

2002 WESTERN REGIONAL CHIPPING POTATO VARIETY TRIAL REPORT

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Compiled by Peggy Bain

TABLE 1: 2002 Western Regional Chipping 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
Kern Co. California (CA)	R. Voss H. Phillips	Early	Sprink.	100-15-20-10	15-Feb	18-Jun	20-Jun	123	125			Bravo
San Luis Valley Colorado (CO)	D. Holm P. Naranjo	Late	Pivot	140-70-40-18	16-May	3-Sep	30-Sep	110	137	Dual Mag Prowl EC Select EC	Actara Leverage Endosulfan	Manex II Quadris Bravo W S
Aberdeen Idaho (ID)	S. Love, R. Novy, D. Corsini T. Salaiz P. Bain	Late	Sprink.	250-120-40	29-Apr	9-Sep	25-Sep	133	149	Sencor Matrix Eptam	Admire	Bravo WS
Corvallis Oregon (CV)	A Mosley S. Yilma	Late	Sprink.	150-150-150-90	23-May	10-Sep	24-Sep	110	124	Matrix Prowl	Thimet Provado	Bravo Curzate Quadris
Hermiston Oregon (HRE)	D. Hane, L. Leroux	Early	Pivot		18-Mar		15-Jul	--	119			
Hermiston Oregon (HRL)	D. Hane, L. Leroux	Late	Pivot		8-Apr	22-Aug	4-Sep	136	149			
Klamath Falls Oregon (KF)	K. Rykbost, B. Charlton	Late	Sprink.	160-80-80-140	23-May	5-Sep	27-Sep	105	127	Vapam Dual Prowl	Di-syston Monitor	Tops MZ Ridomil Gold Bravo Ultrex Curzate Dithane
Dalhart Texas (TX)	J. C. Miller, Jr. J. Koym D. Schuering	Early	Pivot	270	9-May	28-Aug	28-Aug	111	111	Prowl Matrix Dual	Admire	Tops MZ Dithane Manzate Quadras, Echo Supertin Bravo Ridomil Ultra Flourish

TABLE 2: 2002 Western Regional Chipping Potato Variety Trial - CLONE, PARENTS, ENTERED BY, SEED SOURCE, STAND, TUBER AND VINE CHARACTERISTICS, METRIBUZIN REACTION

No	Clone	Parents	Flower Color	Entered by	Year in Trial	Seed Source	Mean Stand %	Tuber		Vine		Metr. Reaction AB ¹
								Shape	Skin	Size	Maturity	
1	ATLANTIC	WAUSEON B5141-6	V Lt Red-purple	Check	Ck	OR	97	Round	Buff	Medium	Medium	MS
2	CHIPETA	WNC612-13 WISCHIP	Med Red-purple	Check	Ck	OR	98	Oval	Buff	Large	Med-late	R
3	A91790-13	CHIPETA Ivory Crisp	V Lt Red-purple	ID	3	OR	98	Round	White	Med-large	Medium	VR
4	NDTX4930-5W	ND860-2 A7961-1	V Lt Red-purple	TX	3	OR	96	Oval	White	Medium	Med-early	VR
5*	B0766-3	B0243-18 Coastal Chip	White	MD	2	MD	97	Round	Buff	Med-small	Med-early	S
6*	NY112	Atlantic Q155-3	White	NY	2	NY	95	Oval	Buff	Medium	Medium	R
7*	B0564-8	B0155-24 B9935-8	White	NY	1	ME	95	Round	Buff	Med-small	Early	S

¹ Metribuzin Reaction measured at Aberdeen, ID

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

* National Trial Entries

TABLE 3: 2002 Western Regional Chipping 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)							
		CA	HRE	TX	Entry Mean	Rank	CO	CV	ID	HRL	KF	Entry Mean	Rank
1	ATLANTIC	520	438	494	484	1	567	697	484	519	474	548	5
2	CHIPETA	638	256	443	446	6	581	781	583	715	489	630	2
3	A91790-13	592	277	534	468	3	611	666	643	693	433	609	3
4	NDTX4930-5W	478	272	548	433	7	492	615	576	659	452	559	4
5	B0766-3	474	430	474	459	4	557	536	435	589	425	508	6
6	NY112	447	475	455	459	5	649	813	649	581	502	639	1
7	B0564-8	363	441	606	470	2	-	-	459	449	402	437	7
Location Means		502	370	508	460		576	685	547	601	454	572	
LSD (.05)					NS							81	

