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REPORT of RESULTS from the 2000 OHIO POTATO GERMPLASM EVALUATIONS

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the NORTH-CENTRAL (NCR84) and NORTHEAST (NE184) REGIONAL PROJECTS COOPERATING

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OHIO POTATO GERMPLASM EVALUATIONS - 2000

Summary

Ohio cooperates with the USDA and breeders in six U.S. states and Canada in evaluating varieties and experimental lines of fresh and processing potatoes. In 2000, we evaluated a total of 157 varieties and experimental lines developed in ten breeding programs (Table 1). Entries were placed into one of four experiments (Table 2) completed at the Ohio Agricultural Research and Development Center (OARDC) in Wooster, OH; the North-central Regional Project 84 (NCR84), the Northeast Regional Project 184 (NE184), the Double Observation (D), and Single Observation (S). The studies were established to evaluate the growth and market traits of each entry when grown under non-irrigated conditions in Ohio. The fact that the trials at the OARDC are not irrigated tends to affect the performance of individual entries. Marketable yield of seven varieties and seasonal rainfall for 1993-2000 at the OARDC are shown in Table 3.

Approximately equal portions of Ohio's potato crop are sold fresh market and to potato chip manufacturers. Therefore, as in past years, the cooking quality and chipping characteristics of entries were evaluated. In 2000, cooking or chipping quality was evaluated in 16 and 105 entries, respectively.

Procedures

Planting

Seed potatoes were cut and treated with Mancozeb and then cured and stored under recommended temperature and humidity conditions at the OARDC. Table 4 contains information on cultural, nutrient, and pest management practices. Table 6 contains pre-plant soil analysis results. Soil type was a well-drained Wooster silt loam. All entries in the NCR84 and NE184 experiments were replicated three times. Entries in the Observation studies were replicated once or twice depending on seed availability (Table 2). Plant stands were recorded.

Field Observations

Whole plots were harvested on Sept 22 and 23. At harvest, observations were taken on tuber characteristics and total plot tuber weight was recorded. Observations included tuber shape, color, surface texture, eye depth, general appearance, and uniformity. These observations, along with yield data, determined which entries from the Observation Trials were included in chip and cooking quality evaluations and which may be evaluated in 2000. A 15-20 lb sample from each entry in the North Central and North East Trials and from promising entries in the Observation Trials were saved for chipping. In addition, 40 lb samples were graded for size on October 26. At grading, 10 randomly selected tubers from each replicate were examined for hollow heart and other internal defects. Scab and external defects were rated in a second random sample of 20 tubers.

Chipping and Cooking Quality Evaluations

Samples were held in refrigerated storage (44-48° F) September 22-November 13, warmed to 57° F November 14-20, and then removed from storage and held under ambient conditions (approx. 70° F) until being processed on November 22.

For chipping quality evaluation, 4-5 randomly selected tubers were placed in an abrasive peeler and sliced to an approximate thickness of 0.063 inches (approximately 16 slices per inch). Raw slices were rinsed in cold water and then fried in a continuous fryer containing clear liquid shortening maintained at 185°C (355°F). After frying, a representative sample was taken for visual color evaluation by the standards contained in the manual published by the SFA by which chips light in color are scored "1" and very dark chips are scored "5." Chip color was also measured with an Agtron Electronic Model M-350. Agtron readings and chip color are negatively related (high readings indicate lighter chip color). Samples were also evaluated for blistering. The percentage of chips with blister(s) greater than 1 cm (0.39in.) was recorded.

Cooking quality was also assessed in twelve entries by Dr. Winston Bash and others at The OSU Food Industries Center.

Results

Yield, plant and tuber trait, and chipping quality data are presented in Tables 7-15. Results from the cooking quality evaluations and observations made at harvest are presented at the end of this report. Total and U.S. Number 1 yield averaged 188 and 138 cwt/A across all studies, respectively, with a range of 94-397 cwt/A. Average total yield was 204, 192, 187, and 145 cwt/A in the double-observation, single-observation, Northeast, and North-central studies, respectively. Twenty-five entries were rated as early, sixty-four as mid-season, and sixty-four as late. Post-harvest evaluation results indicate that of 106 entries evaluated, most had tan-colored, moderately-smooth skin and mostly round tubers. Overall tuber appearance was rated poor-fair, fair-good, and good-excellent in thirty-four, fifty-six, and sixteen entries, respectively. Of the 105 entries evaluated for chipping quality, specific gravity was ≥1.080 in fifty-eight entries and chip quality (based on SFA color and percent blistering) was acceptable in twenty-five entries. Twenty-three of the twenty-five entries with acceptable chip quality were experimental lines. It is important to note that "cold chipping ability" was estimated in this study. Tubers were re-conditioned for a relatively short time before processing. Culinary quality was also assessed in sixteen entries by Dr. Winston Bash and others at The OSU Food Industries Center

Table 1. List of programs participating in the 2000 Ohio Potato Germplasm Evaluations.

