

2021 WESTERN REGIONAL CHIPPING POTATO TRIAL REPORT

State Agricultural Experiment Stations and the
USDA-ARS

California
Colorado
Idaho
Oregon
Texas



2021 WESTERN REGIONAL CHIPPING POTATO VARIETY TRIAL REPORT

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Data provided by cooperators in California, Colorado, Idaho, Oregon, and Texas

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TABLE 1: 2021 Western Regional Chipping Potato Variety Trial - LOCATIONS, COOPERATORS, AND CULTURAL INFORMATION

Locations	Cooperators	Trial	Irrigation	Fertilizer N-P-K-S(lb/A)	Spacing	Planting Date	Vine Kill Date	Harvest Date	Days to Vine Kill	Days to Harvest	Herbicides	Insecticides	Fungicides
Tulelake California (CA)	R. Wilson D. Culp K. Nicholson	Late	Sprink.	172-100-400	10" x 36"	18-May	30-Sep Reglone	30-Sep	135	135	Prowl H2O Outlook Matrix SG	Admire Pro	Quadris Maxim 4FS (seed)
San Luis Valley Colorado (CO)	D. Holm C. Gray B. Niebaum	Late	Pivot	120-100-150	12" x 34"	11-May	3-Sep Reglone	27-Sep	115	139	Prowl H2O Intensity Tuscany	Pure Spray Green Sefina Inscalis	Quadris Top Revus Top Bravo Weather Stik Agri Tin
Klamath Falls Oregon (KF)*	B. Charlton N. Baley	Late		180-50-156-99	9.25" x 34"	17-May	17-Sep Mechanical	20-Oct	123	156	Prowl Matrix Glory	Alias	Vertisan
Aberdeen Idaho (ID)	R. Spear R. Novy J. Whitworth C. Lowder	Late	Sprink.	270-115-5Zn-5Mn	10" x 36"	29-Apr	7-Sep Mechanical	23-Sep	131	147	TriCor 4F Matrix Eptam 7-E	Admire Pro	
Hermiston Oregon (HRM)	V. Sathuvalli M. Aguilar	Early	Pivot	350-50-200-100-2Cu-7.5Zn-3B	9.25" x 34"	15-Mar	2-Aug Reglone	13-Aug	140	151	Vapam Eptam Matrix	Admire Coregen Agrimek Blackhawk	Quadris Ridimil Omega
Dalhart Texas (DTX)	I. Vales J. Koym D. Scheuring	Early	Pivot	211-226-263	10.2" x 28"	9-May	3-Aug Reglone	14-Sep	86	128	Eptam 7E Tricor 4F Acumen, Brawl Treflan, Chateau	Movento Fulfill Reaper ClearForm	Minuet MetaStar A-Frame Provysol Scala SC
Dalhart Texas (STX)	I. Vales J. Koym D. Scheuring	Early	Pivot	72.7-14-12.9	9" x 36"	30-Mar	24-Jul Mechanical	29-Jul	116	121	Eptam 7E Makaze Medal EC Stealth	Velum Rrime SPE 120	

*The trial Klamath Falls was grown under deficit irrigation and not included in the trial averages

TABLE 2: 2021 Western Regional Chipping Potato Variety Trial - CLONE, PARENTS, FLOWER COLOR, ENTERED BY, YEARS IN TRIAL, SEED SOURCE, STAND, TUBER AND VINE CHARACTERISTICS, AND STEMS PER PLANT

No.	Clone	Parents	Flower Color	Entered by	Year in Trial	Seed Source	% Stand Mean	Tuber Shape	Tuber Skin	Vine Size	Vine Maturity	Stems/Plant Mean
1	Atlantic	Wauseon x B5141-6	Red-purple	Check	Ck	OR	96	Round	Buff	Med-large	Med Early	2.1
2	Lamoka	NY120 x NY115	Purple	Check	Ck		98	Round	White	Med-large	Medium	2.2
3	Snowden	Lenape x Wischip	White	Check	Ck	OR	97	Round	White	Med-large	Med-late	2.7
4	AC11494-6W	A05158-3C x 00-3115-11	White	CO	1	CO	92	Round	White	Med-large	Med-late	2.3
5	AOR12197-4	V-15-71 x CO02121-4W	White	OR	2	OR	83	Round	White	Med-large	Med-late	2.2
6	CO11023-2W	AC03433-1W x NY138	White	CO	2	CO	93	Round	White	Med-large	Medium	2.8
7	CO11037-5W	BC0894-2W x W2133-1	Light Purple	CO	2	CO	99	Round	White	Med-large	Medium	2.2
8	CO12235-3W	AC00206-2W x AC03433-1W	White	CO	1	CO	95	Round	White	Med-large	Medium	2.1
9	CO12293-1W	CO02024-9W x ND7519-1	White	CO	1	CO	98	Round	White	Med-large	Medium	3.3
10	COOR13270-2	Winterset x CO02024-9W	White	CO	1	CO	91	Round	White	Med-large	Med-late	2.3
11	NYOR14Q9-5	Eva x H25-4	White	OR	1	OR	96	Round	White	Med-large	Late	1.6
12	NYOR14Q9-9	Eva x H25-4	White	OR	1	OR	96	Round	White	Med-large	Med Early	2.8