TABLE 4: 2002 Western Regional Chipping Potato Variety Trial - YIELD OF U.S. #1'S (CWT/A & %) - EARLY & 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
	CA	HRE	TX	Entry Mean	Rank	CO	CV	ID	HRL	KF		
1 ATLANTIC	483	277	379	379	4	452	464	434	441	398	438	4
	93	63	77	78	6	80	67	90	85	84	81	3
2 CHIPETA	617	165	389	390	1	435	444	474	589	351	459	3
	97	64	88	83	3	75	57	81	82	72	73	7
3 A91790-13	559	101	266	309	7	388	451	564	555	351	462	2
	94	36	50	60	7	64	68	88	80	81	76	5
4 NDTX4930-5W	451	189	503	381	3	379	327	468	582	347	421	6
	94	69	92	85	1	77	53	81	88	77	75	6
5 B0766-3	443	350	292	362	6	461	375	386	512	375	422	5
	94	81	62	79	5	83	70	89	87	88	83	2
6 NY112	416	363	372	384	2	569	610	608	514	448	550	1
	93	76	82	84	2	88	75	94	88	89	87	1
7 B0564-8	333	270	533	379	5	-	-	380	343	334	352	7
	92	61	88	80	4	-	-	83	76	83	81	4
Location Means	472	245	391	369		447	445	473	505	372	449	
	94	65	77	78		78	65	87	84	82	79	
LSD (.05)				NS							82	

TABLE 5: 2002 Western Regional Chipping 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	
		CA*	HRE	TX	Entry Mean	Rank	CO	CV*	ID*	HRL			KF
1	ATLANTIC	12	8	106	42	6	151	252	152	157	231	189	4
		2	2	22	9	6	27	36	31	30	49	35	4
2	CHIPETA	113	7	179	99	2	196	248	292	390	208	267	1
		18	3	40	20	2	34	32	50	55	43	43	1
3	A91790-13	21	2	20	15	7	74	122	176	134	93	120	6
		4	1	4	3	7	12	18	27	19	21	20	6
4	NDTX4930-5W	64	25	238	109	1	133	164	310	359	180	229	3
		13	9	43	22	1	27	27	54	54	40	40	2
5	B0766-3	22	76	40	46	5	115	146	133	183	213	158	5
		5	18	8	10	5	21	27	31	31	50	32	5
6	NY112	38	42	110	63	4	263	392	199	186	197	247	2
		9	9	24	14	3	41	48	31	32	39	38	3
7	B0564-8	2	5	192	66	3	-	-	55	59	119	78	7
		0	1	32	11	4	-	-	12	13	30	18	7
Location Means		39	24	126	63		155	221	188	210	177	190	
		7	6	25	13		27	31	34	34	39	33	
LSD (.05)					NS							92	

* >12 oz.

TABLE 6: 2002 Western Regional Chipping 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) / %					Entry Mean	Rank
	CA	HRE	TX	Entry Mean	Rank	CO	CV	ID	HRL	KF		
1 ATLANTIC	37	153	115	102	6	83	54	24	75	29	53	4
	7	35	23	22	6	15	8	5	14	6	10	4
2 CHIPETA	16	87	54	52	2	70	61	21	28	24	41	1
	3	34	12	16	3	12	8	4	4	5	7	1
3 A91790-13	33	175	268	159	7	209	98	62	133	73	115	7
	6	63	50	40	7	34	15	10	19	17	19	7
4 NDTX4930-5W	11	79	45	45	1	86	63	11	27	24	42	2
	2	29	8	13	1	17	10	2	4	5	8	3
5 B0766-3	31	71	182	95	5	91	63	28	69	25	55	5
	6	17	38	20	5	16	12	6	12	6	10	5
6 NY112	31	109	83	74	3	67	53	23	60	37	48	3
	7	23	18	16	2	10	7	4	10	7	8	2
7 B0564-8	30	167	73	90	4	-	-	61	104	50	72	6
	8	38	12	19	4	-	-	13	23	12	16	6
Location Means	27	120	117	88		101	65	33	71	37	61	
	6	34	23	21		18	10	6	12	8	11	
LSD (.05)				NS							25	

