



2012 Annual Progress Report Storage Appendix Potato Variety Development in Tulelake

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Tables and variety notes were prepared by Kevin Nicholson and Rob Wilson

Storage

Fifty pounds of U.S. No. 1 potatoes for each plot were stored and then evaluated for shatter bruise, percent of cumulative shrink, percent of cumulative rot, turgor, and sprouting. Russet and Specialty entries were stored at 40^oF for 180 days with evaluations at approximately 60, 120, and 180 days after harvest. Chipper varieties were stored in a separate bin at 50^oF for 120 days and were evaluated at 60, 90 and 120 days after harvest. Sprout inhibitor was not applied during storage.

Table 14: Turgor, percent shrink and sprouting for Russet varieties stored at 40° F for 60, 120 and 150 days after harvest for the 2012 season.

Clone/Variety	Trial	Turgor (1-5, 5= Hardest) ¹			% Shrink from Original Weight			Sprout (1-5) ²		
		60	120	150	60	120	150	60	120	150
		DAH	DAH	DAH	DAH	DAH	DAH	DAH	DAH	DAH
		5-Dec	6-Feb	3-Apr	5-Dec	6-Feb	3-Apr	5-Dec	6-Feb	3-Apr
Russet Norkotah	SWR	5.0	4.3	3.8	3.0	6.2	8.6	4.0	4.0	3.0
AOTX02136-1RU	SWR	4.4	3.8	3.7	3.4	7.0	9.8	4.7	3.3	3.3
CO04211-4RU	SWR	4.5	3.8	3.5	2.7	5.1	7.3	4.3	3.0	3.0
CO04220-7RU	SWR	5.0	4.3	4.0	3.7	6.8	9.2	4.3	4.0	4.0
CO04233-1RU	SWR	5.0	4.2	4.2	3.5	6.8	9.5	4.0	4.0	4.0
Ranger Russet	WR	5.0	3.8	4.0	2.7	4.8	6.7	4.0	3.0	3.0
Russet Burbank	WR	4.8	4.3	4.5	2.6	5.1	7.5	4.3	4.0	4.0
Russet Norkotah	WR	5.0	4.3	3.7	3.1	5.9	8.6	4.0	4.0	3.0
A01010-1	WR	4.5	4.0	3.2	2.8	5.1	7.1	4.0	3.0	3.0
A02138-2	WR	4.7	3.7	3.7	3.8	7.3	10.5	4.3	3.0	3.0
A02507-2LB	WR	4.2	3.5	3.3	4.4	6.9	8.9	4.0	4.0	4.0
A03158-2TE	WR	4.5	3.8	3.8	2.6	5.2	7.6	4.3	3.0	3.0
AC00395-2RU	WR	4.5	4.2	4.3	2.2	4.9	6.7	4.3	4.0	4.0
AO00057-2	WR	4.8	4.2	4.0	2.3	4.2	5.8	4.7	4.0	4.0
AO02060-3	WR	4.9	4.2	3.8	3.2	5.9	8.0	4.0	3.3	3.7
AO02183-2	WR	4.9	4.0	3.7	3.3	5.7	8.0	4.0	3.7	3.3
AO96305-3	WR	4.9	4.0	4.2	2.5	4.7	6.9	4.3	3.7	4.0
CO03202-1RU	WR	4.3	3.3	3.3	3.6	6.7	8.8	4.7	4.0	4.0
CO03276-4RU	WR	4.8	4.0	4.0	2.2	5.4	7.9	4.0	3.0	4.0
Classic	IREC	4.5	3.8	3.7	3.2	6.3	8.5	4.0	4.0	4.0
A0008-1TE (Teton R.)	IREC	4.4	3.8	3.5	3.4	6.2	8.3	4.7	3.7	3.0
Clearwater	IREC	4.8	4.2	4.0	1.9	4.1	9.2	4.0	3.0	3.0
CO03276-5RU	WR	4.8	4.2	3.8	2.7	4.9	6.6	4.3	4.0	4.0
CO03187-1RU	WR	5.0	4.0	3.5	2.6	6.2	9.0	4.3	3.0	3.0
Mean		4.7	4.0	3.8	2.9	5.7	7.9	4.2	3.6	3.5
95% CI		0.3	0.4	0.4	0.6	0.7	0.1	0.5	0.3	0.2