1 Numerical values are means of all trial locations.

2 1.0-2.0=Round, 2.1-2.5=Oval, 2.6-3.5=Oblong, 3.6-4.0=Oblong-Long, 4.1-5.0=Long

3 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

4 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

5 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: 2021 Western Regional Chipping Potato Variety Trial - TOTAL YIELD - YIELD OF U.S. #1'S (CWT/A & %)

No. Clone	Total Yield (CWT/A)						Entry Mean	Rank	U.S. No. 1's (CWT/A) / %						Entry Mean	Rank
	CA	CO	ID	HRM	DTX	STX ¹			CA	CO	ID	HRM	DTX	STX ¹		
1 ATLANTIC	425	379	292	730	562	162	478	3	374	295	193	336	385	120	317	2
									88	78	66	46	69	74	69	4
2 Lamoka		394	334		385	175	371	11		325	225		253	141	268	9
									83	68		66	81		72	1
3 SNOWDEN	447	335	251	788	449	127	454	5	372	205	167	453	296	106	298	4
									83	61	66	57	66	84	67	6
4 AC11494-6W	302	363	359	647	384	128	411	9	191	227	226	382	107	46	227	11
									63	63	63	59	28	36	55	12
5 AOR12197-4	392	380	265	826	400	80	453	6	291	281	154	492	254	49	295	5
									74	74	58	60	64	61	66	8
6 CO11023-2W	361	348	315	704	360	73	418	8	270	256	179	421	214	55	268	5
									75	73	57	60	59	75	65	9
7 CO11037-5W	392	415	290	484	348	226	386	10	310	306	191	222	239	120	254	10
									79	74	66	46	69	53	67	7
8 CO12235-3W	278	309	300	571	386	87	369	12	192	227	195	324	181	66	224	12
									69	74	65	57	47	76	62	10
9 CO12293-1W	243	381	352	881	414	113	454	4	153	311	279	459	306	96	302	3
									63	82	79	52	74	85	70	3
10 COOR13270-2	379	327	371	615	501	165	438	7	304	219	243	341	353	125	292	7
									80	67	65	56	70	76	68	5
11 NYOR14Q9-5	384	410	373	793	482	197	488	2	351	325	252	300	374	161	320	1
									91	79	68	38	78	82	71	2
12 NYOR14Q9-9		386	303	869			519	1		270	181	430			294	6
									70	60	50				60	11
Location Mean	364	362	313	758	439	139	449		279	258	203	414	274	85	286	
									75	71	64	55	61	70	65	

¹ Springlake, TX data not included in mean.

TABLE 4: 2021 Western Regional Chipping Potato Variety Trial - YIELD OF U.S. #1'S >10 OZ. & YIELD <4OZ. (CWT/A & %)

No. Clone	U.S. No. 1's > 10 OZ (CWT/A) / %						Yield < 4 OZ (CWT/A) / %						Entry Mean	Rank		
	CA	CO	ID	HRM	DTX	STX ¹	CA	CO	ID	HRM	DTX	STX ¹				
1 ATLANTIC	98	62	48	277	38	0	105	4	38	74	40	81	168	31	80	9
	23	16	16	38	7	0	20	4	9	20	14	11	30	19	17	9
2 Lamoka		111	88		35	0	78	5		31	19		129	34	60	12
		28	26		9	0	21	3		8	6		33	19	16	10
3 SNOWDEN	42	15	27	230	28	0	69	6	66	124	55	89	153	16	97	5
	9	5	11	29	6	0	12	9	15	37	22	11	34	12	24	4
4 AC11494-6W	1	8	48	16	0	0	15	12	105	135	82	228	204	60	151	1
	0	2	13	2	0	0	4	12	35	37	23	35	53	47	37	1
5 AOR12197-4	93	59	57	69	56	0	67	7	42	72	38	201	124	12	95	7
	24	15	22	8	14	0	17	6	11	19	14	24	31	16	20	8
6 CO11023-2W	31	54	27	123	0	0	47	10	85	74	58	132	132	18	96	6
	9	15	9	17	0	0	10	11	24	21	18	19	37	25	24	5
7 CO11037-5W	46	96	71	45	23	0	56	9	70	65	44	146	89	58	83	8
	12	23	25	9	7	0	15	7	18	16	15	30	26	26	21	7
8 CO12235-3W	15	44	65	92	0	0	43	11	70	55	37	136	197	21	99	3
	5	14	22	16	0	0	12	10	25	18	12	24	51	24	26	3
9 CO12293-1W	31	125	126	288	41	4	122	2	48	43	29	107	104	17	66	10
	13	33	36	33	10	4	25	2	20	11	8	12	25	15	15	11
10 COOR13270-2	68	26	76	100	49	0	64	8	69	295	41	159	145	30	142	2
	18	5	20	16	10	0	14	8	18	90	11	26	29	18	35	2
11 NYOR14Q9-5	116	82	114	398	65	0	155	1	28	68	28	76	102	31	60	11
	30	20	31	50	14	0	29	1	7	17	8	10	21	16	12	12
12 NYOR14Q9-9		38	32	274			115	3		108	67	121			99	4
		10	11	32			17	5		28	22	14			21	6
Location Mean	54	60	65	174	31	0	78		62	95	45	134	141	30	94	
	14	16	20	23	7	0	16		18	27	14	20	34	22	22	

¹ Springlake, TX data not included in mean.

