

# 2020 Southwestern Regional Potato Variety Trial Report



2020 was an unprecedented year with COVID-19. A result of the pandemic was the cancellation of our Field Days. Adjustments were made and most programs had virtual Field Days. See the Texas virtual Field Day at <https://potato.tamu.edu/files/2020/12/2020-Field-Day-Handbook-eEdition-optimized.pdf>, [http://cekern.ucanr.edu/Custom\\_Program573/Potato\\_Variety\\_Selection\\_and\\_Evaluation\\_Reports/](http://cekern.ucanr.edu/Custom_Program573/Potato_Variety_Selection_and_Evaluation_Reports/), Bakersfield, CA, [http://irec.ucanr.edu/Research/Past\\_Research/Potato\\_Projects\\_313/](http://irec.ucanr.edu/Research/Past_Research/Potato_Projects_313/) Tulelake CA, and <http://potatoes.colostate.edu/potato-breeding/> for Colorado.

## Table of Contents

<a href="#"><u>Description of Clones - 2020 Southwestern Regional Trial</u></a>	1
<a href="#"><u>Table 1. Locations, Cooperators, and Cultural Information</u></a>	2
<a href="#"><u>Table 2. Percent Stand and Stems/Hill</u></a>	3
<a href="#"><u>Table 3. Vine Size and Vine Maturity</u></a>	4
<a href="#"><u>Table 4. Total Yield, Yield Rank, and Merit Scores</u></a>	5
<a href="#"><u>Table 5. Yield and Percent of U.S. No. 1s</u></a>	6
<a href="#"><u>Table 6. Yield and Percent of U.S. No. 1s &gt; 10 oz.</u></a>	7
<a href="#"><u>Table 7. Yield and Percent of U.S. No. 1s 6 - 10 oz.</u></a>	8
<a href="#"><u>Table 8. Yield and Percent of U.S. No. 1s 4 - 6 oz.</u></a>	9
<a href="#"><u>Table 9. Yield and Percent of B (&lt; 4 oz.) Tubers</u></a>	10
<a href="#"><u>Table 10. Yield and Percent Culls/No. 2s</u></a>	11
<a href="#"><u>Table 11. Specific Gravity</u></a>	12
<a href="#"><u>Table 12. Tuber Weight (oz.) and Shape</u></a>	13
<a href="#"><u>Table 13. Eye Depth and Growth Cracks</u></a>	14
<a href="#"><u>Table 14. Percent Hollow Heart/Brown Center, Blackspot Bruising, Fry Data, and Antioxidant Results</u></a>	15
<a href="#"><u>Table 15. Vigor and Flesh Color</u></a>	16
<a href="#"><u>Table 16. Notes</u></a>	17
<a href="#"><u>Table 17. Notes</u></a>	18
<a href="#"><u>Table 18. Chip Results</u></a>	19
<a href="#"><u>Table 19. Summary</u></a>	20
<a href="#"><u>2021 Southwestern Regional Trial Entries</u></a>	21

## Description of Clones - 2020 Southwestern Regional Trial

Entry #	Clone/Cultivar	Parents		Flower Color	Vine		Tuber Shape	Skin Type	Entered		Seed Source	2020 Year
		Female	Male		Size	Maturity			By	Use		
<b>Russet Trial</b>												
1	Russet Norkotah	ND9687-5RU	ND9526-4RU	White	Small	Early	Long	Russet	Check	Fresh	???	***
2	CO12152-1RU	Dakota Russet	CO06035-3RU	Light Purple	Small	Medium	Long	Russet	CO	Dual	CO	1.0
3	CO12378-1RU	CO06035-3RU	AO02183-2	White	Medium	Medium	Oblong	Russet	CO	Dual	CO	1.0
4	COTX08063-2Ru	A93157-6LS	A99073-1	White	Medium	Late	Oblong	Russet	TX	Fresh	CO	1.0
<b>Chip Trial</b>												
5	Atlantic	Wauseon	B5141-6	Red-Purple	Med	Medium	Oval	Scaley-buff	Check	Chip	CO	***
6	Snowden	B5141-6	Wischip	White	Large	Late	Oval	White	Check	Chip	CO	***
7	AC11494-6W	A05158-3C	00-3115-11	White	Large	Med-Late	Oval	White	CO	Chip	CO	1.0
8	AORTX09037-1W/Y	Fasan	Ivory Crisp		Large	Late	Round	White	TX	Chip	CO	1.0
9	ATTX07042-3W/Y	Western Russet	A02086-10	White	Large	Early-Med	Round	White	TX	Chip	CO	2.0
10	CO12235-3W	AC00206-2W	AC03433-1W	White	Medium	Medium	Round	White	CO	Chip	CO	1.0
11	CO12293-1W	CO02024-9W	ND7519-1	White	Large	Med-Late	Oval	White	CO	Chip	CO	1.0
12	TX09403-21W	NY138	Ivory Crisp		Medium	Medium	Round	White	TX	Chip	CO	2.0

[Back to Table of Contents](#)

