11	KSA 195-90 Ranger Russet	White	ID	Process	1	ID	99	Long	White	Large	Very late	R
8	AO90014-1	Gem Russet A8341-5	White	OR	Dual	2	OR	99	Long	Lt-russet	Small	Med-early	R
9	AO92017-6	A84180-8 A84420-5	White	OR	Dual	1	OR	99	Long	Med-russet	Large	Late	VR

^{1/} Metribuzin Reaction measured at Aberdeen, R=Resistant, MR=Moderately resistant, MS=moderately susceptible, S=suceptable VR=very resistant.

TABLE 3: 1999 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
		(PWA)	Entry Mean	Rank	(ID)	(OR)	(WWA)		
1	Russet Burbank	619	619	3	503	742	763	669	4
2	Ranger	591	591	5	549	774	782	702	3
3	Norkotah	578	578	6	-	-	-	-	-
4	Shepody	475	475	8	-	-	-	-	-
5	A89219-7	618	618	4	613	575	792	660	6
6	A9045-7	698	698	1	581	855	795	744	2
7	A90586-11	636	636	2	552	921	824	766	1
8	AO90014-1	521	521	7	416	526	664	535	7
9	AO92017-6	462	462	9	500	795	707	667	5
Location Means		578	578		531	741	761	678	
LSD (.05)								137	

TABLE 4: 1999 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
		(PWA)	Entry Mean	Rank	(ID)	(OR)	(WWA)		
1	Russet Burbank	406	406	8	358	425	523	435	6
		66	66	9	71	57	69	66	7
2	Ranger	445	445	5	477	623	600	567	4
		75	75	6	87	81	77	82	4
3	Norkotah	497	497	2	-	-	-	-	-
		86	86	3	-	-	-	-	-
4	Shepody	348	348	9	-	-	-	-	-
		73	73	7	-	-	-	-	-
5	A89219-7	487	487	3	558	526	577	554	5
		79	79	4	91	92	73	85	2
6	A9045-7	632	632	1	544	783	707	678	1
		91	91	1	94	92	89	92	1
7	A90586-11	458	458	4	385	801	594	593	2
		72	72	8	70	87	72	76	6
8	AO90014-1	407	407	7	360	391	551	434	7
		78	78	5	87	74	83	81	5
9	AO92017-6	408	408	6	415	721	578	571	3
		88	88	2	83	91	82	85	2
Location Means		454	578		442	610	590	479	
LSD (.05)		79	79		83	82	78	71	NS

TABLE 5: 1999 Tri-State Potato Variety Trial - YIELD > 10/12 OZ (CWT/A & %) - EARLY AND LATE HARVEST

No.	Clone	U.S. No. 1's > 10/12 OZ - Early Harvest (CWT/A)			U.S. No. 1's >10/12 OZ - Late Harvest (CWT/A)			Entry Mean	Rank
		(PWA)	Entry Mean	Rank	(ID)	(OR)	(WWA)		
1	Russet Burbank	86	86	8	37	145	127	103	6
		14	14	9	7	20	17	15	6
2	Ranger	191	191	4	141	306	204	217	5
		32	32	5	26	40	26	31	5
3	Norkotah	179	179	5	-	-	-	-	-
		31	31	6	-	-	-	-	-
4	Shepody	172	172	6	-	-	-	-	-
		36	36	3	-	-	-	-	-
5	A89219-7	346	346	2	342	223	385	317	1
		56	56	1	56	39	49	48	1
6	A9045-7	353	353	1	110	376	398	295	2
		51	51	2	19	44	50	38	3
7	A90586-11	225	225	3	152	409	279	280	3
		35	35	4	28	44	34	35	4
8	AO90014-1	81	81	9	28	61	166	85	7
		16	16	8	7	12	25	15	6
9	AO92017-6	88	88	7	120	385	312	272	4
		19	19	7	24	48	44	39	2
Location Means		191	578		133	272	267	224	
LSD (.05)		32	32		24	35	35	31	144

TABLE 6: 1999 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
		(PWA)	Entry Mean	Rank	(ID)	(OR)	(WWA)		
1	Russet Burbank	68	68	1	90	114	88	97	1
		11	11	2	18	15	12	15	1
2	Ranger	50	50	3	37	60	47	48	4
		9	9	3	7	8	6	7	4
3	Norkotah	48	48	5	-	-	-	-	-
		8	8	4	-	-	-	-	-
4	Shepody	27	27	7	-	-	-	-	-
		6	6	6	-	-	-	-	-
5	A89219-7	21	21	9	10	41	31	27	7
		3	3	9	2	7	4	4	7
6	A9045-7	32	32	6	29	45	35	36	5
		5	5	8	5	5	4	5	6
7	A90586-11	49	49	4	48	62	56	55	3
		8	8	4	9	7	7	8	3
8	AO90014-1	63	63	2	52	117	56	75	2
		12	12	1	13	22	8	14	2
9	AO92017-6	27	27	7	29	49	29	36	6
		6	6	6	6	6	4	5	5
Location Means		43	578		42	70	49	54	
LSD (.05)		8	8		9	10	6	8	19