TABLE 5: 2021 Western Regional Chipping Potato Variety Trial - SPECIFIC GRAVITY

No. Clone	Specific Gravity						Entry Mean	Rank
	CA	CO	ID	HRM ¹	DTX	STX ¹		
1 Atlantic	1.088	1.112	1.087	1.077	1.073	1.070	1.090	3
2 Lamoka		1.109	1.095		1.075	1.070	1.093	2
3 Snowden	1.091	1.104	1.089	1.070	1.066	1.065	1.088	4
4 AC11494-6W	1.090	1.104	1.093	1.065	1.061	1.055	1.087	6
5 AOR12197-4	1.080	1.099	1.087	1.069	1.070	1.060	1.084	9
6 CO11023-2W	1.079	1.097	1.090	1.070	1.078	1.078	1.086	7
7 CO11037-5W	1.080	1.100	1.088	1.061	1.063	1.061	1.083	12
8 CO12235-3W	1.076	1.103	1.089	1.065	1.081	1.073	1.087	5
9 CO12293-1W	1.076	1.102	1.092	1.072	1.071	1.074	1.085	8
10 COOR13270-2	1.080	1.096	1.090	1.070	1.069	1.061	1.084	10
11 NYOR14Q9-5	1.078	1.097	1.094	1.067	1.064	1.060	1.083	11
12 NYOR14Q9-9		1.102	1.095	1.070			1.098	1
Location Mean	1.082	1.102	1.091	1.069	1.070	1.066	1.087	

¹ Hermiston, OR and Springlake, TX data not included in mean.

TABLE 6: 2021 Western Regional Chipping Potato Variety Trial - AVERAGE TUBER SIZE, AND TUBER SHAPE

No. Clone	Average Tuber Size (oz)						Tuber Shape ¹																					
	CA	ID	HRM	DTX	STX ²	Entry Mean	Length/Width						Width/ Thick						Entry Mean									
							CA	CO	ID	HRM	DTX	STX ²	CA	CO	ID	HRM	DTX	STX ²										
							(1-5, 1 = round, 5 = long)																					
1 Atlantic	6.6	5.8	6.4	4.5	2.6	5.8	1.01	1.00	1.01	0.99	1.03	1.21	1.01	1.22	1.26	1.21	1.33	1.18	1.26	1.25	2.0	1.0	1.8	2.0	1.0	1.2	1.6	
2 Lamoka		6.9		4.5	2.8	5.7			1.22	1.08		1.15	1.24	1.15		1.31	1.25		1.17	1.11	1.24		2.0	2.0		1.8	2.0	1.9
3 Snowden	5.7	5.1	6.1	4.1	2.3	5.3	0.99	0.90	0.96	0.91	1.01	1.07	0.95	1.25	1.25	1.17	1.41	1.27	1.24	1.27	2.0	1.0	1.6	2.0	1.2	1.5	1.6	
4 AC11494-6W	4.1	4.7	3.6	2.8	1.4	3.8	0.88	0.96	0.89	0.85	0.89	1.00	0.89	1.22	1.23	1.08	1.32	1.23	1.15	1.22	1.5	1.0	1.5	1.5	1.0	1.0	1.3	
5 AOR12197-4	6.6	5.5	4.3	3.7	2.2	5.0	1.02	0.93	0.97	0.98	0.88	0.92	0.96	1.20	1.26	1.14	1.22	1.23	1.17	1.21	2.0	1.0	1.6	1.0	1.0	1.0	1.3	
6 CO11023-2W	5.0	4.5	4.8	4.1	1.9	4.6	0.99	1.02	1.04	0.89	0.88	0.94	0.96	1.26	1.29	1.14	1.33	1.12	1.07	1.22	1.5	1.0	1.5	2.0	1.0	1.0	1.4	
7 CO11037-5W	5.5	5.4	4.7	4.5	2.3	5.0	1.05	1.04	1.01	1.01	1.00	1.38	1.02	1.15	1.23	1.17	1.27	1.18	1.00	1.21	2.0	1.0	2.0	1.8	3.0	2.0	2.0	
8 CO12235-3W	4.7	5.8	4.7	3.2	1.9	4.6	1.00	0.94	0.93	0.96	1.02	1.04	0.97	1.19	1.21	1.13	1.27	1.20	1.00	1.20	1.5	1.0	1.5	1.5	1.0	1.0	1.3	
9 CO12293-1W	5.1	6.8	6.2	5.0	2.8	5.8	1.11	1.15	0.96	1.19	1.01	1.15	1.09	1.23	1.23	1.12	1.26	1.16	1.07	1.19	2.0	1.0	1.5	2.0	1.3	1.5	1.6	
10 COOR13270-2	5.6	5.6	4.4	4.7	2.2	5.1	1.03	1.13	1.10	1.09	1.01	1.07	1.07	1.17	1.20	1.31	1.27	1.18	1.13	1.24	2.0	1.0	1.6	2.0	1.4	1.2	1.6	
11 NYOR14Q9-5	7.1	6.6	6.9	5.2	2.4	6.5	0.92	1.04	0.99	0.99	1.06	1.01	1.00	1.32	1.25	1.25	1.35	1.14	1.16	1.25	2.0	1.0	1.8	2.0	1.5	1.2	1.7	
12 NYOR14Q9-9		4.7	5.6			5.2		1.02	0.99	1.05			1.02		1.25	1.20	1.30			1.25		1.0	1.5	2.0			1.5	
Location Mean	5.6	5.6	5.2	4.2	2.2	5.2	1.00	1.03	0.99	0.99	0.99	1.09	1.01	1.22	1.25	1.18	1.30	1.19	1.12	1.23	1.9	1.1	1.7	1.8	1.4	1.3	1.6	

¹L=length, W=width, T=thickness. For L:W <1.00=compressed; 1.00-1.15=round; 1.16-1.55=oval; 1.56-1.95=oblong; 1.96-2.35=long; >2.35=very long. For W:T, the larger the value, the flatter the tuber.² Springlake, TX data not included in mean.

