Colorado Potato Cultivar Management

2010 Data Summary

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-Comments Welcome-

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MISSION STATEMENT

The mission of the Colorado Potato Cultivar Management and Physiology Program is to develop cultural management guidelines for newly released and existing potato cultivars, as well as advanced potato selections that have the potential of being released, through field and laboratory research.

Each potato cultivar or advanced selection has its own unique set of cultural management requirements for maximizing tuber yield of premium size and grade tubers. Therefore, cultural management practices that maximize the production and quality of individual potato cultivars must be developed.

The best guidelines for fertility practices, irrigation management, plant population management, vine kill management, and other management practices are obtained from field experiments conducted in replicated trials. New cultivars are much more successful when release is accompanied by cultivar specific management guidelines. This information relates growth habit and other plant characteristics to nutrient and other management strategies for yield and quality goals, which are agronomically sound, economically advantageous, and environmentally responsible.

When management guidelines are tailored for individual cultivars it leads to the successful, sustainable, and economic production of the cultivar, which results in the optimization of its genetic potential, while minimizing economic inputs and environmental impact.

Table 1. Effect of nitrogen rate on yield and tuber size distribution of Mesa Russet, 2010

Nitrogen rate (lb N/ac)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
					Yield(cwt/ac)					
0 (61)[1]	440	40	400(91)[2]	272(62)	396	340(78)	56	60	268	4
60 (90)	447	43	404(90)	313(70)	396	308(69)	88	97	304	8
120 (150)	499	41	458(92)	360(72)	440	311(62)	129	147	342	18
180 (210)	472	40	432(92)	353(75)	428	292(62)	136	140	349	4

[1] Figures in brackets and beside N rate treatments indicate total available N (applied + soil + irrigation water N).
[2] Figures in brackets and beside yield data indicate % of total.

Table 2. Effect of nitrogen rate on tuber quality of Mesa Russet, 2010

Nitrogen rate (lb N/ ac)	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity
0 (61)[1]	0	0	0.2	0.2	0	0	0	1.088
60 (90)	0	0	0	0	0.8	0	0.8	1.087
120 (150)	0	0	0.4	0.4	0.9	0	0.9	1.082
180 (210)	0	0	0.4	0.4	0	0	0	1.078

[1] Figures in brackets indicate total available N (applied + soil + irrigation water N).
[2] Includes growth cracks, knobs and misshapes
[3] Includes hollow heart and brown center.

Table 3. Effect of nitrogen rate on yield and tuber size distribution of Mesa Russet (two year average) 2009 and 2010

Nitrogen rate (lb N/ac)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz
					Yield (cwt/ac)				
0 (57)[1]	441	104	337(77)[2]	204(46)	333	297(68)	36	40	200
60 (88)	473	100	373(79)	258(55)	369	307(65)	62	66	253
120 (148)	520	83	437(84)	314(61)	423	326(63)	97	106	300
180 (208)	511	80	431(85)	309(61)	423	326(64)	97	99	301

[1] Figures in brackets and beside N rate treatments indicate total available N (applied + soil + irrigation water N).
[2] Figures in brackets and beside yield data indicate % of total.

Table 4. Effect of nitrogen rate on tuber quality of Mesa Russet (two year average) 2009 and 2010

Nitrogen rate (lb N/ ac)	% External[2] Defects	% Internal[3] Defects	Specific Gravity
0 (57)[1]	0.2	0.3	1.091
60 (88)	0.3	0.4	1.091
120 (148)	1.3	1.4	1.087
180 (208)	0.8	0	1.086

[1] Figures in brackets indicate total available N (applied + soil + irrigation water N).
[2] Includes growth cracks, knobs and misshapes
[3] Includes hollow heart and brown center.

Table 5. Effect of pre-plant nitrogen application rate on yield and tuber size distribution of Mesa Russet, 2010

Nitrogen rate (lb N/ ac)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
					Yield(cwt/ac)					
Control(60)	472	73	399(85)[2]	256(54)	399	361(77)	38	38	256	0
0 (60)[1]	509	76	433(85)	288(57)	429	381(75)	48	52	284	4
60 (90)	502	76	426(85)	299(60)	416	348(69)	68	78	290	10
80 (110)	501	80	421(84)	274(55)	421	372(74)	49	49	274	0
100 (130)	498	59	439(88)	328(66)	439	375(75)	64	64	328	0

[1] Figures in brackets and beside N rate treatments indicate total available N (applied + soil + irrigation water N).
[2] Figures in brackets and beside yield data indicate % of total.

Table 6. Effect of pre-plant nitrogen application rate on tuber quality of Mesa Russet, 2010

Nitrogen rate (lb N/ac)	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity
Control(60)	0	0	0	0	0	0	0	1.090
0 (60)[1]	0	0	0	0	0	0	0	1.087
60 (90)	0	0	0	0	0	0	0	1.086
80 (110)	0	0	0	0	0	0	0	1.086
100 (130)	0.8	0	0	0.8	0	0	0	1.088

[1] Figures in brackets indicate total available N (applied + soil + irrigation water N).
[2] Includes growth cracks, knobs and misshapes
[3] Includes hollow heart and brown center.

Table 7. Effect of nitrogen rate on yield and tuber size distribution of CO99053-3RU, 2010

Nitrogen rate (lb N/ac)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
					Yield (cwt/ac)					
0 (80)[1]	588	36	552(94)[2]	488(83)	450	269(46)	181	283	387	102
60 (110)	612	37	575(94)	527(86)	465	234(38)	231	341	417	110
120 (170)	570	51	519(91)	448(79)	456	254(45)	202	265	385	63
180 (230)	575	45	530(92)	470(82)	431	206(36)	225	324	371	99

[1] Figures in brackets and beside N rate treatments indicate total available N (applied + soil + irrigation water N).
[2] Figures in brackets and beside yield data indicate % of total.

Table 8. Effect of nitrogen rate on tuber quality of CO99053-3RU, 2010

Nitrogen rate (lbN/ ac)	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity
0 (80)[1]	0	0	0.3	0.3	0.8	0	0.8	1.089
60 (110)	0	0	1.3	1.3	2.7	0	2.7	1.087
120 (170)	0	0	2.7	2.7	2.1	0	2.1	1.083
180 (230)	0	0	2.3	2.3	0	0	0	1.080

[1] Figures in brackets indicate total available N (applied + soil + irrigation water N).
[2] Includes growth cracks, knobs and misshapes
[3] Includes hollow heart and brown center.