TABLE 7: 1999 Tri-State Potato Variety Trial - SPECIFIC GRAVITY - EARLY AND LATE HARVEST

No. Clone	Specific Gravity - Early Harvest		Specific Gravity - Late Harvest				Rank
	PWA	Rank	ID	OR	WWA	Entry Mean	
1 Russet Burbank	1.074	6	1.085	1.076	1.085	1.082	5
2 Ranger	1.075	5	1.095	1.073	1.091	1.086	3
3 Norkotah	1.071	9	-	-	-	-	-
4 Shepody	1.072	8	-	-	-	-	-
5 A89219-7	1.072	7	1.092	1.070	1.083	1.082	6
6 A9045-7	1.076	1	1.094	1.079	1.090	1.088	2
7 A90586-11	1.076	2	1.096	1.083	1.090	1.090	1
8 AO90014-1	1.075	4	1.089	1.070	1.082	1.080	7
9 AO92017-6	1.076	3	1.094	1.077	1.085	1.085	4
Location Means	1.074		1.092	1.075	1.087	1.085	
LSD (0.5)						0.005	

TABLE 8: 1999 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	ID	OR	WA	Entry	ID	OR	WA		Entry
		Pasco	L	L	Warden				Late only	L	
E	L	L	L	Late only	L	L	E	L	Mean		
1	Russet Burbank	7.0	5.3	6.9	6.8	6.3	3.8	5.0	4.0	3.7	4.1
2	Ranger	8.0	7.5	8.6	8.4	8.2	4.8	5.0	5.0	4.0	4.7
3	Norkotah	7.7	-	-	-	-	-	-	4.0	-	4.0
4	Shepody	9.3	-	-	-	-	-	-	3.7	-	3.7
5	A89219-7	12.0	11.6	8.2	11.9	10.6	3.5	2.0	3.0	3.0	2.9
6	A9045-7	9.7	7.8	9.2	9.8	8.9	3.5	3.5	4.0	3.0	3.5
7	A90586-11	8.5	7.9	9.4	9.1	8.8	4.0	4.0	4.0	4.0	4.0
8	AO90014-1	6.4	5.7	5.3	7.6	6.2	3.8	5.0	4.3	3.8	4.2
9	AO92017-6	7.5	7.8	8.6	10.0	8.8	4.3	4.0	4.0	3.3	3.9
Location Means		8.5	7.7	8.0	9.1	8.3	4.0	4.1	4.0	3.5	3.9
LSD (0.5)						1.8					

TABLE 9: 1999 Tri-State Potato Variety Trial - EXTERNAL DEFECTS MEANS OF LOCATIONS - GROWTH CRACKS, SECOND GROWTH, SHATTER BRUISE, SCAB

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	3.8	4.1	3.3	4.3	5.0	4.8	2.9	5.0	5.0
2 Ranger	5.0	4.5	4.8	5.0	5.0	4.7	3.5	5.0	4.7
3 Norkotah	5.0	-	4.7	-	5.0	-	-	5.0	-
4 Shepody	4.8	-	4.3	-	5.0	-	-	3.3	-
5 A89219-7	4.8	4.7	4.5	4.3	5.0	3.2	3.2	5.0	4.8
6 A9045-7	4.7	4.9	4.8	3.9	5.0	4.5	3.8	5.0	4.6
7 A90586-11	5.0	4.9	4.5	4.8	5.0	4.6	3.9	5.0	4.3
8 AO90014-1	5.0	5.0	4.5	5.0	4.5	3.0	2.8	4.7	5.0
9 AO92017-6	5.0	4.9	4.8	5.0	5.0	4.5	3.6	5.0	5.0

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: 1999 Tri-State Potato Variety Trial - INTERNAL DEFECTS MEANS OF LOCATIONS - HOLLOW HEART PLUS BROWN CENTER, INTERNAL BROWN SPOT, VASCULAR DISCOLORATION/NET NECROSIS, BLACKSPOT

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	34.3	17.1	0.0	1.3		5.0	4.9	4.5	2.3
2	Ranger	0.0	0.0	0.0	0.7		0.5	4.8	4.2	1.3
3	Norkotah	0.0	-	0.0	-		-	4.9	-	-
4	Shepody	0.0	-	0.0	-		-	5.0	-	-
5	A89219-7	21.9	3.8	0.0	0.0		0.0	4.4	4.0	2.2
6	A9045-7	0.0	0.3	3.3	0.7		0.0	4.6	3.4	1.6
7	A90586-11	0.0	1.0	3.0	1.7		0.0	4.6	4.4	1.3
8	AO90014-1	3.6	2.3	0.0	0.3		0.5	5.0	5.0	3.3
9	AO92017-6	2.8	0.7	0.0	1.3		0.0	5.0	4.4	2.2

¹ Score 1-5, with 1=severe, 5=none (Oregon data converted from percent).