TABLE 7: 2021 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							Greening ¹						Shatter Bruise						Scab ¹				
	CA ²	CO	ID	HRM	DTX	STX ⁴	Entry Mean	CA ²	CO	ID	HRM	DTX	STX ⁴	Entry Mean	CA ²	CO	HRM	DTX	STX ⁴	Entry Mean	ID ³	CA	HRM	DTX	STX ⁴	Entry Mean	ID	HRM	DTX	STX ⁴	Entry Mean
1 Atlantic	0.3	5.0	5.0	4.3	5.0	5.0	4.8	0.5	5.0	5.0	4.4	5.0	4.0	4.8	2.3	4.0	4.1	5.0	5.0	4.4	2.1	3.0	4.5	5.0	5.0	4.8	4.4	4.9	5.0	5.0	4.8
2 Lamoka		4.0	4.9		5.0	5.0	4.6		5.0	5.0		5.0	5.0	5.0		2.0		5.0	5.0	3.5	2.8			5.0	5.0	5.0	4.4		5.0	5.0	4.7
3 Snowden	0.3	5.0	4.9	4.6	5.0	5.0	4.9	0.5	5.0	5.0	5.0	5.0	4.5	5.0	1.3	4.0	4.5	5.0	5.0	4.5	3.0	4.0	4.9	5.0	5.0	4.9	4.3	5.0	4.7	5.0	4.7
4 AC11494-6W	0.3	5.0	5.0	4.5	5.0	5.0	4.9	0.3	5.0	5.0	3.9	4.7	3.5	4.6	1.5	4.0	4.3	5.0	5.0	4.4	2.3	3.5	4.5	5.0	5.0	4.8	4.0	5.0	4.3	5.0	4.4
5 AOR12197-4	5.5	4.0	4.8	2.9	4.8	5.0	4.1	1.0	5.0	5.0	4.8	5.0	4.0	4.9	4.8	2.0	3.9	4.3	5.0	3.4	2.7	4.0	4.8	5.0	5.0	4.9	3.9	4.9	5.0	5.0	4.6
6 CO11023-2W	0.8	4.0	4.4	4.3	4.7	5.0	4.3	0.3	5.0	4.9	4.8	5.0	5.0	4.9	0.5	3.0	4.1	4.7	5.0	3.9	2.3	4.0	4.3	5.0	5.0	4.6	4.4	4.9	4.8	5.0	4.7
7 CO11037-5W	1.0	4.0	4.5	4.8	5.0	4.5	4.6	0.3	5.0	5.0	2.5	4.9	2.6	4.4	1.0	2.0	4.5	5.0	5.0	3.8	2.8	3.0	4.8	5.0	5.0	4.9	4.3	4.9	5.0	5.0	4.7
8 CO12235-3W	2.3	4.0	4.9	5.0	4.7	5.0	4.6	0.0	5.0	5.0	4.3	5.0	5.0	4.8	1.8	2.0	4.4	4.8	5.0	3.7	2.5	3.5	4.5	5.0	5.0	4.8	4.5	5.0	4.6	5.0	4.7
9 CO12293-1W	10.0	4.0	4.6	4.4	4.9	5.0	4.5	0.0	5.0	5.0	4.6	5.0	5.0	4.9	5.3	2.0	4.5	5.0	5.0	3.8	3.0	3.5	4.5	5.0	5.0	4.8	4.4	4.8	5.0	5.0	4.7
10 COOR13270-2	0.3	4.0	5.0	4.4	4.8	4.5	4.5	0.0	5.0	5.0	4.8	5.0	5.0	4.9	0.8	4.0	4.4	5.0	5.0	4.5	2.8	4.0	4.6	5.0	5.0	4.8	3.6	4.9	4.8	5.0	4.4
11 NYOR14Q9-5	0.0	5.0	4.9	5.0	5.0	5.0	5.0	0.0	5.0	5.0	4.9	4.8	4.8	4.9	2.0	4.0	4.8	5.0	5.0	4.6	2.7	4.0	4.8	5.0	5.0	4.9	4.6	5.0	5.0	5.0	4.9
12 NYOR14Q9-9		5.0	5.0	4.4			4.8		5.0	5.0	5.0			5.0		4.0	4.5			4.3	2.6		4.3			4.3	4.1	4.9			4.5
Location Mean	2.1	4.4	4.8	4.4	4.9	4.9	4.6	0.3	5.0	5.0	4.4	4.9	4.4	4.9	2.1	3.1	4.4	4.9	5.0	4.1	2.6	3.7	4.6	5.0	5.0	4.8	4.2	4.9	4.9	5.0	4.6

¹ Score 1-5, with 1=severe, 5=none.