TABLE 7: 2002 Western Regional Chipping Potato Variety Trial - SPECIFIC GRAVITY - EARLY AND LATE HARVEST

No. Clone	Specific Gravity - Early Harvest					Specific Gravity - Late Harvest						
	CA	HRE	TX	Entry Means	Rank	CO	CV	ID	HRL	KF	Entry Mean	Rank
1 ATLANTIC	1.087	1.081	1.088	1.085	1	1.108	1.083	1.094	1.090	1.096	1.094	1
2 CHIPETA	1.080	1.062	1.081	1.074	6	1.100	1.078	1.077	1.084	1.087	1.085	5
3 A91790-13	1.080	1.064	1.081	1.075	4	1.091	1.080	1.083	1.095	1.086	1.087	4
4 NDTX4930-5W	1.072	1.067	1.079	1.073	7	1.102	1.078	1.083	1.083	1.090	1.087	3
5 B0766-3	1.079	1.071	1.077	1.076	3	1.094	1.076	1.079	1.085	1.085	1.084	6
6 NY112	1.073	1.069	1.083	1.075	5	1.097	1.086	1.082	1.084	1.088	1.087	2
7 B0564-8	1.077	1.077	1.085	1.079	2	-	-	1.078	1.079	1.076	1.078	7
Location Means	1.078	1.070	1.082	1.077		1.099	1.080	1.082	1.086	1.087	1.084	
LSD (.05)				0.007							0.005	

TABLE 9: 2002 Western Regional Chipping 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 ATLANTIC	4.8	4.2	5.0	4.7	4.4	3.8	2.9	5.0	4.5
2 CHIPETA	4.8	3.1	5.0	3.8	3.9	4.7	2.8	5.0	4.7
3 A91790-13	5.0	4.8	5.0	5.0	4.0	4.7	3.2	5.0	3.5
4 NDTX4930-5W	4.9	3.8	4.9	4.9	4.4	5.0	2.7	5.0	4.1
5 B0766-3	5.0	5.0	5.0	5.0	4.0	2.9	2.1	5.0	4.5
6 NY112	5.0	5.0	5.0	5.0	4.9	4.2	3.6	5.0	4.4
7 B0564-8	5.0	4.6	4.5	4.9	5.0	4.7	2.7	5.0	4.4

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 Western Regional Chipping 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	ATLANTIC	13.0	14.5	0.0	0.7	0.5	0.5	5.0	3.8	4.1
2	CHIPETA	2.5	5.2	0.0	0.0	2.5	1.5	5.0	3.6	4.0
3	A91790-13	2.5	0.6	0.0	0.3	6.1	0.5	5.0	3.9	4.2
4	NDTX4930-5W	2.4	8.1	0.0	0.3	11.5	2.5	5.0	4.1	3.5
5	B0766-3	3.0	8.8	0.0	0.0	1.0	4.3	5.0	3.9	2.9
6	NY112	2.5	8.2	0.0	1.7	0.5	1.5	5.0	4.1	4.0
7	B0564-8	2.9	2.6	0.0	0.0	4.3	1.7	5.0	5.0	2.7
LSD (.05)		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 Western Regional Chipping Potato Variety Trial - CHIP COLOR, AND PERCENT SUGAR ENDS