			2000 "experiment"				
Number	**Abbreviation**	**Program**	**NCR-84**	**NE-184**	**Double**	**Single**	**Total**
			# entries in 2000 "experiment"				
1	AF	Univ. Maine		2	7	34	43
2	ARS	USDA-ARS				8	8
3	B	Beltsville		17	12	16	45
4	CO	Colorado State Univ.		1			1
5	MSA	Michigan State Univ.	1				1
6	MSB	Michigan State Univ.	1				1
7	MSE	Michigan State Univ.	1				1
8	MSF	Michigan State Univ.	1				1
9	MN	Univ. Minnesota	4				4
10	ND	North Dakota State Univ.	3				3
11	NY	New York		2			2
12	R	Cornell			1		1
13	S	Cornell		1		1	2
14	V	Ag and Agri-Food Canada	4				4
15	W	Univ. Wisconsin	4	2			6
16	T # only	Cornell			1	7	8
17	named variety	various	7	8	2	3	20
		Total	26	33	23	69	151

	2000 "experiment"				
Program	**NCR-84**	**NE-184**	**Double**	**Single**	**Total**
	# entries in 2000 "experiment"				
ARS				8	8
Beltsville		17	12	16	45
Canada experimental	4				4
Canada named varieties			1	2	3
Colorado State Univ.		1			
Maine		2	7	34	43
Michigan	4				4
Minnesota	4				4
New York		3	2	8	13
North Dakota	3				3
Wisconsin	4	2			6
U.S. named varieties	7	8	1	1	17
Total	26	33	23	69	151

Table 2. List of varieties and experimental lines planted in the Ohio Potato Germplasm Evaluations at the Ohio Agricultural Research and Development Center (OARDC) in Wooster, OH in 2000.

Experiment

NE-184 Regional Project

1. **Snowden**
2. **Dark Red Norland**
3. **CO 86218-2**
4. **AF 1758-7**
5. **NY 112**
6. **W-1242**
7. **Kennebec**
8. **Chieftain**
9. **Superior**
10. **W-1313**
11. **Katahdin**
12. **NY 115**
13. **Yukon Gold**
14. **Atlantic**
15. **S 32-3**
16. **3782 Norland**
17. **B 1497-33**
18. **B 1339-2**
19. **B 1240-1**
20. **Snowden**
21. **B 1828-4**
22. **Chieftain**
23. **B 1758-4**
24. **B 1758-3**
25. **B 0564-9**
26. **B 1826-1**
27. **B 1145-2**
28. **Superior**
29. **B 0564-8**
30. **B 0766-3**
31. **B 1712-18**
32. **B 1523-4**
33. **Katahdin**
34. **B 1709-6**
35. **Atlantic**
36. **B 1806-8**
37. **B 0178-34**
38. **AF 1763-2**
39. **B 1240-1**

NCR-84 Regional Project

1. **V 0123-25**
2. **V 0056-1**
3. **V 0024-6**
4. **V 0168-3**
5. **W-1386**
6. **W-1368**
7. **MSB 107-1**
8. **MSE 018-1**
9. **MSA 091-1**
10. **MSF 373-8**
11. **Atlantic**
12. **Red Pontiac**
13. **NorValley**
14. **Snowden**
15. **MN 17993**
16. **MN 18365**
17. **MN 17989**
18. **MN 18713**
19. **W-1431**
20. **W 1355-1**
21. **Russet Burbank**
22. **ND 4093-4 Russ**
23. **ND 3574-5R**
24. **ND 3196-1R**
25. **Russet Norkotah**
26. **Dark Red Norland**

Double Observation Trial

1. **AF 1938-3**
2. **AF 1565-12**
3. **AF 1569-2**
4. **AF 1615-1**
5. **AF 1668-60**
6. **AF 2047-2**
7. **AF 1763-2**
8. **R 17-7**
9. **T 20-15**
10. **B1327-6**
11. **B 1763-4**
12. **B 1870-3**
13. **Rideau**
14. **B 1878-7**
15. **B 1870-1**
16. **B0811-4**
17. **B 1872-8**
18. **Super Red Norland**
19. **B 1752-5**
20. **B 1876-10**
21. **B 1829-5**
22. **B 1497-22**
23. **B 1884-9**