²Tulelake, CA percent of total

TABLE 8: 2021 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					
		CA	CO	ID	HRM	DTX	STX ²	Entry Mean	HRM	DTX	STX ²	Entry Mean	CA	HRM	DTX	STX ²	Entry Mean	CA	CO	ID ³	HRM ⁴	DTX	STX ²
1	Atlantic	0	3	30	30	17	0	16	35	50	50	43	0	0	7	0	2	5	2.6	3.9	35	5.0	5.0
2	Lamoka		0	10	0	10	0	5		0	0	0			3	30	3		3.2	4.0		5.0	5.0
3	Snowden	0	1	10	5	3	0	4	5	7	20	6	50	3	40	0	31	5	3.0	3.8	13	5.0	5.0
4	AC11494-6W	0	0	3	0	0	0	1	10	0	0	5	20	3	10	0	11	5	3.0	3.3	15	5.0	5.0
5	AOR12197-4	0	0	13	0	3	0	3	3	3	0	3	20	3	7	10	10	5	4.1	4.1	3	5.0	5.0
6	CO11023-2W	50	0	8	0	17	0	15	18	7	10	12	10	0	7	0	6	5	3.6	3.5	10	5.0	5.0
7	CO11037-5W	0	2	3	0	0	0	1	8	0	0	4	0	0	0	0	0	5	4.2	4.1	3	5.0	5.0
8	CO12235-3W	0	0	33	0	0	0	7	5	0	0	3	10	0	7	0	6	5	4.2	4.4	13	5.0	5.0
9	CO12293-1W	10	0	13	0	0	0	5	8	0	0	4	0	0	13	0	4	5	5.0	4.0	13	5.0	5.0
10	COOR13270-2	0	0	40	15	7	0	12	18	37	0	27	20	0	3	0	8	5	3.9	3.5	8	5.0	5.0
11	NYOR14Q9-5	30	1	25	8	3	0	13	28	3	10	15	0	0	17	20	6	5	4.3	3.8	18	5.0	5.0
12	NYOR14Q9-9		0	0	0			0	48			48		0			0		4.1	3.5	15		
Location Mean		9	1	15	5	5	0	7	17	10		14	13	1	10	5	7	5	3.8	3.8	13	5.0	5.0

¹ Score 1-5, with 1=severe, 5=none.

² Springlake, TX data not included in mean.

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

⁴ Hermiston, OR blackspot score is a percent of total.

TABLE 9: 2021 Western Regional Chipping Potato Variety Trial - CHIP COLOR

No. Clone	DTX ¹		HRM ¹				CO ¹				ID ¹			50 ² Mean
	Chip 42		Chip 40		Chip 50		Chip 40		Chip 50		Chip 40		Chip 50	
	a	Recon ^b	a	Recon ^b	c	Recon ^d	a	Recon ^b	c	Recon ^d	a	Recon ^b	c	
1 Atlantic	1.0	1.0	1.8	4.8	1.8	2.1	4.5	1.5	1.5	1.5	4.5	4.3	2.3	2.0
2 Lamoka	1.0	2.0					4.5	2.5	1.5	1.5	4.3	4.4	2.3	1.9
3 Snowden	1.0	1.0	1.4	3.9	1.4	1.9	4.5	2.5	1.5	1.0	4.8	4.7	3.1	2.2
4 AC11494-6W	1.0	1.0	1.9	3.4	1.9	2.4	3.0	2.0	2.5	1.5	3.4	3.7	2.8	2.5
5 AOR12197-4	3.0	3.0	1.5	3.5	1.5	1.9	4.0	3.0	2.5	2.5	4.1	4.2	2.2	2.2
6 CO11023-2W	1.0	1.0	1.6	3.1	1.6	2.0	3.5	1.0	2.5	2.5	4.4	3.8	2.0	2.2
7 CO11037-5W	1.0	1.7	1.6	3.3	1.6	2.0	4.5	1.5	2.0	1.0	4.2	3.4	2.1	2.0
8 CO12235-3W	1.0	1.0	1.4	3.0	1.4	1.9	3.5	1.0	3.0	2.0	3.8	4.3	1.8	2.2
9 CO12293-1W	1.0	1.0	1.4	3.8	1.4	1.8	3.5	2.5	2.0	1.5	4.0	3.9	2.1	1.9
10 COOR13270-2	1.0	1.0	1.5	3.4	1.5	2.1	3.5	3.0	2.0	2.0	4.7	4.4	2.9	2.3
11 NYOR14Q9-5	1.0	1.0	1.5	2.8	1.5	1.8	3.0	1.0	2.0	1.5	4.2	3.6	2.4	2.1
12 NYOR14Q9-9			2.1	3.8	2.1	2.4	4.5	3.5	2.5	2.0	4.0	3.7	1.8	2.2
Location Means	1.2	1.3	1.6	3.5	1.6	2.0	3.9	2.1	2.1	1.7	4.2	4.0	2.3	2.1

¹ Color using Snack Food Association Color Standards for Potato Chips (1-5 (darkest)).

^a Stored 6 weeks at 42F (TX); 8 weeks at 38F (HRM); 7 weeks at 40F (CO) and 7 weeks at 40F (ID).

^b Stored 6 weeks at 42F plus 2 weeks at room temp (TX); stored 8 weeks at 38F plus 3 weeks at 48F (HRM); stored 7 weeks at 40F plus 3 weeks at 60F (CO); stored 7 weeks at 40F plus 2 weeks at 60F (ID).