Table 9. Effect of in-row seed spacing on yield and tuber size distribution of CO99053-3RU, 2010

Seed spacing (inches)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield (cwt/ac)									
10	522	62	460(88)[1]	357(68)	444	308(59)	136	152	357	16
12	561	82	479(85)	360(64)	470	329(59)	141	150	360	9
14	556	83	473(85)	344(62)	463	329(59)	134	145	344	10

[1] Figures in brackets indicate % of total.

Table 10. Effect of in-row seed spacing on tuber quality of CO99053-3RU, 2010

Seed spacing (inches)	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
10	0.8	0	0	0.8	0	0	0	1.096
12	0	0	0.4	0.4	0	0	0	1.094
14	0.6	0	1.6	2.2	0	0	0	1.095

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 11. Yield and tuber size distribution of CO99053-3RU grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
	Yield (cwt/ac)									
1	675	32	643(95)[1]	589	471	220	251	423	417	172
2	554	80	474(86)	375	425	317	108	157	326	49
3	476	89	387(81)	301	387	317	70	71	301	0
4	473	49	424(90)	381	338	218	120	206	295	86
5	563	68	495(88)	384	449	298	151	197	338	46
6	655	31	624(95)	550	526	320	206	304	452	98
Mean	566	58	508(90)	430	433	282	151	226	355	75

[1] Figures in brackets indicate % of total.

Table 12. Tuber quality of CO99053-3RU grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.078
2	1.1	0	0	1.1	0	0	0	1.081
3	2.5	0	0	2.5	0	0	0	1.084
4	0	0	0	0	0	0	0	1.079
5	0.6	0	0.6	1.2	8.1	0	8.1	1.087
6	1.4	0	0.9	2..3	5.6	0	5.6	1.097
Mean	0.9	0	0.3	1.2	2.3	0	2.3	1.084

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 13. Yield and tuber size distribution of CO99053-3RU grown under different management practices, 2009

Field Number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	578	83	495(86)[1]	424	394(68)	243	151	228	323	252	101
2	492	83	409(83)	277	409(83)	304	105	221	277	105	0
3	615	71	544(89)	409	544(89)	412	132	357	409	132	0
4	249	46	203(82)	126	203(82)	191	12	126	126	12	0
5	391	43	348(89)	301	277(71)	160	117	166	231	188	71
6	600	98	502(84)	375	434(72)	274	160	188	308	228	68

[1]Figures in brackets indicate % of total

Table 14. Tuber quality of CO99053-3RU grown under different management practices, 2009

Field number	% External Defects[1]	% Internal Defects[2]
1	3.2	4.3
2	2.5	0
3	1.0	0
4	1.2	0
5	5.5	0
6	2.1	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 15. Effect of in-row seed spacing on yield and tuber size distribution of CO99100-1RU, 2010

Seed spacing (inches)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield (cwt/ac)									
10	521	56	465(89)[1]	327(63)	456	400(77)	56	65	318	9
12	547	45	502(92)	404(74)	482	385(70)	97	118	384	20
14	524	30	494(94)	405(77)	480	349(67)	131	145	391	14

[1] Figures in brackets indicate % of total.

Table 16. Effect of in-row seed spacing on tuber quality of CO99100-1RU, 2010

Seed spacing (inches)	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
10	0.6	0	0	0.6	0	0	0	1.087
12	0	0	0.4	0.4	0.6	0	0.6	1.086
14	2.6	0	0.7	3.3	1.1	0	1.1	1.085

[1] Includes growth cracks, knobs and misshapes
[2] Includes hollow heart and brown center.

Table 17. Effect of in-row seed spacing on tuber diameter of CO99100-1RU, 2010

Seed spacing (inches)	< 2 in. dia.[1]	2 – 4 in. dia.	>4 in. dia.	> 2 in. dia. < 10oz	> 2 in. dia. >10oz	> 2 in. dia.
	Yield (cwt/ac)					
10	45	476	0	411	65	476
12	33	510	4	396	118	514
14	27	497	0	352	145	497

[1]dia. = Diameter

Table 18. Yield and tuber size distribution of CO99100-1RU grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	459	62	397(87)[1]	304	397	289	108	108	304	0
2	378	52	326(86)	243	326	286	40	40	243	0
3	446	92	354(79)	237	335	240	95	114	218	19
4	400	52	348(87)	264	348	237	111	111	264	0
5	400	71	329(82)	154	329	329	0	0	154	0
6	461	55	406(88)	351	351	255	96	151	295	55
Mean	424	64	360(85)	259	348	273	75	87	246	12

[1] Figures in brackets indicate % of total.

Table 19. Tuber quality of CO99100-1RU grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	4.3	0	0	4.3	0	0	0	1.067
2	7.9	0	0	7.9	0	0	0	1.081
3	0	0	0	0	0	0	0	1.071
4	0	0	0	0	0	0	0	1.072
5	0	0	0	0	0	0	0	1.078
6	5.1	0	0	5.1	0	0	0	1.090
Mean	2.9	0	0	2.9	0	0	0	1.078

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 20. Yield and tuber size distribution of CO99100-1RU grown under different management practices, 2009.

Field number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	404	31	374(92)[1]	303	374(92)	265	109	266	303	109	0
2	526	22	504(96)	412	452(86)	292	160	295	360	212	52
3	593	52	541(91)	418	523(88)	434	89	394	400	108	18
4	385	37	348(90)	218	348(90)	326	22	218	218	22	0
5	437	105	332(76)	203	332(76)	277	55	178	203	55	0
6	468	117	351(75)	218	351(75)	271	80	178	218	80	0

[1]Figures in brackets indicate % of total

Table 21. Tuber quality of CO99100-1RU grown under different management practices, 2009.