**Table 1. Locations, Cooperators, and Cultural Information**

Locations	Cooperators	Irrigation		Fertilizer N-P-K-S (lb./a)	Vine Kill Method	Planting Date	Vine Kill Date	Harvest Date	Days to Vine Kill	Herbicides	Pesticides Applied Insecticides	Fungicides
1. Kern Co. California (KRN)	J. Sidhu J. Nunez J. DuBose											
2. Tulelake California (TUL)	R. Wilson D. Culp K. Nicholson	Solid-set sprinkler	Russet, Chip Chip	197-80-260	Reglone / Roll	5/15/2020	9/3/2020	9/30/2020 9/28/2020	111	Prowl H2O Eptam 7E Matrix SG	Admire Pro	Quadris Luna Tranquility
3. San Luis Valley Colorado (SLV)	D. Holm C. Gray K. Gaudreau E. Niebaum	Pivot	All Trials	106-76-180-11	Reglone	5/12/2020	9/3/2020	9/25/2020	114	Rifle-D Metribuzin 75 Eptam 7-E	Pure Spray Green Sefina Inscalis Movento HL Leverage 360	Revus Top Quadris Top Bravo Weather Stik
4. Springlake Texas (SPR )	I. Vales J. Koym D. Scheuring	Pivot	Russet	89-29-29	Mechanical	3/26/2020	7/6/2020	7/12/2020	102	Boundary 6.5 EC Gly Star 5 Extra, Makaze Medal EC Stealth	Movento, Minecto Pro, Sivanto Rimon 0.83EC Velum Prime SPE 120 Cruiser Maxx Vibrance	Scala NUCOP Miravis Prime Headline
5. Dalhart Texas (Dal )	I. Vales J. Koym D. Scheuring	Pivot	Russet Chip	119-122-258	Reglone	5/9/2020	8/17/2020	9/3/2020	100	Eptam 7E Tricor 4F, Reglone Mad Dog K6 Trifluralin 4 EC	Cruiser Maxx Vibrance Movento, Fulfill, Beleaf 50 SG Reaper ClearForm	Manzate Max Echo 720

[Back to Table of Contents](#)

**Table 2. Percent Stand and Stems/Hill**

Clone / Variety	Percent Stand						Stems per Hill			
	California		Colorado	Texas		Mean	Colorado	Texas	Mean	
	KRN	TUL	SLV	SPR	Dal		SLV	SPR		
<b>Russet Trial</b>										
1	Russet Norkotah	96	99	100	100	100	100	2.3	1.2	1.7
2	CO12152-1RU	96	97	98	92	100	97	1.7	1.2	1.4
3	CO12378-1RU	97	96	100	100	100	99	2.3	1.4	1.9
4	COTX08063-2Ru	95	93	100	100	100	98	2.2	1.4	1.8
<b>Chip Trial</b>										
5	Atlantic	96	99	98		94	97	2.6		2.6
6	Snowden		99	100		100	100	3.3		3.3
7	AC11494-6W	98	96	90		100	95	1.9		1.9
8	AORTX09037-1W/Y	97	100	99		100	100	3.1		3.1
9	ATTX07042-3W/Y	96	99	99		100	99	2.9		2.9
10	CO12235-3W	99	96	94		100	97	2.2		2.2
11	CO12293-1W	98	100	99		100	100	2.6		2.6
12	TX09403-21W	95	93	99		97	96	2.0		2.0
<b>Mean</b>		97	97	98	98	99	98	2.4	1.3	2.3

[Back to Table of Contents](#)

**Table 3. Vine Size and Maturity**

Clone / Variety	Vine Size (1-5=largest)				Vine Maturity (1-5=latest)				
	Colorado	Texas		Mean	Colorado	Texas		Mean	
	SLV	SPR	Dal		SLV	SPR	Dal		
<b>Russet Trial</b>									
1	Russet Norkotah	2.0	3.5	3.8	3.1	1.0	3.0	4.5	2.8
2	CO12152-1RU	2.0	3.1	3.8	3.0	2.5	3.3	5.0	3.6
3	CO12378-1RU	3.3	3.7	3.8	3.6	3.0	3.4	5.0	3.8
4	COTX08063-2Ru	3.3	3.8	3.9	3.6	3.0	3.8	5.0	3.9
<b>Chip Trial</b>									
5	Atlantic	3.0		3.8	3.4	2.8		4.8	3.8
6	Snowden	3.0		3.8	3.4	3.0		4.8	3.9
7	AC11494-6W	3.5		4.0	3.8	3.3		5.0	4.1
8	AORTX09037-1W/Y	3.5		3.8	3.6	3.0		5.0	4.0
9	ATTX07042-3W/Y	3.5		3.8	3.6	1.5		4.3	2.9
10	CO12235-3W	2.8		3.3	3.0	3.5		5.0	4.3
11	CO12293-1W	3.3		3.8	3.5	4.3		5.0	4.6
12	TX09403-21W	3.0		3.5	3.4	2.0		4.3	3.1
<b>Mean</b>		3.0	3.5	3.7	3.4	2.7	3.4	4.8	3.7

[Back to Table of Contents](#)