^c Stored 12 weeks at 48F (HRM); stored 7 weeks (CO) and 5 weeks at 50F (ID).

^d Stored 12 weeks (HRM) at 47F plus 4 weeks at 47F; stored 7 weeks at 50F plus 3 weeks at 60F (CO); stored 6 weeks at 50F plus 3 weeks at 60F (ID).

² Mean for HRM, CO and ID.

Table 10. 2021 Aberdeen Regional Chip Trial - SOLIDS, DEXTROSE, SUCROSE, PROTEIN, VITAMIN C, AND GLYCOALKALOIDS - ABERDEEN, IDAHO

Clone	Solids Oven Dry (%)	Sugars		Protein (%DWB)	Vitamin C (mg/100g FWB)	Glycoalkaloids (mg/100gFWB)	
		Dextrose (%FWB)	Sucrose (%FWB)				
1	Atlantic	22.41	0.002	0.079	6.32	23.28	3.21
2	Lamoka	23.72	0.012	0.092	5.49	22.48	4.86
3	Snowden	22.64	0.007	0.098	5.29	23.02	5.04
4	AC11494-6W	24.16	0.001	0.171	6.45	22.12	7.42
5	AOR12197-4	20.74	0.009	0.104	5.91	19.71	3.14
6	CO11023-2W	22.16	0.003	0.063	5.66	21.34	3.99
7	CO11037-5W	22.90	0.001	0.086	6.72	19.81	2.61
8	CO12235-3W	22.09	0.002	0.072	6.77	16.41	3.20
9	CO12293-1W	23.12	0.003	0.087	6.32	22.48	3.81
10	COOR13270-2	23.87	0.003	0.136	5.71	21.13	5.22
11	NYOR14Q9-5	24.24	0.001	0.117	5.46	20.04	6.36
12	NYOR14Q9-9	23.05	0.001	0.119	5.65	22.59	4.63
Means	22.93	0.004	0.102	5.98	21.20	4.46	

FWB = fresh weight basis DWB = dry weight basis

Lenape Check = 53.7

TABLE 11: 2021 Western Regional Chipping Potato Variety Trial - DISEASE EVALUATIONS, METRIBUZIN REACTION

No. Clone	Vert. Wilt/Early Dying				Early Blight		Common Scab		Corky Ringspot			Fusarium	Pecto-	PVY %	Metr. Reaction
	AB ¹		HERM		AB ¹		AB ¹		PROS ⁴			Dry Rot ¹ (0-5)	Soft Rot		
	AUDPC		AUDPC		Foliar		% Serious		% Serious			AB ¹	AB ¹		
	(0-9)	AUDPC	(0-9)	AUDPC	(0-9)	AUDPC	Incidence (%)	Defect	Incidence (%)	Defects	reaction	F(sam)	(0-5) ²		
1 Atlantic	8.0	788	6	1006	3.7	120	37.8	22.5	1.5	0.4	R	3.1	4.5	100	MS
2 Lamoka	7.0	581	--	--	3.7	90	73.0	28.1	--	--	--	2.7	3.3	--	R
3 Snowden	8.0	855	4	458	3.3	101	11.6	11.6	20.3	11.3	S	3.3	3.7	100	R
4 AC11494-6W	8.0	789	5	693	3.0	63	53.9	36.2	3.3	2.0	MR	2.1	4.3	10	VR
5 AOR12197-4	6.0	337	5	589	4.3	146	62.5	35.4	0.0	0.0	R	3.4	2.5	0	VR
6 CO11023-2W	8.3	957	6	991	3.3	102	30.1	9.0	12.3	7.7	MS	4.6	3.3	90	VR
7 CO11037-5W	6.3	415	7	1213	5.0	248	38.9	18.9	1.7	0.8	R	2.4	3.8	45	MS
8 CO12235-3W	8.0	863	6	993	7.7	598	64.1	51.1	23.0	11.4	S	4.5	2.9	75	R
9 CO12293-1W	6.0	440	5	601	3.7	115	30.8	12.0	5.6	2.8	MR	4.4	3.3	95	R
10 COOR13270-2	5.7	235	6	1051	3.7	84	71.1	56.7	0.8	0.1	R	1.2	3.7	60	MS
11 NYOR14Q9-5	6.0	362	6	920	3.0	46	26.5	15.4	2.1	1.5	MR	2.4	2.3	0	VR
12 NYOR14Q9-9	7.0	604	6	901	3.7	114	46.1	50.3	--	--	--	4.3	2.7	30	VR
13 TX09403-15W	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MEANS	7.0	602	5.6	856	4.0	152	45.5	28.9	7.1	3.8		3.2	3.4	55.0	
LSD @ .05	0.8				1.6		24.0	17.0				0.8	1.3		
Castle Russet									0.0	0.0	R				

1 Evaluations made at Aberdeen, Idaho by Jonathan Whitworth, Hermiston, Oregon by Laurie LaRoux; 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 3 separate days after planting.

Common Scab serious defects are the number of tubers with a 3 rating (0-5 scale) or higher, divided by the total number of tubers examined.