Field number	% External Defects[1]	% Internal Defects[2]
1	0	0
2	0	0
3	0	0
4	0	0
5	2.1	0
6	0	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 22. Effect of compost and nitrogen application rate on yield and tuber size distribution of Rio Grande Russet, 2010

Treatment	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield (cwt/ac)									
Control compost[1]	448	95	353(79)[2]	203(45)	353	325(73)	28	28	203	0
Control fertilizer	521	78	443(85)	303(58)	429	337(65)	92	105	289	14
1T Full N	540	87	453(84)	317(59)	444	374(69)	70	79	308	9
1T ½ N	466	78	388(83)	253(54)	370	329(71)	41	58	235	18
3T Full N	540	108	432(80)	284(53)	415	329(61)	86	103	267	17
3T ½ N	501	89	412(82)	296(59)	408	300(60)	108	112	292	4
5T Full N	551	96	455(83)	296(54)	445	342(62)	103	112	287	10
5T ½ N	527	86	441(84)	332(63)	418	305(58)	113	136	309	23

[1]Control compost = 3 tons of compost applied per acre; Control fertilizer = 140lb N/ac applied.
Full N = 140lb N/ac applied; ½ N = 70lb N/ac applied.
1T/A = 1 ton of compost applied per acre; 3T/A = 3 tons of compost applied per acre; 5T/A = 5 tons of compost applied per acre.
[2] Figures in brackets indicate % of total.

Table 23. Effect of compost and nitrogen application rate on tuber quality of Rio Grande Russet, 2010

Treatment	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity
Control compost[1]	1.8	0	0	1.8	0	0	0	1.095
Control fertilizer	1.8	1.8	0	3.6	0	0	0	1.090
1T Full N	0.8	0.5	0.4	1.6	0	0	0	1.087
1T ½ N	0.2	0	0	0.2	0	0	0	1.090
3T Full N	1.4	0.7	0	2.1	0	0	0	1.087
3T ½ N	1.3	0.6	0.6	2.5	0	0	0	1.088
5T Full N	1.7	0	1.0	2.7	0	0	0	1.086
5T ½ N	1.0	0	0	1.0	0	0	0	1.085

[1]Control compost = 3 tons of compost applied per acre; Control fertilizer = 140lb N/ac applied.
Full N = 140lb N/ac applied; ½ N = 70lb N/ac applied.
1T/A = 1 ton of compost applied per acre; 3T/A = 3 tons of compost applied per acre; 5T/A = 5 tons of compost applied per acre.
[2] Includes growth cracks, knobs and misshapes
[3] Includes hollow heart and brown center.

Table 24. Effect of compost tea, fungicide application, and nitrogen application rate on yield and tuber size distribution of Rio Grande Russet, 2010

Treatment	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield (cwt/ac)									
80N[1]	553	82	471(85)[2]	363(66)	461	356(64)	105	115	353	10
120N	520	65	455(88)	364(70)	442	282(54)	160	173	351	13
80N – CT	567	77	490(86)	386(68)	476	298(53)	178	192	372	14
120N – CT	582	75	507(87)	413(71)	498	335(58)	163	172	405	9
80N – F	557	71	486(87)	390(70)	464	295(53)	169	191	369	22
120N - F	570	57	513(90)	410(72)	499	362(64)	137	150	396	14

[1]N= Nitrogen Rate (lb N/ac) CT = Compost Tea Applied F = Fungicide Applied

[2] Figures in brackets indicate % of total

Table 25. Effect of compost tea, fungicide application, and nitrogen application rate on tuber quality of Rio Grande Russet, 2010

Treatment	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity
80N[1]	0.8	0	0	0.8	1.1	0	1.1	1.089
120N	2.3	0	0.5	2.8	2.6	0	2.6	1.086
80N – CT	0.6	0	0.4	1.0	2.0	0	2.0	1.094
120N – CT	2.3	0	0.4	2.7	0.9	0	0.9	1.092
80N – F	1.5	0	1.1	2.6	1.6	0	1.6	1.093
120N - F	1.7	0	0.3	2.0	0.9	0	0.9	1.093

[1]N= Nitrogen Rate (lb N/ac) CT =Compost Tea Applied F = Fungicide Applied

[2] Includes growth cracks, knobs and misshapes

[3] Includes hollow heart and brown center.

Table 26. Yield and tuber size distribution of Rio Grande Russet grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	584	46	538(92)[1]	446	515	407	108	131	423	23
2	504	227	277(55)	120	277	277	0	0	120	0
3	480	178	302(63)	103	302	302	0	0	103	0
4	719	80	639(89)	556	617	483	134	157	424	22
5	538	74	464(86)	354	430	301	129	163	320	34
6	477	49	428(90)	314	409	295	114	132	295	19
Mean	550	109	441(80)	316	425	344	81	97	281	16

[1] Figures in brackets indicate % of total.

Table 27. Tuber quality of Rio Grande Russet grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
1	0	1.5	0	1.5	0	0	0	1.079
2	0	0	0	0	0	0	0	1.088
3	2.5	0	0	2.5	0	0	0	1.084
4	0	0	0	0	0	0	0	1.081
5	1.7	0	0	1.7	0	0	0	1.102
6	3.2	1.9	0	5.1	19.0	0	19.0	1.103
Mean	1.2	0.6	0	2.0	3.2	0	3.2	1.090

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 28. Yield and tuber size distribution of Rio Grande Russet grown under different management practices, 2009

Field number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	557	95	461(83)[1]	378	437(79)	286	151	289	354	175	24
2	569	154	415(73)	228	415(73)	335	80	188	228	80	0
3	508	65	443(87)	357	406(80)	286	120	264	320	157	37
4	341	70	271(79)	148	271(79)	262	9	148	148	9	0
5	756	61	695(92)	523	677(89)	416	261	335	504	280	18
6	732	123	609(83)	461	554(76)	363	191	329	406	246	55

[1]Figures in brackets indicate % of total

Table 29. Tuber quality of Rio Grande Russet grown under different management practices, 2009

Field number	% External Defects[1]	% Internal Defects[2]
1	8.8	6.1
2	2.2	0
3	0	0
4	5.4	0
5	0	0
6	5.5	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 30. Effect of compost tea, fungicide application, and nitrogen application rate on yield and tuber size distribution of Russet Norkotah, 2010