**Table 4. Total Yield, Yield Rank Within Type (Russet and Chip), and Merit Score1 (MS)**

Clone / Variety	California						Colorado			Texas						Mean		
	KRN		TUL			SLV			SPR			DAL			cwt/a	Rank	MS	
	cwt/a	Rank	cwt/a	Rank	MS	cwt/a	Rank	MS	cwt/a	Rank	MS	cwt/a	Rank	MS				
<b>Russet Trial</b>																		
1	Russet Norkotah	133	4	389	1	4.0	226	4	1.0	222	1	4.1	341	2	4.2	262	3	3.3
2	CO12152-1RU	141	3	360	3	2.9	236	3	1.0	194	4	3.9	334	3	3.8	253	4	2.9
3	CO12378-1RU	146	2	362	2	3.0	300	1	3.0	202	3	3.6	322	4	3.5	267	2	3.3
4	COTX08063-2Ru	207	1	337	4	1.9	299	2	5.0	222	2	4.2	372	1	4.0	287	1	3.8
<b>Chip Trial</b>																		
5	Atlantic	164	5	539	3	3.3	301	5	2.0				481	6	3.9	371	5	3.0
6	Snowden			449	7	3.6	355	2	3.0				586	1	4.1	463	1	3.6
7	AC11494-6W	145	7	381	8	3.8	354	3	2.0				387	8	3.9	317	8	3.2
8	AORTX09037-1W/Y	159	6	487	5	3.4	462	1	5.0				518	2	3.9	406	2	4.1
9	ATTX07042-3W/Y	194	3	555	1	3.1	275	7	1.0				506	4	4.3	382	4	2.8
10	CO12235-3W	257	1	459	6	3.4	285	6	1.0				422	7	4.0	356	7	2.8
11	CO12293-1W	214	2	552	2	3.9	338	4	4.0				487	5	4.1	398	3	4.0
12	TX09403-21W	186	4	528	4	3.4	261	8	1.0				509	3	4.1	371	6	2.8
<b>Mean</b>		177		450		3.3	308		2.4	210		3.9	439		4.0	344		3.3

[Back to Table of Contents](#)



**Table 5. Yield and Percent of U.S. No. 1's (>4oz.) and Yield Rank Within Type (Russet and Chip)**

Clone / Variety	California						Colorado <sup>1</sup>			Texas <sup>2</sup>						Mean			
	KRN			TUL			SLV			SPR			DAL						
	cwt/a	Rank	%	cwt/a	Rank	%	cwt/a	Rank	%	cwt/a	Rank	%	cwt/a	Rank	%	cwt/a	Rank	%	
<b>Russet Trial</b>																			
1	Russet Norkotah	130	4	98	341	1	88	158	3	70	129	1	58	211	2	62	194	2	75
2	CO12152-1RU	140	3	100	248	3	69	157	4	67	63	4	32	116	3	35	145	4	60
3	CO12378-1RU	146	2	100	242	4	67	199	2	66	63	3	31	83	4	26	147	3	58
4	COTX08063-2Ru	203	1	98	248	2	74	263	1	88	102	2	46	220	1	59	207	1	73
<b>Chip Trial</b>																			
5	Atlantic	163	5	100	477	2	89	241	4	80			432	2	90	328	3	89	
6	Snowden				373	6	83	262	3	74			502	1	86	379	1	81	
7	AC11494-6W	143	7	99	258	8	68	223	5	63			204	8	53	207	8	70	
8	AORTX09037-1W/Y	155	6	97	318	7	65	339	1	73			357	6	69	292	5	76	
9	ATTX07042-3W/Y	193	3	100	410	4	74	162	8	59			363	5	72	282	6	76	
10	CO12235-3W	227	1	89	390	5	85	193	7	68			271	7	64	270	7	76	
11	CO12293-1W	212	2	99	487	1	88	299	2	88			432	3	89	357	2	91	
12	TX09403-21W	186	4	100	468	3	89	199	6	76			423	4	83	319	4	87	
<b>Mean</b>		173		98	355		78	225		73	89		42	301		66	261		76

[Back to Table of Contents](#)

**Table 6. Yield and Percent of U.S. No. 1's (>10oz.)**

Clone / Variety	California				Colorado <sup>3</sup>		Texas				Mean		
	KRN <sup>1</sup>		TUL <sup>2</sup>		SLV		SPR		DAL		Mean		
	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	
<b>Russet Trial</b>													
1	Russet Norkotah	0	0	109	28	6	3	18	8	28	8	32	9
2	CO12152-1RU	0	0	27	8	4	2	0	0	8	2	8	2
3	CO12378-1RU	0	0	23	6	14	5	0	0	1	0	7	2
4	COTX08063-2Ru	0	0	63	19	101	34	0	0	13	3	35	11
<b>Chip Trial</b>													
5	Atlantic	0	0	146	27	53	18			115	24	79	17
6	Snowden			50	11	16	5			84	14	50	10
7	AC11494-6W	0	0	8	2	16	5			0	0	6	2
8	AORTX09037-1W/Y	0	0	20	4	48	10			28	5	24	5
9	ATTX07042-3W/Y	5	2	75	13	8	3			22	4	27	6
10	CO12235-3W	0	0	120	26	26	9			4	1	38	9
11	CO12293-1W	11	5	213	39	149	44			17	4	98	23
12	TX09403-21W	0	0	166	31	35	13			81	16	71	15
<b>Mean</b>		1	1	85	18		12	4	2	33	7	40	9