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

TABLE 11: 1999 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	HRM	Mean	Rank	ID	ID	HRM	Entry Mean
1 Russet Burbank	1.1	1.3	1.2	4	3.9	17	0	9
2 Ranger	1.3	1.2	1.3	5	3.8	21	0	11
3 Norkotah	-	-	-	-	-	-	-	-
4 Shepody	-	-	-	-	-	-	-	-
5 A89219-7	0.4	0.7	0.5	2	2.8	4	0	2
6 A9045-7	1.3	1.2	1.3	6	3.6	8	0	4
7 A90586-11	1.3	1.4	1.3	7	4.0	9	0	5
8 AO90014-1	0.3	0.4	0.3	1	1.9	21	0	11
9 AO92017-6	1.0	0.9	1.0	3	3.3	13	0	7
Location Means	1.0	1.0	1.0		3.3	13	0	7

TABLE 12: 1999 Tri-State Potato Variety Trial - DISEASE EVALUATION

No. Clone	Vert. Wilt/ Early Dying		Early Blight	Late Blight		Common Scab	Leafroll Net Necrosis	Erwinia Soft Rot
	AB	HERM	AB	Foliar	Tuber	AB	HERM	AB
	0-9 ¹	0-9 ¹	0-9 ¹	CORVALLIS 1-9 ¹	% by Wt.	0-5 ²	1-5 ²	0-5 ²
1 R. Burbank	5.7	5.6	7.3	4.2	7.5	2.0	2.3	3.7
2 Ranger	3.3	5.8	6.3	3.2	2.5	3.0	3.3	2.1
3 R. Norkotah	8.7	-	8.7	7.5	2.5	1.0	-	3.8
4 Shepody	5.8	-	7.7	7.0	2.5	3.0	-	3.1
5 A89219-7	1.8	6.8	4.5	5.5	2.5	3.0	1.4	3.9
6 A9045-7	2.7	4.3	5.7	3.0	0.0	3.0	2.9	3.7
7 A90586-11	2.0	3.4	4.7	1.5	0.0	3.0	2.6	3.5
8 AO90014-1	4.5	6.7	7.7	5.0	5.0	2.0	3.2	4.0
9 AO92017-6	3.7	5.0	6.5	2.7	20.0	1.0	2.4	3.1
MEANS	4.2	5.4	6.6	4.4	4.7	2.3	2.6	3.4
LSD (.05)	1.7		1.2			1.2		1.6

1 0 to 9 or 1-9, 0 or 1=No symptoms to a 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

2 0 to 5, 0=None; 1=mild symptoms, sample would not be out of grade to disease defect; 2= moderate symptoms, some culls due to disease; 3= moderately severe symptoms, sample would be out of grade due to disease defect; 4=severe symptoms, sample out of grade; 5= maximum severity, all tubers in sample showing severe symptoms.

TABLE 13: 1999 Tri-State Potato Variety Trial - MERIT SCORES (1-5(best))

No.	Clone	Process				Fresh			
		ID	OR	MEANS	RANK	ID	OR	MEANS	RANK
1	Russet Burbank	4.0	3.0	3.5	5	3.0	1.0	2.0	6
2	Ranger	4.0	4.0	4.0	4	3.3	4.0	3.7	2
5	A89219-7	3.5	1.0	2.3	7	3.0	1.0	2.0	6
6	A9045-7	4.5	5.0	4.8	1	4.5	4.0	4.3	1
7	A90586-11	4.0	5.0	4.5	3	2.3	4.0	3.2	4
8	AO90014-1	3.0	3.0	3.0	6	3.0	3.0	3.0	5
9	AO92017-6	4.5	5.0	4.8	1	2.8	4.0	3.4	3
Location Means		3.9	3.7	3.8		3.1	3.0	3.1	

TABLE 14: 1999 Tri-State Potato Variety Trial - SUMMARY

Clone	Year in		Yield		% US#1's		Tuber Size		Specific Gravity		Fry Color		Merit Score	Problems	E/ L
	Trial	Use													
R. Burbank	CK	Dual	669	med-high	435 66	low	6.3	small	1.082	medium	1.2	good	poor	external and internal defects	
Ranger	Ck	Dual	702	high	567 81	high	8.2	med-large	1.086	med-high	1.3	good	medium		
Norkotah	Ck	Fresh	578	medium	86	high	7.7	medium	1.071	low	-				
Shepody	Ck	Fry	618	med-high	73	medium	9.3	med-large	1.072	low	-				
A89219-7	2	Fry	660	med-high	554 85	high	10.6	large	1.082	medium	0.5	excellent	poor	HH, short tubers	
A9045-7	1	Dual	744	high	678 92	very high	8.9	med-large	1.088	med-high	1.3	good	high	Suc. to blackspot	
A90586-11	1	Fry	766	high	593 76	medium	8.8	med-large	1.090	high	1.3	good	good	Suc. to blackspot	
AO90014-1	2	Dual	535	medium	434 81	high	6.2	small	1.080	medium	0.3	excellent	medium	Suc. to EB and shatter bruise	
AO92017-6	1	Dual	667	med-high	571 85	high	8.8	med-large	1.085	med-high	1.0	good	high		