Single Observation Trial

1. **AF 2079-9**
2. **AF 2059-1**
3. **AF 2082-3**
4. **AF 2082-7**
5. **AF 2069-5**
6. **AF 2147-1**
7. **AF 2079-7**
8. **AF 2059-16**
9. **AF 2129-37**
10. **AF 2065-3**
11. **AF 2088-10**
12. **AF 2129-19**
13. **AF 2082-10**
14. **AF 2096-1**
15. **AF 2153-1**
16. **AF 2078-5**
17. **ARSW 96-4654-1**
18. **AF 2135-1**
19. **ARSW 96-584-2**
20. **ARSW 96-4665-1**
21. **AF 2055-8**
22. **ARSW 96-4662-2**
23. **AF 2115-1**
24. **AF 2147-3**
25. **AF 2151-1**
26. **ARSW 96-584-1**
27. **AF 2081-3**
28. **AF 2059-6**
29. **AF 2061-2**
30. **AF 2091-6**
31. **Ware's Pride (1047)**
32. **AF 2138-1**
33. **ARSW 96-40006-1**
34. **ARSW 96-40022-5**
35. **AF 2129-28**
36. **ARSW 96-4661-3**
37. **AF 2086-11**
38. **AF 2129-1**
39. **AF 2082-12**
40. **AF 2082-18**
41. **AF 2055-1**
42. **AF 2086-18**
43. **AF 2129-17**
44. **Kennebec**
45. **T 35-34**
46. **T 2-2**
47. **T 3-9**
48. **T 3-5**
49. **T 35-39**
50. **T 28-1**
51. **T 27-21**
52. **B 1912-7**
53. **B 1946-3**
54. **B 1950-8**
55. **B 1964-4**
56. **B 1316-5**
57. **B 1801-3**
58. **B 1928-4**
59. **B 1922-3**
60. **B 1915-14**
61. **B 1924-1**
62. **B 1952-2**
63. **B 1927-14**
64. **B 1856-10**
65. **B 1947-6**
66. **B 1816-5**
67. **B 1952-4**
68. **Divina**
69. **Adora**

Table 3. Marketable yield of standard varieties grown at the OARDC in Wooster, OH 1993-2000.

Wooster - U.S. No. 1 (cwt/A)								
Variety	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
Atlantic	213	267	214	288	216	196	152	175
Katahdin	138	312	207	339	178	205	238	204
Kennebec	--	--	--	--	--	--	118	242
Norchip	140	257	194	--	133	166	--	--
Russet Burbank	--	--	--	--	--	--	--	150
Superior	170	267	184	241	245	167	165	174
Yukon Gold						--	174	224
Rainfall (July-Aug.)	2.81	7.08	6.85	5.51	4.64	6.31	5.67	5.22

Table 4. Cultural, nutrient, and pest management practices for the Ohio Potato Germplasm Evaluations completed at the OARDC in Wooster, OH in 2000.

Date Planted	June 1
Date Harvested	September 20 & 22
1999 Crop	Wheat
Cover Crop	Winter Rye
Fertilizer	
Herbicide	Sencor/Dual
Spacing Between Hill x Row	12" x 36"
Plot Size	3' x 30'
Soil Conditions at Planting	Moist
Irrigation (inches)	None

Sprays Applied:

June 19	Centhion 3F , Kocide DF, and Pencozeb DF
June 30	Asana XL and Penncozeb
July 6	Thiodan 3EC and Penncozeb
July 13	Thioden 3EC and Penncozeb
July 20	Ridomil, Bravo 81W and Thiodan 3EC
July 25	Ridomil MZ 72
August 2	Bravo 720 and Asana
August 9	Bravo 720 and Thiodan 3EC
August 25	Bravo 720
September 8	Rely

Table 5. Seasonal and historical climatic data for the Ohio Potato Germplasm Evaluations completed at the OARDC in Wooster, OH in 2000.