Clone	Early Harvest			Late Harvest												Sugar Ends ID %	
	TX ¹	HRE ¹	Early Means	CO ¹				ID ¹				CV ²		KF ² 50	HRL ¹ 45		50 Late Means
				Chip 40		Chip 50		Chip 40		Chip 50		40	50				
				a	Recon ^b	c	Recon ^d	a	Recon ^b	c							
1 ATLANTIC	1.5	1.3	1.4	3.5	4.0	2.5	4.0	4.5	2.0	2.4	4.7	2.8	2.8	1.5	2.4	39	
2 CHIPETA	1.5	1.3	1.4	4.5	4.0	2.0	3.0	4.7	4.0	1.5	4.7	3.1	2.6	1.4	2.1	28	
3 A91790-13	1.5	2.0	1.8	3.0	2.5	1.5	2.5	3.6	1.3	1.1	3.7	2.8	2.3	1.0	1.7	0	
4 NDTX4930-5W	1.4	1.8	1.6	3.0	2.5	1.5	3.0	3.8	1.7	1.8	4.3	3.0	2.4	1.4	2.0	7	
5 B0766-3	1.5	1.0	1.3	4.0	4.5	2.0	3.0	3.7	2.3	1.6	4.7	2.8	2.2	1.0	1.9	8	
6 NY112	1.1	1.3	1.2	3.5	2.5	1.5	3.0	4.9	1.8	1.5	4.1	2.8	2.4	1.0	1.8	17	
7 B0564-8	1.5	1.0	1.3	-	-	-	-	4.8	4.3	2.0	-	-	2.6	2.4	2.3	8	
Location Means	1.4	1.4	1.4	3.6	3.3	1.8	3.1	4.3	2.5	1.7	4.4	2.8	2.5	1.4		15	

¹ Color using Snack Food Association Frycolor Standards (1-5(darkest)).

² Agtron readings converted to Snack Food Association Frycolor Standards (1-5(darkest)).

^a Stored 6-8 weeks at 40°F.

^b Stored 6-8 weeks at 40°F plus 3 weeks at 60°F.

^c Stored 6-8 weeks at 50°F.

^d Stored 6-8 weeks at 50°F plus 3 weeks at 60°F.

TABLE 12: 2002 Western Regional Chipping Potato Variety Trial - DISEASE EVALUATIONS

No. Clone	Vert. Wilt/ Early Dying		Early Blight	Late Blight		Corky	Root-	Common	Leafroll		Erwinia
	AB	HERM	AB	Foliar	Tuber	Ringspot	knot	Scab	Net	Necrosis	Soft Rot
	0-9 ¹	0-9 ¹	0-9 ¹	CORVALLIS	% by Wt.	PROSSER		AB	AB	HERM	AB
				0-9 ¹				(%) ³	(%) ³	(%) ³	0-5 ²
1 ATLANTIC	6.3	8.4	5.3	9.0	25.0	37	S	12.0	4.0	12.5	1.5
2 CHIPETA	3.8	1.0	3.7	9.0	22.8	28	S	2.0	0.0	10.0	1.3
3 A91790-13	1.8	0.7	3.2	9.0	52.5	75	S	6.0	0.0	15.0	3.7
4 NDTX4930-5W	5.0	6.0	6.0	9.0	31.4	23	S	25.0	0.0	32.5	1.7
5 B0766-3	5.2	7.0	4.2	--	--	--	--	8.0	--	15.0	--
6 NY112	3.0	8.4	4.7	--	--	--	--	16.0	--	7.5	--
7 B0564-8	5.0	9.0	4.2	--	--	--	--	28.0	--	2.5	--
MEANS	4.3	5.8	4.5	9.0	32.9			13.9	1.0	13.6	2.1
LSD @ .05	1.8		1.3					16.0			1.7

1 0 to 9, Where 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, Where 0=None; 1=mild symptoms, sample would not be out of grade to disease defect; 2= moderate symptoms, 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.

3 Percent serious defect = more then 10% of tuber involved.

S = Susceptible

TABLE 13: 2002 Western Regional Chipping Potato Variety Trial - SOLIDS, DEXTROSE, SUCROSE, PROTEIN, VITAMIN C, AND GLYCOALKALOIDS - ABERDEEN

Clone	Solids Oven Dry (%)	Sugars		Protein (%DWB)	Vitamin C (mg/100g FWB)	Glycoalkaloids (mg/100gFWB)
		Dextrose (%FWB)	Sucrose (%FWB)			
1 ATLANTIC	24.8	0.03	0.21	6.2	16.3	4.1
2 CHIPETA	21.4	0.04	0.21	6.7	17.8	4.3
3 A91790-13	22.9	0.02	0.15	6.2	12.8	2.4
4 NDTX4930-5W	22.8	0.01	0.22	6.4	12.8	3.1
5 B0766-3	22.1	0.01	0.17	6.0	12.9	4.7
6 NY112	23.1	0.06	0.13	5.3	14.6	8.1
7 B0564-8	22.5	0.02	0.19	5.2	18.0	3.9
Means	22.8	0.03	0.18	6.0	15.0	4.4