Treatment	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield (cwt/ac)									
80N[1]	647	36	611(94)[2]	531(82)	548	281(43)	267	330	468	63
120N	564	34	530(94)	471(84)	466	231(41)	235	299	406	64
80N – CT	585	43	542(93)	467(80)	476	269(46)	207	274	401	66
120N – CT	527	44	483(92)	420(80)	403	243(46)	160	240	340	80
80N – F	603	37	566(94)	509(84)	472	241(40)	231	324	416	94
120N - F	594	38	556(94)	486(82)	462	252(42)	210	304	392	94

[1]N= Nitrogen Rate (lb N/ac) CT = Compost Tea Applied F = Fungicide Applied

[2] Figures in brackets indicate percent of total

Table 31. Effect of compost tea, fungicide application, and nitrogen application rate on tuber quality of Russet Norkotah, 2010

Treatment	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity	
80N[1]	0.1	0	1.3	1.4	0.9	0	0.9	1.081	
120N	0	0	1.1	1.1	1.4	0	1.4	1.077	
80N – CT	0	0.9	0.7	1.6	0	0	0	1.082	
120N – CT	0	0.3	0.8	1.1	1.5	0	1.5	1.077	
80N – F	0	1.4	0.3	1.7	1.8	0	1.8	1.085	
120N - F	0	0.5	0.6	1.1	0.6	0	0.6	1.079	

[1]N= Nitrogen Rate (lb N/ac) CT = Compost Tea Applied F = Fungicide Applied

[2] Includes growth cracks, knobs and misshapes

[3] Includes hollow heart and brown center.

Table 32. Yield and tuber size distribution of Russet Norkotah (sel. 8) grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	590	52	538(91)[1]	431	476	284	192	254	369	62
2	470	83	387(82)	308	301	169	132	218	221	86
3	535	145	390(73)	280	390	258	132	132	280	0
4	578	107	471(82)	363	403	311	92	160	295	68
5	446	37	409(92)	329	332	271	61	138	252	77
6	597	34	563(94)	523	391	228	163	335	351	172
Mean	536	76	460(86)	372	382	254	129	206	295	78

[1] Figures in brackets indicate % of total.

Table 33. Tuber quality of Russet Norkotah (sel. 8) grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.081
2	0	6.0	0	6.0	0	0	0	1.084
3	0	0	1.2	1.2	0	0	0	1.088
4	0	0	3.2	3.2	0	0	0	1.079
5	2.4	1.3	3.4	7.1	0	0	0	1.096
6	0	1.5	0	1.5	9.7	0	9.7	1.092
Mean	0.4	1.5	1.3	3.2	1.6	0	1.6	1.087

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 34. Effect of in-row seed spacing on yield and tuber size distribution of Canela Russet, 2010

Seed spacing (inches)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield(cwt/ac)									
10	544	42	502(92)[1]	407(75)	493	378(70)	115	123	398	9
12	508	25	483(95)	432(85)	419	213(42)	206	270	368	64
14	543	36	507(93)	426(79)	479	294(54)	185	213	398	28

[1] Figures in brackets indicate % of total.

Table 35. Effect of in-row seed spacing on tuber quality of Canela Russet, 2010

Seed spacing (inches)	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
10	0	0	0	0	0	0	0	1.105
12	0	0	0	0	0	0	0	1.134
14	0	0	0	0	0	0	0	1.102

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 36. Yield and tuber size distribution of CO99053-4RU grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	444	60	384(87)[1]	338	384	309	75	75	338	0
2	428	71	357(83)	206	357	329	28	28	206	0
3	424	80	344(81)	258	329	212	117	132	243	15
4	504	61	443(88)	412	409	308	101	135	378	34
5	324	105	219(68)	132	219	191	28	28	132	0
6	449	65	384(86)	298	384	304	80	80	298	0
Mean	429	74	355(83)	274	347	275	72	80	266	8

[1] Figures in brackets indicate % of total

Table 37. Tuber quality of CO99053-4RU grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
1	1.3	0	0	1.3	0	0	0	1.068
2	0	0	0	0	0	0	0	1.083
3	0	0	0	0	0	0	0	1.070
4	0	0	0	0	0	0	0	1.079
5	3.8	0	0	3.8	0	0	0	1.081
6	0	0	0	0	0	0	0	1.097
Mean	0.9	0	0	0.9	0	0	0	1.080

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 38. Yield and tuber size distribution of CO99053-4RU grown under different management practices, 2009

Field number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	409	40	369(90)[1]	341	329(81)	271	58	283	301	98	40
2	443	77	366(83)	225	366(83)	341	25	212	225	25	0
3	615	80	535(87)	406	535(87)	455	80	378	406	80	0
4	372	61	311(84)	169	311(84)	274	37	145	169	37	0
5	364	69	295(81)	154	295(81)	274	21	141	154	21	0
6	495	104	391(79)	252	391(79)	289	102	203	252	102	0

[1]Figures in brackets indicate % of total

Table 39. Tuber quality of CO99053-4RU grown under different management practices, 2009

Field number	% External Defects[1]	% Internal Defects[2]
1	4.5	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 40. Yield and tuber size distribution of AC00395-2RU grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
	Yield (cwt/ac)									
1	590	77	513(87)[1]	383	498	370	128	145	367	15
2	671	200	471(70)	145	471	449	22	22	145	0
3	489	111	378(77)	206	363	323	40	55	191	15
4	519	37	482(93)	351	467	356	111	126	335	15
5	403	68	335(83)	277	264	129	135	206	206	71
6	421	77	344(82)	209	304	283	21	62	169	40
Mean	516	95	421(82)	262	395	319	76	103	236	26

[1] Figures in brackets indicate % of total.

Table 41. Tuber quality of AC00395-2RU grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.090
2	0	0	0	0	0	0	0	1.104
3	0	0	0	0	0	0	0	1.093
4	0	0	0	0	0	0	0	1.088
5	0	0	0	0	0	0	0	1.096
6	0	9.5	0	9.5	9.5	0	9.5	1.108
Mean	0	1.6	0	1.6	1.6	0	1.6	1.097

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 42. Yield and tuber size distribution of SANGRE (S10) grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	819	95	724(88)[1]	593	638	431	207	294	507	86
2	520	111	409(79)	249	409	354	55	55	249	0
3	523	98	425(81)	338	394	326	68	98	308	31
4	526	68	458(87)	357	437	372	65	86	335	21
5	354	55	299(85)	271	225	148	77	151	197	74
6	218	46	172(79)	111	172	123	49	49	111	0
Mean	493	79	415(84)	320	379	292	87	122	285	35

[1] Figures in brackets indicate % of total.