<sup>1</sup> > 11oz

<sup>2</sup> >14oz

[Back to Table of Contents](#)

**Table 7. Yield and Percent of U.S. No. 1's (6 - 10oz.)**

Clone / Variety	California				Texas				Mean		
	KRN		TUL		SPR		DAL		cwt/a	%	
	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%			
<b>Russet Trial</b>											
1	Russet Norkotah	2	2	166	43	45	20	19	5	58	17
2	CO12152-1RU	6	4	103	29	29	15	14	4	38	13
3	CO12378-1RU	5	3	108	30	20	10	6	2	35	11
4	COTX08063-2Ru	27	13	102	30	43	19	15	4	47	17
<b>Chip Trial</b>											
5	Atlantic	20	12	245	46			202	42	156	33
6	Snowden			190	42			266	45	228	44
7	AC11494-6W	10	7	105	28			86	22	67	19
8	AORTX09037-1W/Y	11	7	139	29			175	34	108	23
9	ATTX07042-3W/Y	12	6	192	35			178	35	127	25
10	CO12235-3W	17	6	187	41			157	37	120	28
11	CO12293-1W	29	14	190	34			300	62	173	37
12	TX09403-21W	24	13	213	40			274	54	170	36
<b>Mean</b>		15	8	162	35	34	16	141	29	111	25

<sup>1</sup> 4-10 oz

[Back to Table of Contents](#)

**Table 8. Yield and Percent of U.S. No. 1's (4 - 6 oz.)**

Clone / Variety	California				Texas				Mean		
	KRN		TUL		SPR		DAL		cwt/a	%	
	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%			
<b>Russet Trial</b>											
1	Russet Norkotah	44	33	67	17	66	30	19	5	49	21
2	CO12152-1RU	45	32	117	33	34	17	13	4	52	21
3	CO12378-1RU	41	28	111	31	43	21	19	6	54	22
4	COTX08063-2Ru	118	57	83	25	58	26	32	9	73	29
<b>Chip Trial</b>											
5	Atlantic	109	66	86	16			115	24	103	35
6	Snowden			133	30			152	26	142	28
7	AC11494-6W	62	42	145	38			117	30	108	37
8	AORTX09037-1W/Y	94	59	158	33			154	30	135	40
9	ATTX07042-3W/Y	85	44	143	26			163	32	130	34
10	CO12235-3W	137	53	82	18			110	26	110	32
11	CO12293-1W	137	64	84	15			115	24	112	34
12	TX09403-21W	119	64	89	17			68	13	92	31
<b>Mean</b>		90	49	108	25	50	24	90	19	97	30

[Back to Table of Contents](#)

**Table 9. Yield and Percent B (<4 oz.) Tubers**

Clone / Variety	California				Colorado		Texas				Mean		
	KRN		TUL		SLV		SPR		DAL		Mean		
	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	
<b>Russet Trial</b>													
1	Russet Norkotah	84	63	35	9	63	28	82	37	33	10	59	29
2	CO12152-1RU	90	64	87	24	75	32	124	64	60	18	87	40
3	CO12378-1RU	101	69	109	30	100	33	137	68	56	17	100	43
4	COTX08063-2Ru	59	28	60	18	25	8	115	52	37	10	59	23
<b>Chip Trial</b>													
5	Atlantic	34	21	45	8	56	19			36	7	43	14
6	Snowden			64	14	86	24			85	14	78	18
7	AC11494-6W	72	49	116	30	129	36			183	47	125	41
8	AORTX09037-1W/Y	50	32	159	33	111	24			158	31	120	30
9	ATTX07042-3W/Y	92	47	127	23	104	38			135	27	115	34
10	CO12235-3W	74	29	48	11	69	24			143	34	84	24
11	CO12293-1W	35	17	39	7	20	6			52	11	36	10
12	TX09403-21W	43	23	51	10	53	20			83	16	57	17
<b>Mean</b>		67	40	78	18		24	114	55	88	20	80	27

[Back to Table of Contents](#)

**Table 10. Yield and Percent Culls/No. 2s**

Clone / Variety	California				Colorado		Texas				Mean		
	KRN		TUL <sup>1</sup>		SLV		SPR		DAL		Mean		
	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	cwt/a	%	
<b>Russet Trial</b>													
1	Russet Norkotah	3	2	13	3	5	2	11	5	2	1	7	3
2	CO12152-1RU	0	0	25	7	4	2	8	4	5	2	9	3
3	CO12378-1RU	0	0	11	3	2	1	1	1	19	6	7	2
4	COTX08063-2Ru	4	2	29	9	11	4	5	2	4	1	11	4
<b>Chip Trial</b>													
5	Atlantic	1	0	16	3	4	1			13	3	8	2
6	Snowden			13	3	7	2			0	0	6	2
7	AC11494-6W	2	1	7	2	2	1			0	0	3	1
8	AORTX09037-1W/Y	4	3	10	2	12	3			2	0	7	2
9	ATTX07042-3W/Y	1	0	18	3	9	3			7	1	9	2
10	CO12235-3W	29	11	21	5	23	8			7	2	20	6
11	CO12293-1W	2	1	26	5	20	6			3	1	13	3
12	TX09403-21W	0	0	9	2	10	4			4	1	6	2
<b>Mean</b>		4	2	17	4	9	3	6	3	6	1	9	3