FWB = fresh weight basis DWB = dry weight basis

Glycoalkaloids: The Zenape check from Aberdeen was 20.8 mg/100g

TABLE 14: 2002 Western Regional Chipping Potato Variety Trial - MERIT SCORES (1-5(best))

No.	Clone	Early Process Merit		Fresh Merit		Late Process Merit					Means
		TX	Means	CO	ID	CO	ID	CV	HRL	KF	
1	ATLANTIC	3.3	3.3	2.0	3.0	2.0	2.5	3.5	3.0	3.5	2.9
2	CHIPETA	3.2	3.2	3.0	2.8	3.0	3.0	3.0	3.0	3.0	3.0
3	A91790-13	2.7	2.7	1.0	4.0	2.0	4.5	4.2	5.0	4.5	4.0
4	NDTX4930-5W	3.5	3.5	1.0	2.3	1.0	4.0	3.2	1.0	4.0	2.6
5	B0766-3	3.2	3.2	2.0	3.5	2.0	3.0	3.5	4.0	3.0	3.1
6	NY112	3.6	3.6	4.0	4.3	4.0	3.5	4.0	4.0	3.5	3.8
7	B0564-8	3.2	3.2	-	3.8	-	2.5	-	3.0	2.5	2.7
Location Means		3.3	3.3	2.2	3.4	2.3	3.3	3.6	3.3	3.4	3.2

TABLE 16: 2000-2002 Western Regional Chipping Potato Variety Trial - MULTIPLE YEAR SUMMARY

Trial Year	Clone	Yield		% US#1's			Tuber Size		Specific Gravity		Chip Color	Merit Score		Problems
				438	81	med-high	7.4	medium	94	high		2.9	fair	
2002	ATLANTIC	548	medium	438	81	med-high	7.4	medium	94	high	fair	2.9	fair	Hollow Heart
2002	CHIPETA	630	very high	459	73	medium	9.5	large	85	medium	fair	3.0	good	
2002	A91790-13	609	high	462	76	medium	6.1	med-small	87	med-high	good	4.0	excellent	
2002	NDTX4930-5W	559	med-high	421	75	medium	9.3	large	87	med-high	fair	2.6	fair	
2002	B0766-3	508	medium	422	83	high	6.9	medium	84	medium	good	3.1	good	
2002	NY112	639	very high	550	87	high	7.9	medium	87	med-high	good	3.8	excellent	
2001	ATLANTIC	529	medium	444	84	high	7.1	medium	89	med-high	good	3.2	good	Hollow Heart
2001	CHIPETA	666	med-high	505	75	medium	9.9	large	82	medium	good	3.3	good	tuber late blight
2001	A91790-13	683	med-high	575	84	high	6.4	med-small	86	medium	excellent	4.0	excellent	
2001	NDTX4930-5W	607	med-high	481	80	med-high	8.2	med-large	81	medium	good	2.3	fair	Hollow Heart
2001	B0766-3	532	medium	464	88	high	8.2	med-large	78	med-low	good	2.0	poor	blackspot
2001	NY112	755	high	654	87	high	7.4	medium	86	medium	good	4.7	excellent	higher glocoaloids
2000	ATLANTIC	458	medium	381	82	high	6.4	medium	87	med-high	good	2.5	fair	Hollow Heart
2000	CHIPETA	661	very high	533	78	med-high	9.5	large	80	medium	good	3.3	good	
2000	A91790-13	629	very high	464	72	medium	4.7	small	87	med-high	excellent	4.2	top	Net Necrosis
2000	NDTX4930-5W	570	high	474	82	high	7.0	med-large	81	medium	good	2.9	fair	Net Nec Scab

2000-2003 Three or two year averages.

	Clone	Total Yield	US#1's		Tuber Size	Specific Gravity	Merit Score	
			cwt/A	%				
Means	ATLANTIC	512	421	82	7.0	90	2.8	
Means	CHIPETA	652	499	75	9.6	82	3.2	
Means	A91790-13	640	500	77	5.7	87	4.1	
Means	NDTX4930-5W	579	459	79	8.1	83	2.6	
Means	B0766-3	520	443	86	7.6	81	2.6	
Means	NY112	697	602	87	7.6	87	4.3	