1. Turgor Scale: 1-5, 5 being the hardest/most firm.
2. Sprout Scale: 5 = none, 4 = peeping, 3 = (0-1"), 2 = (1-2"), 1 = (>2")

Table 15: Turgor, percent shrink and sprouting for Specialty varieties stored at 40° F for 60, 120 and 150 days after harvest for the 2012 season.

Variety/Clone	Trial	Turgor (1-5) ¹			% Shrink from Start			Sprout (1-5) ²		
		60 DAH 5-Dec	120 DAH 6-Feb	150 DAH 3-Apr	60 DAH 5-Dec	120 DAH 6-Feb	150 DAH 3-Apr	60 DAH 5-Dec	120 DAH 6-Feb	150 DAH 3-Apr
Yukon Gold	SWR	4.8	4.3	4.0	2.5	4.6	6.1	4.3	3.9	4.0
ACO3534-2R/Y	SWR	4.5	3.8	3.2	4.2	7.2	9.3	4.0	3.9	4.0
CO04029-5W/Y	SWR	4.8	3.9	2.5	2.3	6.0	10	4.0	2.5	2.0
CO04067-8R/Y	SWR	4.8	4.1	4.0	3.3	6.9	9.7	4.0	3.9	3.6
CO04099-3W/Y	SWR	4.8	4.1	3.8	2.2	4.1	5.9	4.0	2.9	3.0
CO04099-4W/Y	SWR	4.7	3.8	3.7	2.9	5.3	7.1	4.0	2.9	3.0
CO04188-4R/Y	SWR	4.8	3.8	3.5	2.4	6.5	9.6	4.0	3.9	3.6
COTX04015-3AW/Y	SWR	4.4	3.8	3.2	2.7	5.8	8.6	4.3	3.5	3.0
Purple Majesty	SWR	5.0	4.3	3.8	2.3	5.4	8.1	4.0	2.9	3.0
CO04056-3P/PW	SWR	4.9	4.4	4.5	2.8	8.0	20.4	4.0	2.9	3.0
CO04063-4R/R	SWR	4.8	3.8	4.0	4.6	9.1	12.8	4.3	2.9	3.0
Banana	SWR	4.9	4.0	4.0	2.6	5.9	8.1	4.3	3.3	3.0
CO03134-4RF/RW	SWR	4.6	3.5	4.0	3.6	7.4	10.3	4.0	3.5	3.3
Norland (Dark Red)	SWR	4.5	3.3	2.7	3.8	7.6	10.6	4.0	2.9	3.0
Red LaSoda	SWR	5.0	4.1	3.8	2.9	5.3	7.2	4.0	3.9	3.0
ATX98453-3R	SWR	4.6	4.3	3.7	2.8	5.4	7.5	4.0	3.9	4.0
CO04159-1R	SWR	4.9	4.3	4.0	5.1	8.5	11.3	4.3	3.9	4.0
COTX02172-1R	SWR	4.0	3.4	2.8	3.8	7.6	10.7	4.0	3.9	4.0
COTX02293-4R	SWR	4.7	3.9	3.7	3.5	7.0	9.8	4.3	3.9	4.0
Dk Red Norland	WR	4.4	3.6	2.8	4.8	8.1	11.1	4.0	2.9	3.0
Red LaSoda	WR	4.8	3.8	3.8	3.9	6.6	8.2	4.0	3.9	3.3
ATX98453-6R	WR	4.3	4.1	4.0	2.8	5.2	7.4	4.0	3.9	4.0
CO00277-2R	WR	4.8	4.1	3.5	3.7	7.9	11.2	4.6	3.9	3.0
CO00291-5R	WR	4.5	3.4	3.5	3.0	6.7	9.2	5.0	3.9	4.0
OR04131-2	WR	5.0	4.1	3.3	2.4	5.9	8.4	5.0	3.9	4.0
ATX98468-5R/Y	WR	4.8	3.4	3.2	3.3	6.6	9.2	4.0	3.9	3.6
CO04021-2R/Y	WR	4.8	3.6	3.7	3.0	5.7	7.4	4.0	3.2	3.0
COTX01403-4R/Y	WR	4.5	3.8	3.0	3.4	6.6	8.9	4.3	2.9	3.0
Purple Majesty	WR	5.0	4.4	3.5	1.8	5.3	8.4	4.3	2.9	3.3
POR04PG56-1	WR	4.8	3.9	4.3	2.3	5.9	8.9	4.6	3.9	4.0
Yukon Gold	WR	5.0	4.6	4.3	1.3	3.9	6.0	4.3	3.5	3.6
ATX03564-1Y/Y	WR	5.0	3.8	3.7	2.1	4.4	5.6	4.3	2.9	2.6
CO04013-1W/Y	WR	4.8	3.9	3.3	3.8	7.1	9.5	4.0	2.9	3.0
OR04036-5	WR	4.8	3.4	3.0	2.5	6.4	9.3	4.3	3.2	4.0
POR02PG37-2	IREC	4.6	3.4	2.5	3.0	6.9	10.2	4.6	2.9	2.3
Mean		4.7	3.8	3.6	3.1	6.4	9.2	4.2	3.5	3.4
95% CI		0.4	0.4	0.6	1.4	1.6	2.0	0.4	0.2	0.3