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

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, S=susceptible VS=very susceptible

TABLE 12: 2021 Western Regional Chipping Potato Variety Trial - MERIT SCORES (1-5(best))

No.	Clone	Fresh Merit							Process Merit					
		CA	CO	HRM	ID	DTX	STX ¹	Entry Mean	CO	HRM	ID	DTX	STX ¹	Entry Mean
1	Atlantic	3.5	4.0	1.5	2.0	4.3	3.8	3.1	5.0	3.5	2.7	1.0	1.0	3.0
2	Lamoka		5.0		2.1	4.0	3.8	3.7	5.0		2.7	3.0	3.0	3.6
3	Snowden	4.0	2.0	1.5	2.3	4.0	3.7	2.8	3.0	3.0	2.0	1.0	2.0	2.3
4	AC11494-6W	3.5	3.0	2.0	1.9	3.6	3.5	2.8	4.0	2.5	3.0	1.0	1.0	2.6
5	AOR12197-4	3.0	4.0	1.5	2.1	4.2	3.4	3.0	2.0	2.5	2.7	1.0	1.0	2.0
6	CO11023-2W	4.0	3.0	1.5	2.4	4.0	3.4	3.0	3.0	2.5	3.0	3.0	2.0	2.9
7	CO11037-5W	4.0	5.0	2.0	2.0	3.5	3.2	3.3	5.0	2.0	3.0	1.0	2.0	2.8
8	CO12235-3W	3.5	3.0	2.0	3.0	3.4	3.6	3.0	4.0	2.0	3.0	2.0	2.0	2.8
9	CO12293-1W	3.0	5.0	2.0	2.6	3.6	3.4	3.2	5.0	3.0	3.0	1.0	3.0	3.0
10	COOR13270-2	3.0	1.0	2.5	2.4	3.8	3.7	2.5	2.0	3.0	2.3	2.0	2.0	2.3
11	NYOR14Q9-5	3.0	5.0	2.5	2.4	3.9	4.5	3.4	5.0	3.0	2.8	3.0	2.0	3.5
12	NYOR14Q9-9		4.0	2.5	2.8			3.1	4.0	3.0	3.2			3.4
Location Mean		3.5	3.7	2.0	2.3	3.8	3.6	3.1	3.9	2.7	2.8	1.7	1.9	2.8

¹ Springlake, TX data not included in mean.

TABLE 13: 2021 Western Regional Chipping Potato Variety Trial - SUMMARY

No.	Clone	Year in Trial	Total Yield ¹ Rank	US#1's Yield ¹ %	Tuber Size (oz)	Specific Gravity	Chip Color ²	Process Merit Score
1	Atlantic	Ck	478 3	317 69	5.8	1.090	2.0	3.0
2	Lamoka	Ck	371 11	268 72	5.7	1.093	1.9	2.9
3	Snowden	Ck	454 5	298 67	5.3	1.088	2.2	2.8
4	AC11494-6W	1	411 9	227 55	3.8	1.087	2.5	2.8
5	AOR12197-4	2	453 6	295 66	5.0	1.084	2.2	3.0
6	CO11023-2W	2	418 8	268 65	4.6	1.086	2.2	2.3
7	CO11037-5W	2	386 10	254 67	5.3	1.088	2.0	2.8
8	CO12235-3W	1	369 12	224 62	4.6	1.087	2.2	2.8
9	CO12293-1W	1	454 4	302 70	5.8	1.085	1.9	3.0
10	COOR13270-2	1	438 7	292 68	5.1	1.084	2.3	2.3
11	NYOR14Q9-5	1	488 2	320 71	6.5	1.083	2.1	3.5
12	NYOR14Q9-9	1	519 1	294 60	5.2	1.098	2.2	3.4

¹(CWT/A)²Mean for CO, ID and HRM stored at 50°F

TABLE 14: 2021 Western Regional Chipping Potato Trial- Klamath Falls Data grown under Deficit Irrigation¹

Entry	Clone	% Stand	Total yield (CWT/A)	Yield #1's	% US No.1s	Specific Gravity	Tubers/plant	Greening ²	Growth Cracks ²	Second Growth ²	Shatter Bruise ²	Field Comments ³	Grading Comments ⁴
1	Atlantic	96	445	395	89	1.094	4.9	3.0	5.0	5.0	5.0	good yield, large growth cracks	erratic size lots of bigs
2	Lamoka	96	398	301	75	1.088	4.8	2.0	5.0	5.0	5.0	good yield, avg-good size	GREEN and large
3	Snowden	96	313	282	90	1.076	6.2	5.0	5.0	5.0	5.0	good yield, tennis ball size	russetting, some folding
8	CO12235-3W	100	255	133	52	1.076	6.3	5.0	5.0	4.5	5.0	avg yield, small-decent size	lent scaring no size or yield
9	CO12293-1W	100	268	196	73	1.077	4.9	4.0	5.0	4.5	5.0	good yield good size	root knot nem some pinking
10	COOR13270-2	96	398	311	78	1.084	6.7	4.0	5.0	5.0	5.0	avg yield, avg size	dents flat few scab
11	NYOR14Q9-5	100	425	361	85	1.088	6.1	4.0	5.0	5.0	5.0	good yield, avg size	looks ok..err size
12	NYOR14Q9-9	100	347	280	81	1.090	5.6	4.0	5.0	5.0	5.0	good yield, small-tennis balls	flat lent. Rhizoc

¹Klamath Falls had 66% of ET until row closure and from row closure to vine kill they had 51% ET.

²Score 1-5, with 1=severe, 5=none.

³All reps were dug, walked and notes were taken.

⁴Only one rep was picked up and graded.

