

Late Harvest Western Regional Trial

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This trial duplicates the early harvested regional trial with respect to the cultivars evaluated except for the early control variety, Shepody. The trial area was fumigated in September 2005 with 40 gallons of metham sodium per acre. A pre-plant, broadcast application of 175 pounds of K_2O and 2 pounds of boron per acre was made. Planting was done on April 6th. Dry fertilizer was banded at planting providing 60 pounds of nitrogen, 80 pounds of P_2O_5 , and 40 pounds of sulfur per acre. An additional 265 pounds of nitrogen per acre was applied through the water during the growing season. The trial received management inputs normal for potato production in this area. Seasonal rainfall and irrigation supplied about 32" of water. The trial was planted on April 6th. Vine kill occurred at 152 days after planting (September 5th) compared to 116 days for the early trial. Plots were harvested on September 19th. The harvest area was one row with 24 hills replicated 4 times for each cultivar. Plants were spaced at 9.25" in 34 inch rows.

Yields overall were about 15% below those produced in 2005 (Table 1, Figure 1), averaging 42 tons/acre compared to 50 tons/acre in 2005. Total yields ranged from a low of 583 cwt/acre for Russet Norkotah to a high of 1022 cwt/acre for the cultivar MWTX2609-4RU. Overall quality indicated by grade-out of U.S. #1 tubers was good with Russet Burbank at 69% (53 % in 2005), with only CO97137-1W exhibiting a lower percent grade-out. Eight of the 21 entries had yields of U.S. #1 processing grade over 50 tons/acre.

Specific gravity ranged from 1.062 for ATX95265-4RU to 1.083 for AO96141-3 Russet Burbank mimicked the trial average and Ranger Russet measured 1.080 (Table 1, Figure 2). Only four cultivars had a specific gravity of 1.080 or higher.

Internal brown spot was high in AOA95154-1, CO95172-3RU, and TXA549-1RU and notable in Russet Burbank at 7% (Table 2). Numerous selections had high levels of black spot bruise. Translucent end was high for both AOTX95265-2RU and AOTX95265-4RU, sibling selections. Shatter bruise was notable in AC96052-1RU and CO94035-15RU. TXA549-1RU also exhibited some shatter bruise.

Table 1: Yield, grade, specific gravity, and tuber shape for entries grown in the "Late Regional Trial" at Hermiston, Oregon, 2006.

Cultivar	Total Yield	Total U.S. # 1's	Percent U.S. # 1's	U.S. # 1's			<4 oz.	Culls	Specific Gravity	Length/width ratio	Width/depth ratio	Remarks:
				>12 oz.	4-12 oz.	U.S. # 2's						
	<-----cwt/a----->		%			310						
RANGER	821	666	81	356	310	55	47	52	1.080	1.87	1.24	
R. BURBANK	860	591	69	183	408	104	108	57	1.073	1.79	1.26	DUMBBELLS, LITTLE FLAT, BOTTLENECKS
NORKOTAH	583	481	83	115	365	11	77	15	1.065	1.81	1.13	
A95074-6	881	666	76	358	307	95	85	36	1.079	1.71	1.22	PROTRUDING EYES, PEARS, GREENS
A95109-1	905	796	88	471	325	64	30	16	1.070	1.72	1.13	LITTLE PEAR, TOO BIG, POINTY, ROUND, ROUGH
A95409-1	895	811	91	522	288	10	32	43	1.074	1.56	1.16	TOO LARGE, OK
A96104-2	784	603	77	228	375	43	106	33	1.068	1.52	1.16	BLOCKY, LITTLE FLAT, SMALL=ROUND, OK
AC96052-1RU	772	648	84	113	535	9	109	7	1.073	1.56	1.16	VERY BLOCKY, SOME ROUND
AO96141-3	1003	805	80	363	441	116	50	33	1.083	1.80	1.16	LITTLE PEAR, THIN, BUD-END GROWTH CRACKS, DUMBBELLS, BOTTLENECKS
AO96160-3	897	776	87	216	560	15	104	2	1.082	1.98	1.09	VERY NICE UNIFORM SHAPE, COARSE RUSSET
AO96164-1	1014	833	82	433	400	61	66	53	1.075	1.71	1.24	NICE, LITTLE FLAT, TOO BIG, ROUNDS
AOA95154-1	914	784	86	139	644	22	104	5	1.081	1.68	1.13	SOME PEAR, LITTLE FLAT, NICE, COARSE RUSSET, OK
AOA95155-7	900	747	83	160	586	43	97	14	1.076	1.77	1.19	COARSE RUSSET, POINTY, OK, TORPEDO, FLAKEY
AOTX95265-2ARL	723	568	79	135	432	26	118	11	1.065	1.82	1.18	NICE SHAPE, COLOR, RUSSET
AOTX95265-4RU	746	640	86	202	437	21	75	11	1.062	1.84	1.17	LARGE, OK, NICE SHAPE, COLOR, RUSSET
CO94035-15U	784	680	87	289	390	50	49	6	1.069	1.51	1.13	COARSE RUSSET, TOO ROUND, TOO MANY ROUND, LITTLE FOLDED BUD END
CO95172-3RU	905	688	76	171	518	37	167	12	1.076	1.59	1.16	SHORT, BLOCKY, LITTLE PEAR, OK, TOO MANY ROUND
CO97137-1W	628	404	64	58	347	39	154	31	1.069	2.06	1.16	NICE SHAPE, TOO THIN, LITTLE FLAT, SMALL
MWTX2609-2RU	865	722	83	344	377	44	85	14	1.071	1.68	1.19	OK, LITTLE FLAT, SMALL=ROUND, GOOD SHAPE
MWTX2609-4RU	1022	827	81	489	338	73	77	45	1.069	1.74	1.09	LARGE WITH PROTRUDING EYES, TOO BIG, LOTS SIZE VARIATION
TXA549-1RU	905	731	81	241	491	63	90	21	1.066	1.55	1.11	SHORT, TOO MANY ROUND