	June	July	August	September 1-20
Avg. High Temp. (F)	79	80	80	77
Avg. Low Temp. (F)	59	58	58	55
Avg. Temp. (F)	69	69	69	66
Normal Avg. Temp. (F)	68	72	70	65
2000 Total Precip. (in.)	3.44	1.84	3.38	1.57
50-year Avg. Precip. (in.)	3.90	4.10	3.60	2.20
2000 Precip. **deficit/surplus** (in.)				
period	-0.46	-2.26	-0.22	-0.63
cumulative	-0.46	-2.72	-2.94	-3.57

Table 6. Soil analyses for land used in the Ohio Potato Germplasm Evaluations completed at the OARDC in Wooster, OH in 2000.

Factor	Level
pH	6.32
P (lb/A)	37
K (lb/A)	99
Ca (lb/A)	840
Mg (lb/A)	206

Soil analyses conducted at Service Testing and Analytical Research (STAR) Lab at the OARDC

Table 7. Percent stand, maturity, yield and chip quality for entries grown in the Ohio NCR-84 Regional Project experiment in 2000.

Entry		Stand	Plant	Total	US # 1	US #1	B Size	Cull	Specific	Chip	Blister[3]	
Number	Name	%	Maturity[1]	cwt/A	cwt/A	%	%	%	Gravity	Color[2]	%	Agtron[4]
1	**V 0123-25**	88	3	127	89	70	6	24	1.079	2	0	33
2	**V 0056-1**	75	4	116	74	64	7	29	1.085	3	10	22
3	**V 0024-6**	31	5	110	49	45	6	49	1.078	2-4	40	24
4	**V 0168-3**	74	3	119	81	68	8	24	1.075	5	20	9
5	**W-1386**	95	5	153	79	51	8	41	1.088	2	10	30
6	**W-1368**	74	6	166	90	54	9	37	1.086	2-3	0	27
7	**MSB 107-1**	91	8	216	125	58	3	39	1.079	2-4	0	20
8	**MSE 018-1**	68	8	186	110	59	9	32	1.087	4	30	19
9	**MSA 091-1**	89	7	163	92	56	10	34	1.089	2-3	10	31
10	**MSF 373-8**	82	8	136	71	52	2	45	1.086	2-3	60	26
11	**Atlantic**	80	6	148	107	72	8	20	1.091	1-2	20	36
12	**Red Pontiac**	85	7	197	114	58	7	35	1.069	3-5	10	15
13	**Norvalley**	78	5	181	111	61	9	30	1.082	2	20	32
14	**Snowden**	87	8	145	108	74	8	17	1.086	3	10	28
15	**MN 17993**	99	3	132	90	68	10	22	1.075	4	30	19
16	**MN 18365**	73	2	108	75	70	8	22	1.074	3-4	10	22
17	**MN 17989**	89	6	139	100	72	6	22	1.071	2-5	0	23
18	**MN 18713**	92	6	139	88	63	23	14	1.083	3	0	23
19	**W-1431**	88	6	131	80	62	10	29	1.087	1	30	37
20	**W 1355-1**	89	5	124	81	65	20	15	1.081	2-3	0	35
21	**Russet Burbank**	62	8	150	76	51	12	37	1.082	3-4	40	21
22	**ND 4093-4 Russ**	84	4	134	89	66	12	22	1.075	3-5	0	15
23	**ND 3574-5R**	83	3	147	109	74	8	18	1.066	4-5	0	11
24	**ND 3196-1R**	88	1	111	81	73	6	21	1.073	3-5	10	12
25	**Russet Norkotah**	93	4	142	94	66	15	19	1.073	5	40	11
26	**Dark Red Norland**	90	3	129	94	73	8	19	1.078	3-5	30	22
	AVERAGE	82	5	144	91	63	9	28	1.080	3	17	23

[1]See Table 16 for rating system.

[2]SFA Standard (1=light, 5=dark)

[3]Percentage of chips that developed blisters greater than 20mm in diameter during the frying process.

[4]Agtron 350

Table 8. Percent stand, maturity, yield and chip quality for entries grown in the Ohio NE-184 Regional Project experiment in 2000.