1: Turgor Scale: 1-5, 5 being the hardest/most firm, 2: Sprout Scale: 5 = none, 4 = peeping, 3 = (0-1"), 2 = (1-2"), 1 = (>2")

Table 16: Turgor, percent shrink and sprouting for Specialty varieties stored at 40° F for 60, 120 and 150 days after harvest for the 2012 season.

Clone/Variety	Trial	Turgor (1-5, 5- Hardest) ¹		% Shrink From Original		Sprout (1-5) ²	
		60 DAH	90 DAH	60 DAH	90 DAH	60 DAH	90 DAH
		6-Dec	9-Jan	6-Dec	9-Jan	6-Dec	9-Jan
Atlantic	SWR	4.90	3.50	4.0	8.0	4.0	1.0
Chipeta	SWR	4.80	4.00	3.0	5.0	4.0	3.0
AC00206-2w	SWR	4.80	3.30	3.0	6.0	4.0	1.0
AC03452-2W	SWR	4.90	3.50	2.0	4.0	4.0	1.0
Atlantic	WR	4.80	3.30	4.0	8.0	4.0	1.0
Chipeta	WR	5.00	4.00	3.0	5.0	4.0	3.0
A00188-3C	WR	4.80	2.80	3.0	7.0	3.7	1.0
A01143-3C	WR	5.00	3.20	3.0	7.0	4.0	1.0
AC01151-5W	WR	5.00	3.50	3.0	6.0	4.0	2.3
AC03433-1W	WR	4.80	3.50	3.0	7.0	4.0	1.0
CO02024-9W	WR	4.80	3.20	4.0	7.0	4.0	1.0
CO02033-1W	WR	4.90	4.50	4.0	8.0	4.0	3.0
CO02321-4W	WR	4.80	3.90	6.0	11.0	4.0	1.0
CO03243-3W	WR	4.80	3.80	3.0	6.0	4.0	1.0
Lamoka	IREC	4.90	3.20	3.0	7.0	4.0	1.0
Nicolet	IREC	5.00	4.00	3.0	6.0	4.0	2.0
Tundra	IREC	4.80	4.00	3.0	6.0	4.0	2.3
Lady Claire	IREC	4.80	4.00	4.0	8.0	4.0	3.0
Lady Lenora	IREC	5.00	3.10	0.0	5.0	4.0	2.7
Mean		4.70	3.50	8.0	7.0	4.0	1.7
95% CI		0.80	1.60	8.0	4.0	0.2	0.3