Table 43. Tuber quality of SANGRE (S10) grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.070
2	0	0	0	0	0	0	0	1.076
3	0	0	0	0	0	0	0	1.068
4	0	0	0	0	0	0	0	1.071
5	0	0	0	0	0	0	0	1.084
6	2.8	0	0	0	0	0	0	1.069
Mean	0.5	0	0	0.5	0	0	0	1.073

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 44. Tuber diameter of SANGRE (S10) grown under different management practices, 2010

Field Number	< 2 in. dia.[1]	2 – 4 in. dia.	4 in. dia.	> 2 in. < 10oz	> 2 in. > 10oz	> 2 in. dia.
	yield (cwt/ac)					
1	38	781	0	487	294	781
2	44	476	0	351	125	476
3	43	480	0	366	114	480
4	15	511	0	398	113	511
5	35	319	0	160	159	319
6	17	201	0	125	76	201
Mean	32	461	0	315	147	461

[1]dia. = Diameter

Table 45. Yield and tuber size distribution of *CO00277*-2R grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
	Yield (cwt/ac)									
1	305	108	197(65)[1]	120	197	151	46	46	120	0
2	184	49	135(73)	71	135	135	0	0	71	0
3	335	169	166(50)	71	166	157	9	9	71	0
4	461	117	344(75)	188	344	332	12	12	188	0
5	126	68	58(46)	37	58	49	9	9	37	0
6	135	55	80(59)	58	58	49	9	31	37	22
Mean	258	94	164(65)	91	160	146	14	18	87	4

[1] Figures in brackets indicate % of total.

Table 46. Tuber quality of *CO00277*-2R grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.061
2	0	0	0	0	0	0	0	1.074
3	0	0	0	0	0	0	0	1.076
4	0	0	0	0	0	0	0	1.073
5	0	0	0	0	0	0	0	1.073
6	6.8	0	0	6.8	0	0	0	1.072
Mean	1.1	0	0	1.1	0	0	0	1.072

[1] Includes growth cracks, knobs and misshapes
[2] Includes hollow heart and brown center.

Table 47. Tuber diameter of *CO00277*-2R grown under different management practices, 2010

Field Number	< 2 in. dia.[1]	2 – 4 in. dia.	4 in. dia.	> 2 in. < 10oz	> 2 in. > 10oz	> 2 in. dia.
	yield (cwt/ac)					
1	57	248	0	198	50	248
2	25	159	0	159	0	159
3	64	271	0	261	10	271
4	31	430	0	384	46	430
5	49	77	0	62	15	77
6	32	81	22	74	29	103
Mean	43	211	4	190	25	215

[1]dia. = Diameter

Table 48. Yield and tuber size distribution of CO00277-2R grown under different management practices, 2009

Field Number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	308	80	228(74)[1]	157	206(67)	169	37	108	135	58	22
2	498	163	335(67)	135	335(67)	314	21	135	135	21	0
3	544	111	433(80)	332	433(80)	295	138	289	332	138	0
4	446	102	344(77)	197	344(77)	295	49	197	197	49	0
5	489	197	292(60)	138	292(60)	283	9	138	138	9	0
6	541	120	421(78)	298	403(74)	255	148	215	280	166	18

[1]Figures in brackets indicate % of total

Table 49. Tuber quality of CO00277-2R grown under different management practices, 2009

Field number	% External Defects[1]	% Internal Defects[2]
1	0	0
2	4.3	0
3	0	0
4	0	0
5	0	0
6	0	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 50. Yield and tuber size distribution of CO00291-5R grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	667	129	538(81)[1]	392	538	453	85	85	392	0
2	427	95	332(78)	172	332	280	52	52	172	0
3	446	258	188(42)	43	188	188	0	0	43	0
4	546	161	385(71)	231	385	363	22	22	231	0
5	508	166	342(67)	194	342	311	31	31	194	0
6	335	184	151(45)	46	151	142	9	9	46	0
Mean	488	166	323(66)	180	323	290	33	33	180	0

[1] Figures in brackets indicate % of total.

Table 51. Tuber quality of CO00291-5R grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.078
2	0	0	0	0	0	0	0	1.086
3	0	0	0	0	0	0	0	1.080
4	0	0	0	0	0	0	0	1.082
5	0	0	0	0	0	0	0	1.090
6	1.8	0	0	1.8	0	0	0	1.069
Mean	0.3	0	0	0.3	0	0	0	1.081

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 52. Tuber diameter of CO00291-5R grown under different management practices, 2010

Field Number	< 2 in. dia.[1]	2 – 4 in. dia.	4 in. dia.	> 2 in. < 10oz	> 2 in. > 10oz	> 2 in. dia.
	yield (cwt/ac)					
1	51	616	0	529	87	616
2	37	390	0	338	52	390
3	111	335	0	335	0	335
4	83	463	0	421	42	463
5	80	428	0	397	31	428
6	111	224	0	209	15	224
Mean	79	409	0	372	38	409

[1]dia. = Diameter

Table 53. Yield and tuber size distribution of CO00291-5R grown under different management practices, 2009

Field Number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	507	117	390(77)[1]	277	390(77)	341	49	264	277	49	0
2	301	218	83(28)	6	83(28)	83	0	6	6	0	0
3	575	138	437(76)	221	437(76)	415	22	221	221	22	0
4	465	197	268(58)	120	268(58)	268	0	120	120	0	0
5	360	123	237(66)	120	237(66)	188	49	92	120	49	0
6	588	148	440(75)	264	440(75)	409	31	264	264	31	0

[1]Figures in brackets indicate % of total

Table 54. Tuber quality of CO00291-5R grown under different management practices, 2009

Field number	% External Defects[1]	% Internal Defects[2]
1	0	0
2	0	0
3	0	0
4	0	0
5	0.9	0
6	0	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 55. Effect of nitrogen rate on yield and tuber size distribution of AC99329-7PW/Y, 2010

Nitrogen rate (lb N/ac)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield(cwt/ac)									
0 (61)[1]	367	147	220(60)[2]	90(25)	220	211(58)	9	9	90	0
60 (90)	456	132	324(71)	173(38)	324	306(67)	18	18	173	0
120 (150)	484	129	355(73)	190(39)	355	320(66)	35	35	190	0
180 (210)	479	132	347(72)	216(45)	347	298(62)	49	49	216	0

[1] Figures in brackets and beside N rate treatments indicate total available N (applied + soil + irrigation water N).
[2] Figures in brackets and beside yield data indicate % of total.