Entry		Stand	Plant	Total	US # 1	US #1	B Size	Cull	Specific	Chip	Blister[3]	
Number	Name	%	Maturity[1]	cwt/A	cwt/A	%	%	%	Gravity	Color[2]	%	Agtron[4]
1	**Snowden**	89	5	176	149	85	11	4	1.088	2	0	28
2	**Dark Red Norland**	90	4	150	118	79	12	9	1.073	4	0	25
3	**CO 86218-2**	83	7	187	162	87	9	5	1.077	3	20	22
4	**AF 1758-7**	90	6	160	117	73	8	19	1.066	4-5	10	8
5	**NY 112**	79	7	234	192	82	3	15	1.084	3-4	10	24
6	**W-1242**	89	6	190	153	80	4	16	1.080	3	0	28
7	**Kennebec**	82	6	242	173	72	8	20	1.083	5	0	10
8	**Chieftain**	94	5	215	171	80	5	15	1.074	5	0	7
9	**Superior**	91	3	171	123	72	7	20	1.081	4	20	13
10	**W-1313**	93	7	236	165	70	8	22	1.093	3	0	18
11	**Katahdin**	95	7	223	172	77	5	18	1.077	4-5	10	12
12	**NY 115**	93	6	189	128	68	8	24	1.082	2	20	27
13	**Yukon Gold**	90	4	224	177	79	8	13	1.088	4-5	30	14
14	**Atlantic**	84	6	202	171	85	2	13	1.093	2	10	30
15	**S 32-3**	78	5	203	165	81	3	16	1.082	3	30	18
16	**3782 Norland**	90	4	148	116	78	8	13	1.076	4	10	17
17	**B 1497-33**	85	5	202	161	80	10	10	1.088	2-3	30	23
18	**B 1339-2**	95	5	179	134	75	11	14	1.093	3	40	25
19	**B 1240-1**	94	9	261	221	84	3	13	1.088	3-4	30	21
20	**Snowden**	92	5	155	111	71	8	20	1.088	3	20	25
21	**B 1828-4**	79	6	161	115	71	7	22	1.081	2	20	30
22	**Chieftain**	92	5	223	179	80	5	14	1.073	5	30	10
23	**B 1758-4**	68	4	144	101	71	10	19	1.077	4-5	0	13
24	**B 1758-3**	85	4	187	144	77	8	15	1.075	3-5	40	13
25	**B 0564-9**	88	4	179	140	78	8	14	1.082	2	10	26
26	**B 1826-1**	80	7	186	120	65	9	26	1.079	2	0	36
27	**B 1145-2**	86	1	147	95	65	14	21	1.077	4-5	0	14
28	**Superior**	85	3	177	120	68	7	26	1.078	4-5	40	12
29	**B 0564-8**	79	3	173	133	77	10	13	1.087	2	30	31
30	**B 0766-3**	90	5	136	99	73	8	19	1.088	1	0	37
31	**B 1712-18**	82	4	132	97	74	10	16	1.085	2	0	30
32	**B 1523-4**	95	6	211	141	67	11	22	1.075	3-5	0	18

Table 8. Percent stand, maturity, yield and chip quality for entries grown in the Ohio NE-184 Regional Project experiment in 2000.

Entry		Stand	Plant	Total	US # 1	US #1	B Size	Cull	Specific	Chip	Blister[3]	
Number	Name	%	Maturity[1]	cwt/A	cwt/A	%	%	%	Gravity	Color[2]	%	Agtron[4]
33	**Katahdin**	86	6	184	123	67	5	28	1.082	4	0	19
34	**B 1709-6**	86	6	137	113	83	5	12	1.086	3	40	21
35	**Atlantic**	81	7	174	101	58	7	35	1.087	2-3	30	28
36	**B 1806-8**	83	4	195	140	72	6	23	1.085	2-3	20	26
37	**B 0178-34**	93	6	250	165	66	6	28	1.087	2	0	31
38	**AF 1763-2**	68	4	148	78	53	9	38	1.070	5	70	8
39	**B 1240-1**	68	9	158	122	77	4	19	1.085	3	80	21
	AVERAGE	86	5	186	139	74	7	18	1.082	3	18	21

[1]See Table 16 for rating system.

[2]SFA Standard (1=light, 5=dark)

[3]Percentage of chips that developed blisters greater than 20mm in diameter during the frying process.

[4]Agtron 350

Table 9. Percent stand, maturity, yield, and chip quality for entries grown in the Ohio Double Observation Experiment and selected for chipping quality evaluation in 2000. Entries submitted by NE-184 participants.