1. Turgor Scale: 1-5, 5 being the hardest/most firm.

2. Sprout Scale: 5 = none, 4 = peeping, 3 = (0-1"), 2 = (1-2"), 1 = (>2")

Table 17: Specific gravity, percent defects and snack food rating of experimental and standard chipping varieties after 60, 90, 12and 150 days after harvest (DAH) stored at 50°.

Clone/Variety	Trial	Specific Gravity				% Total Defects				Snack Food Rating (1-5) 5=Dark			
		60 DAH	90 DAH	120 DAH	150 DAH	60 DAH	90 DAH	120 DAH	150 DAH	60 DAH	90 DAH	120 DAH	150 DAH
		6-Dec	9-Jan	10-Feb	14-Mar	6-Dec	9-Jan	10-Feb	14-Mar	6-Dec	9-Jan	10-Feb	14-Mar
Atlantic	SWR	1.104	1.104	1.116	1.124	44.0	30.2	1.7	0.0	2.0	2.0	2.0	2.0
Chipeta	SWR	1.097	1.102	1.101	1.107	3.8	11.3	5.1	4.5	2.0	1.0	1.0	1.0
AC00206-2W	SWR	1.092	1.096	1.091	1.111	0.0	0.0	0.0	0.0	1.0	1.0	1.5	1.0
AC03452-2W	SWR	1.094	1.096	1.096	1.108	0.5	1.4	0.6	0.0	1.0	1.0	1.5	1.0
Atlantic	WR	1.104	1.105	1.111	1.109	41.3	39.7	8.6	26.7	2.5	2.0	2.5	2.5
Chipeta	WR	1.098	1.098	1.099	1.106	3.7	13.6	3.4	6.9	1.5	1.5	1.5	2.0
A00188-3C	WR	1.106	1.104	1.111	1.128	4.4	21.4	9.1	12.8	1.0	1.0	1.5	1.5
A01143-3C	WR	1.090	1.098	1.101	1.119	0.0	0.0	2.1	5.3	1.0	1.0	2.0	2.0
AC01151-5W	WR	1.089	1.086	1.089	1.092	17.4	4.0	4.8	17	1.0	1.0	1.0	1.5
AC03433-1W	WR	1.086	1.102	1.082	1.105	0.8	1.2	3.9	0.0	1.0	1.0	1.0	1.5
CO02024-9W	WR	1.090	1.096	1.100	1.104	16.9	1.1	11.1	18.5	1.5	1.	1.5	1.0
CO02033-1W	WR	1.104	1.104	1.115	1.114	4.2	1.2	2.9	0.0	1.0	1.0	1.0	1.0
CO02321-4W	WR	1.105	1.105	1.110	1.123	9.1	0.0	2.9	39.3	1.0	1.0	1.5	1.5
CO03243-3W	WR	1.096	1.106	1.114	1.114	6.8	2.4	5.0	31.7	1.0	1.0	1.0	1.0
Lamoka	IREC	1.107	1.112	1.113	1.114	3.7	0.0	5.6	17.7	1.0	1.0	1.0	1.0
Nicolet	IREC	1.099	1.109	1.108	1.117	14.8	0.0	0.0	12.6	1.5	1.0	1.0	1.5
Tundra	IREC	1.106	1.112	1.12	1.113	4.5	2.8	8.0	0.0	1.0	1.0	1.0	1.0
Lady Claire	IREC	1.103	1.146	1.113	1.108	0.0	0.0	0.0	30.9	1.0	2.0	2.0	1.5
Lady Lenora	IREC	1.106	1.107	1.110	1.110	9.0	4.1	0.0	22.8	1.0	1.0	1.0	1.5