Table 56. Effect of nitrogen rate on tuber quality of AC99329-7PW/Y, 2010

Nitrogen rate (lb N/ac)	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity
0 (61)[1]	0	0	0	0	0	0	0	1.098
60 (90)	0	0	0	0	0	0	0	1.094
120 (150)	0	0	0	0	0	0	0	1.092
180 (210)	0	0	0	0	0	0	0	1.091

[1] Figures in brackets indicate total available N (applied + soil + irrigation water N).
[2] Includes growth cracks, knobs and misshapes
[3] Includes hollow heart and brown center.

Table 57. Effect of nitrogen rate on tuber diameter of AC99329-7PW/Y, 2010

Nitrogen rate (lb N/ac)	< 2 in. dia.[2]	2 – 4 in. dia.	> 4 in. dia.	> 2 in. < 10oz	> 2in. > 10oz
	Yield (cwt/ac)				
0 (61)[1]	67	300	0	291	9
60 (90)	62	394	0	376	18
120 (150)	50	434	0	399	35
180 (210)	54	425	0	376	49

[1] Figures in brackets indicate total available N (applied + soil + irrigation water N).
[2] dia. = Diameter

Table 58. Effect of in-row seed spacing on yield and tuber size distribution of AC99329-7PW/Y, 2010

Seed spacing (inches)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield(cwt/ac)									
10	515	167	348(68)[1]	183(36)	348	329(64)	19	19	183	0
12	517	146	371(72)	235(46)	371	326(63)	45	45	235	0
14	564	165	399(71)	238(42)	394	346(61)	48	53	234	5

[1] Figures in brackets indicate % of total.

Table 59. Effect of in-row seed spacing on tuber quality of AC99329-7PW/Y, 2010

Seed spacing (inches)	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
10	0	0	0	0	0	0	0	1.094
12	0	0	0	0	0	0	0	1.085
14	0	0	0	0	0	0	0	1.094

[1] Includes growth cracks, knobs and misshapes
[2] Includes hollow heart and brown center.

Table 60. Effect of in-row seed spacing on tuber diameter of AC99329-7PW/Y, 2010

Seed spacing (inches)	< 2 in. dia.[1]	2 – 4 in. dia.	> 4 in. dia.	> 2 in. < 10oz	> 2in. > 10oz
	Yield (cwt/ac)				
10	77	438	0	419	19
12	54	463	0	418	45
14	70	494	0	441	53

[1]dia = Diameter

Table 61. Effect of nitrogen rate on yield and tuber size distribution of Purple Majesty, 2010

Nitrogen rate (lb N/ac)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield(cwt/ac)									
0 (68)[1]	510	295	215(42)[2]	65(13)	215	209(41)	6	6	65	0
60 (98)	539	298	241(45)	87(16)	241	241(45)	0	0	87	0
120 (158)	590	273	317(54)	146(25)	317	286(49)	31	31	146	0
180 (218)	585	255	330(56)	164(28)	326	302(52)	24	28	160	4

[1] Figures in brackets and beside N rate treatments indicate total available N (applied + soil + irrigation water N).
[2] Figures in brackets and beside yield data indicate % of total.

Table 62. Effect of nitrogen rate on tuber quality of Purple Majesty, 2010

Nitrogen rate (lb N/ac)	% Growth Cracks	% Knobs	% Misshapes	% External[2] Defects	% Hollow Heart	% Brown Center	% Internal[3] Defects	Specific Gravity
0 (68)[1]	0	0	0	0	0.4	0	0.4	1.089
60 (98)	0.2	0	0	0.2	0.9	0	0.9	1.089
120 (158)	0	0	0	0	2.2	0	2.2	1.080
180 (218)	0	0	0	0	1.8	0	1.8	1.081

[1] Figures in brackets indicate total available N (applied + soil + irrigation water N).
[2] Includes growth cracks, knobs and misshapes
[3] Includes hollow heart and brown center.

Table 63. Effect of in-row seed spacing on yield and tuber size distribution of Purple Majesty, 2010

Seed spacing (inches)	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10 – 16oz	> 10oz	6 – 16oz	> 16oz
	Yield(cwt/ac)									
10	607	331	276(46)[1]	90(15)	276	269(44)	7	7	90	0
12	574	339	235(41)	67(12)	235	230(40)	5	5	67	0
14	579	325	254(44)	85(15)	254	246(43)	8	8	85	0

[1] Figures in brackets indicate % of total.

Table 64. Effect of in-row seed spacing on tuber quality of Purple Majesty, 2010

Seed spacing (inches)	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
10	0	0	0	0	1.3	0	1.3	1.086
12	0	0	0	0	0	0	0	1.086
14	0	0	0	0	0.7	0	0.7	1.085

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 65. Yield and tuber size distribution of Purple Majesty grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
	Yield (cwt/ac)									
1	672	288	384(57)[1]	180	384	349	35	35	180	0
2	587	286	301(51)	105	301	301	0	0	105	0
3	498	366	132(27)	68	132	113	19	19	68	0
4	489	295	194(40)	68	194	178	16	15	68	0
5	603	274	329(55)	157	329	292	37	37	157	0
6	495	224	271(55)	154	271	228	43	43	154	0
Mean	557	289	269(48)	122	269	244	25	25	122	0

[1] Figures in brackets indicate % of total.