<sup>1</sup> includes over 16 oz tubers

[Back to Table of Contents](#)

**Table 11. Specific Gravity**

Clone / Variety	California	Colorado	Texas		Mean	
	TUL	SLV	SPR	DAL		
<b>Russet Trial</b>						
1	Russet Norkotah	1.073	1.071	1.069	1.060	1.068
2	CO12152-1RU	1.102	1.099	1.085	1.081	1.092
3	CO12378-1RU	1.101	1.096	1.069	1.072	1.085
4	COTX08063-2Ru	1.106	1.109	1.088	1.092	1.099
<b>Chip Trial</b>						
5	Atlantic	1.102	1.099		1.083	1.095
6	Snowden	1.095	1.094		1.074	1.088
7	AC11494-6W	1.100	1.098		1.070	1.089
8	AORTX09037-1W/Y	1.091	1.090		1.075	1.085
9	ATTX07042-3W/Y	1.091	1.087		1.073	1.084
10	CO12235-3W	1.092	1.097		1.082	1.090
11	CO12293-1W	1.087	1.094		1.073	1.085
12	TX09403-21W	1.082	1.081		1.070	1.078
<b>Mean</b>		1.093	1.093	1.078	1.075	1.086

[Back to Table of Contents](#)

Table 12. Average Tuber Weight (Size) and Shape

Clone / Variety	Weight (oz.)				Shape <sup>1</sup>					Length / Width	Length / Width	Length / Width	Length / Width	Length / Width	Width / Thickness	Width / Thickness	Width / Thickness	Width / Thickness	Width / Thickness
	California	Texas		Mean	California	Colorado	Texas		Mean	California	Colorado	Texas		California	Colorado	Texas		Mean	
	TUL	SPR	DAL		TUL	SLV	SPR	DAL		TUL	SLV	SPR	DAL	TUL	SLV	SPR	DAL		
<b>Russet Trial</b>																			
1	Russet Norkotah	6.8	4.8	5.8	3.8	5.0	4.5	4.2	4.4	1.83	2.38	1.81	1.86	1.97	1.17	1.17	1.16	1.14	1.16
2	CO12152-1RU	4.8	6.0	5.4	3.9	4.0	3.6	4.0	3.9	1.84	1.99	1.64	1.64	1.78	1.20	1.21	1.25	1.24	1.22
3	CO12378-1RU	4.5	7.1	5.8	3.8	3.0	3.0	3.5	3.3	1.51	1.80	1.35	1.63	1.57	1.25	1.25	1.28	1.21	1.25
4	COTX08063-2Ru	5.5	5.5	5.5	3.8	4.0	3.8	4.1	3.9	1.64	1.87	1.52	2.05	1.77	1.18	1.24	1.20	1.14	1.19
<b>Chip Trial</b>																			
5	Atlantic	6.7	4.0	6.4	5.7	2.0	1.0	1.4	1.5	1.01	0.97	1.10	1.03	1.27	1.30	1.16	1.16	1.24	1.24
6	Snowden	5.5		5.5	5.5	1.6	1.0	1.0	1.2	0.94	0.92	0.98	0.95	1.26	1.28	1.28	1.28	1.27	1.27
7	AC11494-6W	4.3		3.1	3.7	1.5	1.0	1.0	1.2	0.88	0.93	0.95	0.92	1.20	1.33	1.16	1.16	1.23	1.23
8	AORTX09037-1W/Y	4.3	2.1	3.9	3.4	2.1	2.0	1.3	1.8	1.16	1.18	1.07	1.14	1.17	1.19	1.17	1.17	1.18	1.18
9	ATTX07042-3W/Y	5.1	2.7	4.3	4.0	2.0	1.0	1.0	1.3	1.09	0.97	1.09	1.05	1.14	1.17	1.08	1.08	1.13	1.13
10	CO12235-3W	6.5		4.1	5.3	1.9	1.0	1.0	1.3	0.97	1.07	0.99	1.01	1.18	1.20	1.11	1.11	1.16	1.16
11	CO12293-1W	7.4		4.9	6.2	2.3	1.0	1.0	1.4	1.11	1.13	1.00	1.08	1.21	1.24	1.23	1.23	1.23	1.23
12	TX09403-21W	7.0	4.0	6.1	5.7	1.9	1.0	1.0	1.3	0.99	1.07	1.02	1.03	1.22	1.22	1.13	1.13	1.19	1.19
<b>Mean</b>		5.7	4.5	4.8	5.2	2.5	2.1	3.7	2.0	2.2	1.25	1.58	1.28	1.27	1.23	1.22	1.17	1.20	1.20

<sup>1</sup> 1=round to 5 =long

[Back to Table of Contents](#)