Table 2: External characteristics, internal disorders, plant emergence, stand and stems per plant for entries grown in the "Late Regional Trial" at Hermiston, OR, 2006.

Cultivar	Skin Color ¹	Shape Uniformity	Skin Set	Russetting	Eye Depth	Shatter Bruise	Powdery Scab	Growth Cracks	Hollow Heart	Brown Center	Int. Brown Spot	Black Spot	Vascular Discoloration	Translucent End	Total Internals	5/11/2005 Emergence	5/19/2005 Stand	Stems/ plant
		1-5=best	1-5=best	1-5=heavy	1-5=shallow	1-5=none	1-5=none	1-5=none	←----- %* -----→							%	%	
RANGER	4.0	4.3	5.0	4.0	4.0	5.0	5.0	4.1	-	-	1	27	3	-	31	92	100	2.0
R. BURBANK	4.0	3.8	5.0	3.0	3.9	5.0	5.0	4.1	-	-	7	10	1	1	19	86	100	2.2
NORKOTAH	4.0	5.0	5.0	4.0	4.3	5.0	5.0	4.8	-	-	-	6	4	9	19	77	100	2.2
A95074-6	3.4	4.0	2.6	2.4	5.0	5.0	5.0	4.8	-	-	-	5	4	-	9	80	100	1.7
A95109-1	4.0	4.3	2.8	3.3	4.8	4.8	5.0	5.0	-	-	1	1	4	-	6	78	100	1.8
A95409-1	3.8	4.5	4.8	3.0	4.3	5.0	5.0	4.3	-	-	1	23	1	-	25	90	100	1.4
A96104-2	4.0	4.3	3.4	3.8	3.9	4.8	5.0	4.3	4	-	2	-	3	-	9	94	100	2.5
AC96052-1RU	4.6	4.5	3.8	5.0	5.0	3.1	5.0	5.0	-	-	6	11	2	-	19	55	100	2.5
AO96141-3	4.0	5.0	3.1	3.0	4.0	5.0	5.0	3.9	-	-	-	8	16	-	24	93	100	2.4
AO96160-3	4.0	5.0	4.0	4.0	5.0	5.0	5.0	5.0	-	-	-	9	2	-	11	91	100	2.2
AO96164-1	4.0	4.0	4.0	4.0	4.5	4.8	5.0	4.0	-	-	-	13	5	1	19	92	100	2.2
AOA95154-1	4.0	4.3	3.9	4.0	4.3	5.0	5.0	5.0	-	-	37	3	1	-	41	82	99	2.2
AOA95155-7	4.0	4.3	2.4	3.8	4.5	5.0	5.0	5.0	3	-	3	-	2	-	8	58	100	2.4
AOTX95265-2ARU	4.0	4.8	5.0	4.0	4.0	5.0	5.0	5.0	-	-	-	7	1	17	25	99	100	3.1
AOTX95265-4RU	4.0	5.0	4.8	4.0	4.0	5.0	5.0	4.9	-	-	-	3	1	19	23	97	98	2.9
CO94035-15U	4.8	3.9	5.0	5.0	4.8	3.1	5.0	5.0	-	-	-	9	-	-	9	88	99	2.0
CO95172-3RU	4.0	4.0	3.3	3.8	4.3	5.0	5.0	5.0	1	-	12	7	4	-	24	89	100	2.8
CO97137-1W	2.0	5.0	5.0	1.0	5.0	5.0	5.0	5.0	-	-	-	3	13	2	18	98	100	3.5
MWTX2609-2RU	3.6	4.0	3.3	2.6	4.5	5.0	5.0	5.0	1	-	-	10	0	-	11	84	100	2.3
MWTX2609-4RU	4.0	4.0	2.9	3.0	4.0	5.0	5.0	4.3	-	-	1	8	5	6	20	89	99	2.5
TXA549-1RU	4.0	4.0	4.3	3.0	4.8	3.8	5.0	4.8	-	-	13	10	5	8	36	82	100	2.7

¹ 1=red, 2=white, 3=buff, 4=brown, 5=dark brown

*(-) indicates 0%

Table 3: Percent by count of tubers for each grade category for entries grown in the "Late Regional Trial", Hermiston, OR, 2006.