Table 66. Tuber quality of Purple Majesty grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.068
2	0	0	0	0	0	0	0	1.082
3	0	0	0	0	0	0	0	1.074
4	0	0	0	0	0	0	0	1.080
5	0	0	0	0	0	0	0	1.086
6	0	0	0	0	0	0	0	1.082
Mean	0	0	0	0	0	0	0	1.079

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 67. Yield and tuber size distribution of Yukon Gold grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
	Yield (cwt/ac)									
1	616	52	564(92)[1]	529	526	300	226	264	490	38
2	618	52	566(92)	498	498	240	258	326	431	68
3	520	71	449(86)	360	449	357	92	92	360	0
4	400	40	360(90)	286	345	250	95	111	271	15
5	194	13	181(93)	169	141	43	98	138	129	40
6	461	40	421(91)	360	387	221	166	200	326	34
Mean	468	45	424(91)	367	391	235	156	189	335	33

[1] Figures in brackets indicate % of total.

Table 68. Tuber quality of Yukon Gold grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.071
2	0	0	0	0	0	0	0	1.083
3	0	0	0	0	0	0	0	1.082
4	0	0	0	0	0	0	0	1.081
5	0	0	0	0	10	0	10	1.086
6	0	0	0	0	0	0	0	1.090
Mean	0	0	0	0	1.7	0	1.7	1.082

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 69. Yield and tuber size distribution of ATC00293-1W/Y grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	676	60	616(91)[1]	475	564	375	189	241	423	52
2	594	102	492(83)	344	492	394	98	98	344	0
3	541	160	381(70)	237	381	316	65	65	237	0
4	722	82	640(89)	535	606	366	240	274	501	34
5	480	59	421(88)	357	329	194	135	228	264	92
6	480	86	394(82)	307	394	323	71	71	308	0
Mean	582	92	491(84)	376	461	328	133	163	346	30

[1] Figures in brackets indicate % of total.

Table 70. Tuber quality of ATC00293-1W/Y grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.070
2	0	0	0	0	0	0	0	1.073
3	1.1	0	0	1.1	0	0	0	1.079
4	0	0	0	0	0	0	0	1.067
5	40	0	0	40	1.9	0	1.9	1.072
6	1.1	0	0	1.1	5.7	0	5.7	1.083
Mean	7.0	0	0	7.0	1.3	0	1.3	1.074

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 71. Yield and tuber size distribution of ATC00293-1W/Y grown under different management practices, 2009

Field Number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	556	40	516(93)[1]	464	461(83)	264	197	304	409	252	55
2	406	89	317(78)	181	298(740	261	37	135	163	55	19
3	588	117	471(80)	308	471(80)	391	80	292	308	80	0
4	403	62	341(84)	255	320(790	258	62	206	234	83	21
5	513	52	461(90)	384	446(86)	320	126	317	369	141	15
6	535	101	434(81)	366	412(77)	203	209	200	344	231	22

[1]Figures in brackets indicate % of total

Table 72. Tuber quality of ATC00293-1W/Y grown under different management practices, 2009

Field number	% External Defects[1]	% Internal Defects[2]
1	3.9	0
2	1.5	0
3	0	0
4	0.8	0
5	0	0
6	3.4	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 73. Yield and tuber size distribution of CO00412-5W/Y grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
	Yield (cwt/ac)									
1	404	112	292(72)[1]	183	292	246	46	46	183	0
2	575	203	372(65)	188	372	341	31	31	188	0
3	357	188	169(47)	98	169	135	34	34	98	0
4	458	126	332(73)	215	332	286	46	46	215	0
5	292	58	234(80)	197	215	129	86	105	178	19
6	357	224	133(37)	71	133	133	0	0	71	0
Mean	407	152	255(63)	159	252	212	41	44	156	4

[1] Figures in brackets indicate % of total.

Table 74. Tuber quality of CO00412-5W/Y grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.081
2	0	0	0	0	0	0	0	1.084
3	0	0	0	0	0	0	0	1.088
4	0	0	0	0	0	0	0	1.079
5	7.3	1.1	4.2	12.6	0	0	0	1.096
6	0	0	0	0	0	0	0	1.092
Mean	1.2	0.2	0.7	2.1	0	0	0	1.087

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 75. Yield and tuber size distribution of CO00412-5W/Y grown under different management practices, 2009

Field Number	Total	< 4oz	> 4oz	> 6oz	4 – 16oz	4 – 10oz	10-16oz	6 – 12oz	6 – 16oz	>10oz	> 16oz
	Yield (cwt/ac)										
1	587	89	498(85)[1]	378	498(85)	320	178	317	378	178	0
2	440	120	320(73)	228	320(73)	274	46	203	228	46	0
3	603	123	480(80)	249	480(80)	480	0	249	249	0	0
4	618	135	483(78)	283	483(78)	471	12	283	283	12	0
5	726	197	529(73)	323	529(73)	458	71	283	323	71	0
6	707	157	550(78)	366	535(76)	387	148	255	351	163	15

[1]Figures in brackets indicate % of total

Table 76. Tuber quality of CO00412-5W/Y grown under different management practices, 2009

Field number	% External Defects[1]	% Internal Defects[2]
1	2.1	2.6
2	2.1	0
3	0	0
4	1.5	0
5	2.1	0
6	1.7	0

[1]Includes growth cracks, knobs and misshapes
[2]Includes hollow heart and brown center

Table 77. Yield and tuber size distribution of CO01399-10P/Y under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
	Yield (cwt/ac)									
1	480	177	303(63)[1]	185	303	283	20	20	185	0
2	510	190	320(63)	132	320	311	9	9	132	0
3	375	160	215(57)	138	215	184	31	31	138	0
4	480	135	345(72)	261	345	283	62	62	261	0
5	397	71	326(82)	271	307	132	175	194	252	19
6	465	157	308(66)	141	308	308	0	0	141	0
Mean	451	148	303(67)	188	300	250	50	53	185	3

[1] Figures in brackets indicate % of total.

Table 78. Tuber quality of CO01399-10P/Y grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	4.7	0	0	4.7	0	0	0	1.068
2	0	0	0	0	0	0	0	1.070
3	1.6	0	0	1.6	0	0	0	1.068
4	0	0	0	0	0	0	0	1.071
5	28	0	0	28	10	0	0	1.071
6	2.6	0	0	2.6	0	0	0	1.073
Mean	6.1	0	0	6.1	1.7	0	1.7	1.070

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 79. Yield and tuber size distribution of TC0272-3P/P grown under different management practices, 2010

Field Number	Total	< 4oz	> 4oz	> 6oz	4–16oz	4–10oz	10-16oz	>10oz	6-16oz	>16oz
					Yield (cwt/ac)					
1	460	421	39(9)[1]	0	39	39	0	0	0	0
2	406	403	3(1)	0	3	3	0	0	0	0
3	313	298	15(5)	0	15	15	0	0	0	0
4	443	400	43(10)	6	43	43	0	0	0	0
5	286	271	15(5)	0	15	15	0	0	0	0
6	400	369	31(8)	0	31	31	0	0	6	0
Mean	384	360	24(6)	1	24	24	0	0	1	0

[1] Figures in brackets indicate % of total.