**Table 13. Eye Depth and Growth Cracks**

Clone / Variety	Eye Depth <sup>1</sup>				Growth Cracks <sup>2</sup>					
	California	Texas		Mean	California	Colorado	Texas		Mean	
	TUL	SPR	DAL		TUL <sup>3</sup>	SLV	SPR	DAL		
<b>Russet Trial</b>										
1	Russet Norkotah	4.0	4.0	3.8	3.9	0.0	5.0	5.0	5.0	5.0
2	CO12152-1RU	4.6	4.0	4.0	4.2	0.1	5.0	5.0	5.0	5.0
3	CO12378-1RU	4.3	4.5	4.0	4.3	0.3	5.0	5.0	3.5	4.5
4	COTX08063-2Ru	4.4	4.0	4.0	4.1	0.2	5.0	5.0	5.0	5.0
<b>Chip Trial</b>										
5	Atlantic	3.0		3.8	3.4	1.3	5.0		4.7	4.9
6	Snowden	3.0		3.5	3.3	0.0	5.0		5.0	5.0
7	AC11494-6W	3.8		3.8	3.8	0.0	5.0		5.0	5.0
8	AORTX09037-1W/Y	3.8		4.0	3.9	2.3	4.0		5.0	4.5
9	ATTX07042-3W/Y	4.0		4.0	4.0	5.3	4.0		4.9	4.5
10	CO12235-3W	3.8		4.0	3.9	2.8	5.0		5.0	5.0
11	CO12293-1W	4.0		4.0	4.0	0.5	4.0		5.0	4.5
12	TX09403-21W	3.6		4.0	3.8	1.8	4.0		5.0	4.5
<b>Mean</b>		3.8	4.1	3.9	3.9	1.2	4.7	5.0	4.8	4.8

<sup>1</sup> 1=deep to 5=shallow

<sup>2</sup> 1 to 5=none

<sup>3</sup> % of total count

[Back to Table of Contents](#)

**Table 14. Percent Hollow Heart/Brown Center, Blackspot Bruising, Fry Data**

Clone / Variety	Hollow Heart/Brown Center (%)					Vert Wilt Rating		Blackspot Bruising			Fry Data <sup>5</sup>				Antioxidant Equivalents <sup>9</sup>	
	California		Colorado		Texas	Rating <sup>1</sup>	AUDPC <sup>2</sup>								μg Trolox	AOA
	TUL	SLV	SPR	DAL	Mean	California		Texas <sup>3</sup>	Colorado	Colorado		MS <sup>8</sup>	SPR	Levels <sup>11</sup>		
<b>Russet Trial</b>																
1	Russet Norkotah	0	0	0	7	2	9	1590	0.0	0.0	5.0	0.0	2.0	1.0	299.0	H
2	CO12152-1RU	0	0	0	0	0	5	308	0.0	0.0	4.7	0.0	0.0	3.0	269.2	H
3	CO12378-1RU	0	0	0	3	1	4	398	0.0	0.0	5.0	0.0	0.0	4.0	174.7	M
4	COTX08063-2Ru	0	0	0	3	1	8	958	0.0	0.0	5.0	0.0	0.0	5.0	286.7	H
<b>Chip Trial</b>																
5	Atlantic	1	0		53	18	7	701		0.0	3.5			1.0	155.6	M
6	Snowden	0	0		37	12	5	1034		0.0	2.5			4.0	122.8	L
7	AC11494-6W	0	0		3	1	5	354		0.0	2.2			1.0	255.2	M
8	AORTX09037-1W/Y	2	0		10	4		706		0.0	4.8	0.0	0.0	5.0	85.3	VL
9	ATTX07042-3W/Y	5	0		0	2		1078		0.0	4.1			2.0	111.0	L
10	CO12235-3W	3	0		7	3	6	439		0.0	4.0			2.0	244.2	M
11	CO12293-1W	1	0		3	1	7	231		0.0	4.8			1.0	194.0	M
12	TX09403-21W	2	0		23	8	5	806		0.0	4.9			1.0	90.0	VL
<b>Mean</b>		1	0	0	12	4	6	717	0.0	0.0	4.2	0.0	0.4	2.5	190.6	

<sup>1</sup> 0 to 9=dead

<sup>2</sup> Area Under Disease Progress Curve based on foliar early-dying rating taken 77, 83, 89, 96, 104 and 110 days after planting. Higher value is more susceptible

<sup>3</sup> Percent

<sup>4</sup> 1 to 5=none

<sup>5</sup> 0=light, 5= dark

<sup>6</sup> at harvest

<sup>7</sup> 0=light, 5=dark, stored at 45F for 11 weeks

<sup>8</sup> Process Merit Score, 1-5=excellent

<sup>9</sup> The assay used at Texas A&M University was based on "Use of a Free Radical Method to Evaluate Antioxidant Activity" by Brand-Williams, et al. 1995. Levensm. Wiss. Technol. 28:25-30. Antioxidants soluble in methanol were extracted and allowed to react with the stable radical, 2,2,-Diphenyl-1-picrylhydrazyl (DPPH). This provided a rapid evaluation of the antioxidant properties of the potato extracts based on absorbance.