Cultivar	<----- Grade Category ----->				
	U.S. # 1's		U.S. # 2's	<4 oz.	Culls
	>12 oz.	4-12 oz.			
<-----% of tuber count----->					
RANGER	24.3	44.4	5.3	21.1	4.9
R. BURBANK	9.1	45.1	8.5	31.1	6.3
NORKOTAH	9.2	57.7	1.7	29.7	1.7
A95074-6	20.6	37.8	7.4	29.6	4.7
A95109-1	33.7	43.5	8.1	11.9	2.8
A95409-1	35.6	45.8	1.2	14.5	2.9
A96104-2	12.9	43.1	5.3	34.6	4.1
AC96052-1RU	6.4	60.1	0.9	31.5	0.9
AO96141-3	20.9	48.1	10.1	16.7	4.2
AO96160-3	11.7	59.2	2.2	26.8	0.1
AO96164-1	23.7	44.6	7.1	20.9	3.6
AOA95154-1	6.8	65.2	2.2	25.5	0.3
AOA95155-7	8.7	58.0	4.7	27.3	1.3
AOTX95265-2ARU	7.3	53.7	3.5	34.4	1.2
AOTX95265-4RU	12.5	58.8	2.5	25.0	1.1
CO94035-15U	15.6	54.2	9.9	19.1	1.2
CO95172-3RU	7.7	48.7	3.8	38.2	1.6
CO97137-1W	3.3	45.2	4.7	45.2	1.7
MWTX2609-2RU	17.1	46.5	6.0	29.4	1.1
MWTX2609-4RU	24.8	40.1	7.2	24.1	3.8
TXA549-1RU	12.4	50.7	8.4	26.1	2.4

Table 4: Average tuber size for each grade category for entries grown in the "Late Regional Trial", Hermiston, OR, 2006.

Cultivar	<----- Grade Category ----->					Overall Average tuber wt. Oz.
	U.S. # 1's		U.S. # 2's	<4 oz.	Culls	
	>12 oz.	4-12 oz.				
<----- average tuber size (oz.)----->						
RANGER	17.7	8.4	12.6	2.7	12.9	9.9
R. BURBANK	16.4	7.4	10.0	2.9	7.4	7.1
NORKOTAH	14.8	7.5	7.6	3.1	10.2	7.0
A95074-6	17.0	7.9	12.6	2.8	7.5	8.6
A95109-1	16.5	8.8	9.3	2.9	6.8	10.7
A95409-1	19.4	8.3	11.0	2.9	19.3	11.9
A96104-2	15.8	7.8	7.2	2.7	7.2	7.0
AC96052-1RU	14.3	7.2	7.3	2.8	6.0	6.3
AO96141-3	16.0	8.4	10.5	2.7	7.2	9.2
AO96160-3	14.7	7.6	5.4	3.1	16.8	7.2
AO96164-1	17.1	8.4	8.2	3.0	13.5	9.5
AOA95154-1	14.9	7.2	7.2	3.0	13.1	6.6
AOA95155-7	14.0	7.7	7.0	2.7	8.2	6.8
AOTX95265-2ARU	16.5	7.2	6.7	3.0	8.6	6.5
AOTX95265-4RU	15.7	7.2	8.2	2.9	9.1	7.3
CO94035-15U	21.2	8.2	5.7	2.9	5.6	9.0
CO95172-3RU	15.5	7.4	6.8	3.1	5.3	6.4
CO97137-1W	14.9	6.5	7.2	2.9	15.8	5.3
MWTX2609-2RU	18.9	7.6	7.0	2.7	12.4	8.0
MWTX2609-4RU	18.6	7.9	9.5	3.0	11.3	9.6
TXA549-1RU	16.3	8.1	6.3	2.9	7.2	7.6