Table 80. Tuber quality of TC0272-3P/P grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.075
2	0	0	0	0	0	0	0	1.085
3	0	0	0	0	0	0	0	1.082
4	0	0	0	0	0	0	0	1.091
5	0	0	0	0	0	0	0	1.087
6	0	0	0	0	0	0	0	1.097
Mean	0	0	0	0	0	0	0	1.086

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

Table 81. Tuber diameter of CO00405-1R (Fingerling) grown under different management practices, 2010

Field Number	< 1in. dia.[1]	1 - 11/2in. dia.	11/2 in. – 2 in. dia.	> 2in. dia.	Total
	Yield (cwt/ac)				
1	8	123	271	25	427
2	9	117	185	22	333
3	12	119	175	6	312
4	3	74	197	15	289
5	15	154	83	0	252
6	6	58	197	34	295
Mean	9	108	185	17	318

[1] dia. = Diameter

Table 82. Tuber length of CO00405-1R (Fingerling) grown under different management practices, 2010

Field Number	< 2 in.	2 – 4 in.	> 4 in.	Total
	Yield (cwt/ac)			
1	17	191	217	425
2	15	212	102	329
3	31	225	58	314
4	15	215	58	288
5	28	200	25	253
6	12	175	105	292
Mean	20	203	94	317

Table 83. Tuber quality of CO00405-1R (Fingerling) grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal [2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.071
2	0	0	0	0	0	0	0	1.079
3	0	0	0	0	0	0	0	1.070
4	0	0	0	0	0	0	0	1.081
5	0	0	0	0	0	0	0	1.080
6	0	0	0	0	0	0	0	1.073
Mean	0	0	0	0	0	0	0	1.076

[1] Includes growth cracks, knobs and misshapes
[2] Includes hollow heart and brown center.

Table 84. Tuber diameter of CO00415-1R (Fingerling) grown under different management practices, 2010

Field Number	< 1in. dia.[1]	1 - 11/2in. dia.	11/2 in. – 2 in. dia.	> 2in. dia.	Total
	Yield (cwt/ac)				
1	9	128	311	68	516
2	6	123	240	37	406
3	6	135	225	12	378
4	6	95	129	19	249
5	6	111	234	25	376
6	3	34	169	98	304
Mean	6	104	218	43	372

[1] dia. = Diameter

Table 85. Tuber length of CO00415-1R (Fingerling) grown under different management practices, 2010

Field Number	< 2 in.	2 – 4 in.	> 4 in.	Total
	Yield (cwt/ac)			
1	22	294	198	514
2	28	261	123	412
3	22	304	52	378
4	25	163	62	250
5	19	304	37	360
6	15	154	126	295
Mean	22	247	100	368

Table 86. Tuber quality of CO00415-1R (Fingerling) grown under different management practices, 2010

Field Number	% Growth Cracks	% Knobs	% Misshapes	% External[1] Defects	% Hollow Heart	% Brown Center	% Internal[2] Defects	Specific Gravity
1	0	0	0	0	0	0	0	1.064
2	0	0	0	0	0	0	0	1.069
3	0	0	0	0	0	0	0	1.073
4	0	0	0	0	0	0	0	1.072
5	0	0	0	0	0	0	0	1.070
6	0	0	0	0	0	0	0	1.068
Mean	0	0	0	0	0	0	0	1.069

[1] Includes growth cracks, knobs and misshapes

[2] Includes hollow heart and brown center.

2010 GROWER FIELD MANAGEMENT PRACTICES

FIELD # 1
Summary of soil type and some management practices

Soil Type	Previous Crop	Irrigation Water (in.)	Days to Vine Kill
Sandy Loam	Malt Barley	22	Dry Down (No Kill)

Summary of Fertilizer Applied

lb N/ac	lb P_2O_5/ac	lb K_2O/ac	lb S/ac	lb Mg/ac	lb Zn/ac
145	118	83	36	4.1	2.2

FIELD # 2
Summary of soil type and some management practices

Soil Type	Previous Crop	Irrigation Water (in.)	Days to Vine Kill
Sandy Loam	Malt Barley	18	110

Summary of Fertilizer Applied

lb N/ac	lb P_2O_5/ac	lb K_2O/ac	lb S/ac	lb Mg/ac	lb Zn/ac
150	118	142	36	5.4	2.2

IELD # 3
Summary of soil type and some management practices

Soil Type	Previous Crop	Irrigation Water (in.)	Days to Vine Kill
Sandy Loam	Potato	18	130

Summary of Fertilizer Applied

lb N/ac	lb P_2O_5/ac	lb K_2O/ac	lb S/ac	lb Ca/ac
140	190	75	66	30

FIELD # 4
Summary of soil type and some management practices

Soil Type	Previous Crop	Irrigation Water (in.)	Days to Vine Kill
Sandy Loam	Potato	18	123

Summary of Fertilizer Applied

lb N/ac	lb P_2O_5/ac	lb K_2O/ac	lb S/ac	lb Ca/ac
107	173	75	53	20

FIELD # 5
Summary of soil type and some management practices

Soil Type	Previous Crop	Irrigation Water (in.)	Days to Vine Kill
Sandy Loam	Barley	22	112

Summary of Fertilizer Applied

lb N/ac	lb P_2O_5/ac	lb K_2O/ac	lb S/ac
60	0	0	20

FIELD # 6
Summary of soil type and some management practices

Soil Type	Previous Crop	Irrigation Water (in.)	Days to Vine Kill
Sandy Loam	Barley	22	110

Summary of Fertilizer Applied

lb N/ac	lb P_2O_5/ac	lb K_2O/ac	lb S/ac
103	0	0	20