<sup>10</sup> μg Trolox equivalents/gfw - Absorbance was converted to trolox equivalents based on a standard curve using the following equation: y=-.0033x +1.1965

<sup>11</sup> VH=very high (>422), H=high (269-298), M=medium (255-138), L=low (135-90), VL=very low (<89). n=57 including nine check varieties

[Back to Table of Contents](#)

**Table 15. Vigor and Flesh Color**

Clone / Variety	Vigor <sup>1</sup>			Flesh Color				
	Texas		Mean	Colorado	Texas		Mean	
	SPR	DAL		SLV	SPR	DAL		
<b>Russet Trial</b>								
1	Russet Norkotah	3.4	3.6	3.5	2.0	1.0	1.0	1.3
2	CO12152-1RU	3.4	3.9	3.7	1.0	1.0	1.0	1.0
3	CO12378-1RU	3.7	4.0	3.9	1.0	1.0	1.0	1.0
4	COTX08063-2Ru	3.7	4.6	4.2	1.0	1.0	1.0	1.0
<b>Chip Trial</b>								
5	Atlantic		4.0	4.0	1.0		1.2	1.1
6	Snowden		4.2		1.0		1.0	1.0
7	AC11494-6W		3.8		1.0		1.0	1.0
8	AORTX09037-1W/Y		4.0	4.0	3.0		2.6	2.8
9	ATTX07042-3W/Y		4.0	4.0	3.0		2.9	2.9
10	CO12235-3W		3.7		1.0		1.2	1.1
11	CO12293-1W		3.7		1.0		1.0	1.0
12	TX09403-21W		3.7	3.7	1.0		1.0	1.0
<b>Mean</b>		3.6	3.9	3.9	1.4	1.0	1.3	1.4

<sup>1</sup> 1= poor, 2= fair, 3= medium, 4= vigorous, 5= very vigorous

<sup>2</sup> 1=light to 5=dark

[Back to Table of Contents](#)

Table 16. Notes

		Texas	
Clone / Variety		SPR	DAL
<b>Russet Trial</b>			
1	Russet Norkotah	pointed, nice shape, good size	nice, BOT, nice shape, good skin
2	CO12152-1RU	nice skin, short tubers, medium to small tubers, uniform size and shape	enlarged lenticels, nice shape, areas of alligator skin
3	CO12378-1RU	skin stiches, heavy skin, short, nice skin, heavy skin, small	many growth cracks, herbicide damage?
4	COTX08063-2Ru	high tuber number, very nice	bruised skin, nice shape, high gravity, PVY resistant?, skinny
<b>Chip Trial</b>			
5	Atlantic		buff skin, larger tubers are oval to oblong,
6	Snowden		deep bud end, high tuber number, internals
7	AC11494-6W		deep bud end, compressed, bright white flesh, compressed, nice
8	AORTX09037-1W/Y	BOT, impressive high tuber number, very nice	high tuber number
9	ATTX07042-3W/Y	road map, uniform size, uniform shape, dislike skin	very nice, smooth skin, high tuber number, yellow flesh, BOT
10	CO12235-3W		
11	CO12293-1W		bruised
12	TX09403-21W	nice	large, very round, high yield, BOT

[Back to Table of Contents](#)

**Table 17. Notes**

Clone / Variety		California TUL	Colorado SLV
<b>Russet Trial</b>			
1	Russet Norkotah		
2	CO12152-1RU	Pink eyes, narrow tuber shape	Red eye, small tuber size, rough skin texture
3	CO12378-1RU	prone to shatter	
4	COTX08063-2Ru	pink eyes, little russeting	Large tuber size, rough, Light russet
<b>Chip Trial</b>			
5	Atlantic		
6	Snowden		
7	AC11494-6W	small tubers	Small, sprouting at grading
8	AORTX09037-1W/Y		High yield, Light yellow flesh
9	ATTX07042-3W/Y	black dot	Skin texture, Cream color flesh
10	CO12235-3W	Skins easily	Bad skin, powdery scab, stem end discoloration
11	CO12293-1W		Large tuber size
12	TX09403-21W	Skins easily	

[Back to Table of Contents](#)

**Table 18. Colorado and Texas Chipping Results**

Clone / Variety	Chip Color <sup>1</sup>				Chip Color <sup>1</sup>			Chip Quality <sup>5</sup>			
	Colorado				Texas			Texas			
	40F <sup>2</sup>	R40F <sup>2</sup>	50F <sup>3</sup>	R50F <sup>3</sup>	Field <sup>4</sup>	42F <sup>2</sup>	R42F <sup>2</sup>	Field <sup>4</sup>	42F <sup>2</sup>	R42F <sup>2</sup>	
<b>Chip Trial</b>											
5	Atlantic	4.5	3.5	3.0	3.5	1.0	1.3	1.0	3.3	4.9	1.1
6	Snowden	5.0	2.0	2.0	1.5	1.7	1.3	1.0	3.2	4.6	3.1
7	AC11494-6W	3.5	3.0	3.5	4.0	1.7	1.3	1.0	3.6	1.3	1.0
8	AORTX09037-1W/Y					3.0	3.0	1.0	3.1	3.8	1.8
9	ATTX07042-3W/Y	5.0	3.0	2.5	3.0	3.0	3.0	1.0	3.2	4.8	3.5
10	CO12235-3W	4.0	3.5	2.5	3.5	1.3	1.0	3.0	2.6	2.4	3.7
11	CO12293-1W	3.5	3.0	3.0	3.5	1.3	1.0	1.0	2.7	3.6	4.1
12	TX09403-21W	4.5	4.0	3.0	3.5	1.3	1.0	1.0	2.3	2.8	3.5