Comments and Information from States

Tulelake, California					Tubers/ Plant	
1	Atlantic				7.2	
2	Lamoka					
3	Snowden	nice shape			7.9	
4	AC11494-6W	pumpkin shaped, not round			7.6	
5	AOR12197-4	skins, not round			6.5	
6	CO11023-2W	russeted, nice shape			7.1	
7	CO11037-5W	shatter			6.6	
8	CO12235-3W	skinend, lenticil			6.2	
9	CO12293-1W	skinns, pink splotches, on exterior and interior			5.2	
10	COOR13270-2	skins, not round			7.0	
11	NYOR14Q9-5	flat			6.4	
12	NYOR14Q9-9					
Aberdeen, Idaho Comments ¹			Sugar Ends (%)	Metribuzin	Early Blight	Vert Wilt
1	Atlantic	Deep ends/eyes (4); shatter, rot, bumps (2)	0.0	MS	1.0	1.0
2	Lamoka	Flat (3); deeper eyes, oval, few points (2)	0.0	R	3.3	2.5
3	Snowden	Deep eyes/ends (3); few oblong (2)	0.3	R	2.5	3.0
4	AC11494-6W	Rot (4); deep ends (3); flat (2); sprouting at fry	0.0	VR	1.6	1.9
5	AOR12197-4	Compressed, few ats, deep ends (2)	0.0	MS	2.5	2.6
6	CO11023-2W	Deep ends (3); not constant uniformity in reps, some shatter	0.0	VR	2.4	2.3
7	CO11037-5W	Misshapen, oblong (2)	0.0	MS	1.9	2.0
8	CO12235-3W	Big (3); uniform (2); some shatter, little lumpy	0.0	R	1.6	1.9
9	CO12293-1W	Deep ends, few ats, uniform (3); nice shape (2)	0.0	R	3.5	3.5
10	COOR13270-2	Deep ends (tooth shape), few ats (2); slight shatter	0.0	MS	2.6	2.5
11	NYOR14Q9-5	Flat, bumps (3); big (2);	0.5	VR	2.5	3.3
12	NYOR14Q9-9	Flat (4); few ats, some deeper eyes	0.0	VR	2.3	2.4

¹ats=attached stolons

***Aberdeen, Idaho reported a hot, dry summer.**

Comments and Information from States

Hermiston, Oregon ¹			Eye Depth ²	Shape Unif ²	Tubers/Plant
1	Atlantic	dotty x2, rot x4, compressed x2, FBE x2, sticky x4, flakey x3	3.4	3.4	9.3
2	Lamoka				
3	Snowden	FBE x4, FSE x2, flakey x2, sticky x3, compressed x2, irregular x2	3.0	3.0	10.5
4	AC11494-6W	Spr x4, sticky x3, short x2, chain x2, nipple x2, FBE x2	3.4	3.1	14.5
5	AOR12197-4	GC x4, skinning x4, greening x3, sticky x2	3.6	3.4	16.9
6	CO11023-2W	sticky x3, skinning x2, FBE x2, GC x2, SB x2	3.6	3.4	12.0
7	CO11037-5W	chain x4, nipple x4, skinning x4	3.6	3.0	8.2
8	CO12235-3W	skinning x4, nipple x2, sticky x3, lenticels x2, db x2	3.8	3.4	9.8
9	CO12293-1W	pear x3, sticky x3, nice x3, pear x2, db x2	4.0	3.5	11.3
10	COOR13270-2	sticky x4, pear x4, smooth x2, traingular x2, nice x2	3.8	3.1	11.4
11	NYOR14Q9-5	disc x4, flat x2, skinning x3, rot x3, dotty x2	3.8	3.5	9.3
12	NYOR14Q9-9	flat x3, skinning x3, nice x2, disc x3, SB x2	4.0	3.5	13.2
Dalhart, Texas				Chip Rating ³	Chip Color ⁴
1	Atlantic	very high tuber number, a little flat, buff skin, small-medium tubers are round, large tubers are oval to oblong	2.2	1.0	
2	Lamoka	large tubers are oval to oblong, a little flat	2.8	1.0	
3	Snowden	scab, deep eyes, high tuber number	1.9	2.0	
4	AC11494-6W	gemmations, a little compressed, attached stolons, scab, many heat sprouts	1.3	2.3	
5	AOR12197-4	yellow skin, smooth, shiny, very nice, yellow, greening	2.4	1.3	
6	CO11023-2W	growth cracks/herbicide damage	1.8	1.3	
7	CO11037-5W	oblong, dislike shape	1.4	1.3	
8	CO12235-3W	bruised, scab, good shape, shallow eyes	2.1	1.0	
9	CO12293-1W	large, good shape, smooth skin, bruised, uniform size and shape	2.2	1.0	
10	COOR13270-2	large, smooth, shiny skin	2.3	1.0	
11	NYOR14Q9-5	large, good shape, very high tuber number, nice, mixed of flat and compressed	2.4	1.0	
12	NYOR14Q9-9	discarded - PVY			

¹FBE=folded bud end, FSE=folded stem end, GC=growth crack, SB=shatter bruise.

²Rating 1-5, 5 best

³Chipping from field 1=excellent, 5=poor

⁴Chipping from field 1=light, 5=dark

***Hermiston, Oregon reported extreme heat during the growing season. Great early season with mostly hot weather in June through August.**

****Dalhart, Texas reported higher than normal precipitation during June and July.**