2006 Late Regional Trial

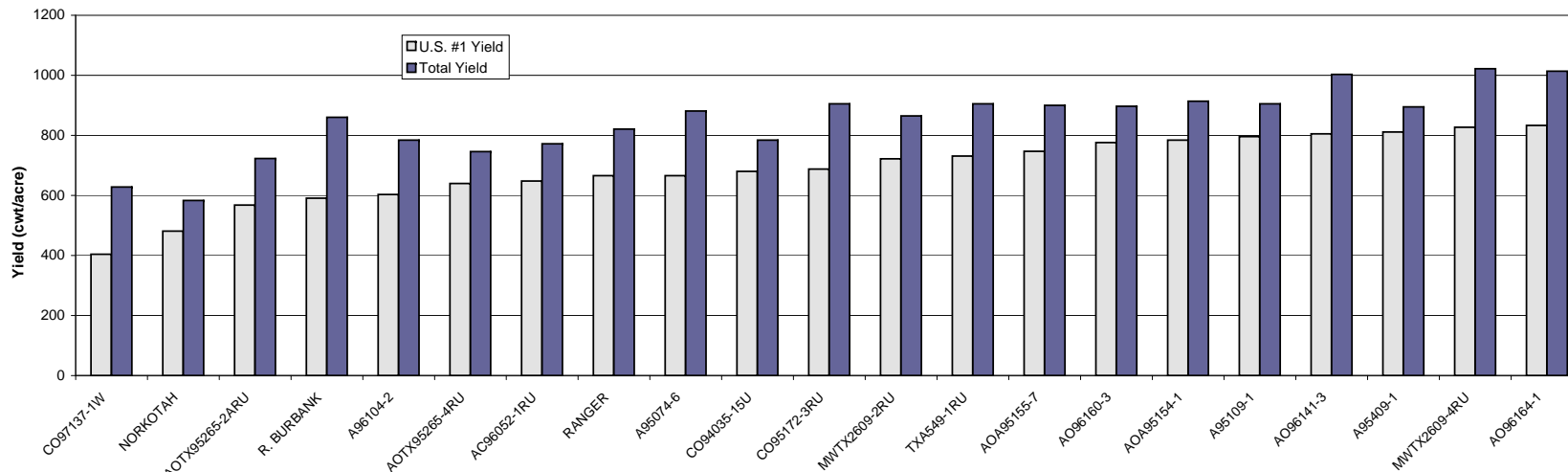


Figure 1: Total and U.S. #1 Yield for twenty one cultivars in the 'Late Regional Trial', Hermiston, OR 2006.

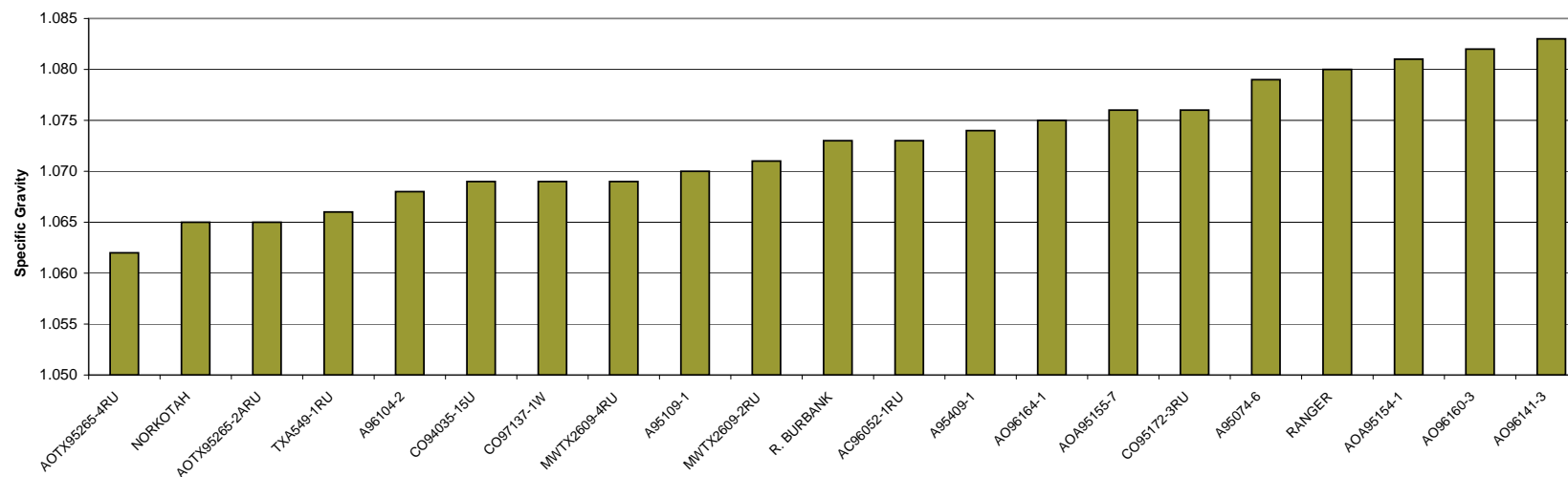


Figure 2: Specific Gravity for twenty one cultivars in the 'Late Regional Trial', Hermiston, OR 2006.