<sup>1</sup> 1=light, 5=dark

<sup>2</sup>40°F Storage protocol prior to frying

Initial storage temperature 55°F

Holding temperature 40°F

Weeks to holding temperature 4

Weeks at holding temperature 6

Reconditioning temp. (if applicable) 60°F

Number of weeks reconditioning 3

<sup>3</sup>50°F Storage protocol prior to frying

Initial storage temperature 55°F

Holding temperature 50°F

Weeks to holding temperature 4

Weeks at holding temperature 6

Reconditioning temp. (if applicable) 60°F

Number of weeks reconditioning 3

<sup>4</sup> Chipped immediately following harvest

<sup>5</sup> Chip Quality 1=excellent (light color) to 5=poor (dark color)

[Back to Table of Contents](#)

**Table 19. Summary**

Clone / Variety	Field Data				Yield Qualities					Tuber Description					
	% Stand	Stems/hill	Vine Size	Vine Mat.	Total Yield	% #1s	% >10 <sup>1</sup>	% <4	% Culls	Merit Score	Specific Gravity	Tuber Shape	Tuber Weight	Skin Color	
<b>Russet Trial</b>															
1	Russet Norkotah	100	1.7	3.1	2.8	262	75	9	29	3	3.3	1.068	Long	5.8	Russet
2	CO12152-1RU	97	1.4	3.0	3.6	253	60	2	40	3	2.9	1.092	Long	5.4	Russet
3	CO12378-1RU	99	1.9	3.6	3.8	267	58	2	43	2	3.3	1.085	Oblong	5.8	Russet
4	COTX08063-2Ru	98	1.8	3.6	3.9	287	73	11	23	4	3.8	1.099	Oblong	5.5	Russet
<b>Chip Trial</b>															
5	Atlantic	97	2.6	3.4	3.8	371	89	17	14	2	3.0	1.095	Oval	5.7	Scaley-buff
6	Snowden	100	3.3	3.4	3.9	463	81	10	18	2	3.6	1.088	Oval	5.5	White
7	AC11494-6W	95	1.9	3.8	4.1	317	70	2	41	1	3.2	1.089	Oval	3.7	White
8	AORTX09037-1W/Y	100	3.1	3.6	4.0	406	76	5	30	2	4.1	1.085	Round	3.4	White
9	ATTX07042-3W/Y	99	2.9	3.6	2.9	382	76	6	34	2	2.8	1.084	Round	4.0	White
10	CO12235-3W	97	2.2	3.0	4.3	356	76	9	24	6	2.8	1.090	Round	5.3	White
11	CO12293-1W	100	2.6	3.5	4.6	398	91	23	10	3	4.0	1.085	Oval	6.2	White
12	TX09403-21W	96	2.0	3.4	3.1	371	87	15	17	2	2.8	1.078	Round	5.7	White

[Back to Table of Contents](#)

## 2021 Southwestern Regional Trial Entries

Entry #	Clone/Cultivar	Parents		Flower Color	Vine Size	Maturity	Tuber Shape	Skin Type	Entered By	Use	Seed Source	2021 Status	2022 Status	Notes
		Female	Male											
<b>Russet Trial</b>														
1	Russet Norkotah	ND9687-5RU	ND9526-4RU	White	Small	Early	Long	Russet	Check	Fresh	???	***		
2	AC12080-4RU	A05084-1	ND028673B-2Russ	White	Medium-Small	Early	Long	Russet	CO	Dual	CO	1.0		
3	AC12090-3RU	A05214-3LB	A06021-1T	White	Small	Medium	Oblong	Russet	CO	Dual	CO	1.0		
4	CO13003-1RU	Fortress Russet	AC96052-1RU	White	Medium	Medium	Oblong	Russet	CO	Dual	CO	1.0		
5	COTX08063-2Ru	A93157-6LS	A99073-1	White	Medium	Late	Oblong	Russet	TX	Fresh	CO	Repeat		
<b>Chip Trial</b>														
6	Atlantic	Wauseon	B5141-6	Red-Purple	Med	Medium	Oval	Scaley-buff	Check	Chip	CO	***		
7	Snowden	B5141-6	Wischip	White	Large	Late	Oval	White	Check	Chip	CO	***		
8	CO13232-5W	AC00206-2W	CO02024-9W	White	Medium	Medium	Round	White	CO	Chip	CO	1		
9	CO13232-25W	AC00206-2W	CO02024-9W	White	Medium	Late	Round	White	CO	Chip	CO	1		

[Back to Table of Contents](#)



Compiled by Jeff Koym\*, Douglas Scheuring, and Isabel Vales  
Cover by Doug Scheuring  
Department of Horticultural Sciences Texas A&M University College Station and Lubbock\*

California data provided by Jaspreet Sidhu and Jed DuBose (Bakersfield),  
Rob Wilson and Darrin Culp (Tulelake)

Colorado data provided by David Holm, Caroline Gray, and Katie Gaudreau

**Funding was provided by USDA-NIFA Special Research Grants Program, Potato Breeding  
Research**