Entry		Stand	Plant	Total	US # 1	US #1	B Size	Cull	Specific	Chip	Blister[3]	
Number	Name	%	Maturity[1]	cwt/A	cwt/A	%	%	%	Gravity	Color[2]	%	Agtron[4]
1	**AF 1938-3**	70	5	242	183	76	4	21	1.077	3-5	0	20
2	**AF 1565-12**	77	5	211	143	68	4	28	1.074	2	0	31
3	**AF 1569-2**	74	6	174	133	76	5	19	1.076	3-5	10	13
4	**AF 1615-1**	74	7	174	128	73	3	24	1.080	3-4	20	20
5	**AF 1668-60**	79	7	189	128	68	4	28	1.067	3-4	100	17
6	**AF 2047-2**	79	3	160	95	60	2	38	1.080	3-5	0	17
7	**AF 1763-2**	79	4	232	144	62	6	33	1.070	4-5	50	13
8	**R 17-7**	73	7	271	231	85	1	14	1.072	3-4	50	15
9	**T 20-15**	85	6	215	137	64	6	30	1.078	3	10	25
11	**B 1763-4**	95	3	194	163	84	6	10	1.083	3-5	0	19
12	**B 1870-3**	82	5	198	160	81	4	15	1.067	4-5	0	10
13	**Rideau**	97	7	223	135	61	8	31	1.075	3-5	0	15
14	**B 1878-7**	87	5	235	185	79	2	19	1.068	3	30	21
15	**B 1870-1**	79	4	206	183	89	3	8	1.064	3-5	0	16
17	**B 1872-8**	93	3	191	126	66	5	29	1.081	2-3	10	21
18	**Super Red Norland**	97	1	184	159	86	4	10	1.067	3-5	0	12
19	**B 1752-5**	85	3	189	157	83	3	13	1.074	3-5	10	16
20	**B 1876-10**	92	2	184	143	78	5	17	1.077	2-4	10	23
21	**B 1829-5**	84	4	249	184	74	7	19	1.083	1-2	30	36
22	**B 1497-22**	77	6	165	106	65	6	29	1.077	3-5	30	16
23	**B 1884-9**	87	9	298	251	84	4	12	1.084	2-4	0	25
	AVERAGE	83	5	209	156	74	4	21	1.075	3	17	19

[1]See Table 16 for rating system.

[2]SFA Standard (1=light, 5=dark)

[3]Percentage of chips that developed blisters greater than 20mm in diameter during the frying process.

[4]Agtron 350

Table 10. Percent stand, maturity, yield, and chip quality for entries grown in the Ohio Single Observation Experiment and selected for chipping quality evaluation in 2000. Entries submitted by NE-184 participants.

Entry		Stand	Plant	Total	US # 1	US #1	B Size	Cull	Specific	Chip	Blister[3]	
Number	Name	%	Maturity[1]	cwt/A	cwt/A	%	%	%	Gravity	Color[2]	%	Agtron[4]
3	**AF 2082-3**	73	7	160	103	64	7	29	1.068	3	20	23
18	**AF 2135-1**	73	7	252	153	61	1	38	1.083	3-5	30	9
23	**AF 2115-1**	87	7	237	156	66	5	29	1.080	4	0	13
31	**Ware's Pride (1047)**	77	7	295	235	80	3	17	1.073	4	0	12
32	**AF 2138-1**	87	5	121	83	68	14	17	1.080	2-4	60	17
39	**AF 2082-12**	90	5	194	106	55	8	38	1.079	3-4	0	22
47	**T 3-9**	83	5	189	121	64	4	32	1.079	2-3	10	27
49	**T 35-39**	97	7	261	221	85	5	10	1.082	2	10	41
50	**T 28-1**	90	7	286	250	88	3	9	1.076	2-3	20	28
51	**T 27-21**	87	7	397	337	85	2	13	1.081	3-4	0	23
52	**B 1912-7**	97	9	223	181	81	5	14	1.073	5	0	7
55	**B 1964-4**	77	5	203	161	79	7	14	1.082	5	0	11
56	**B 1316-5**	83	7	271	246	91	1	8	1.080	4-5	0	13
59	**B 1922-3**	100	5	227	162	71	24	5	1.082	2-4	20	22
61	**B 1924-1**	100	5	140	114	82	8	10	1.080	2	20	35
62	**B 1952-2**	100	7	242	219	91	4	6	1.079	3	10	19
63	**B 1927-14**	77	5	247	189	76	5	18	1.075	3	0	21
65	**B 1947-6**	83	7	257	231	90	2	8	1.080	2	10	33
66	**B 1816-5**	93	5	179	146	82	11	8	1.079	2	0	34
	AVERAGE	87	6	231	180	77	6	17	1.078	3	11	22

[1]See Table 16 for rating system.

[2]SFA Standard (1=light, 5=dark)

[3]Percentage of chips that developed blisters greater than 20mm in diameter during the frying process.

[4]Agtron 350

Table 11. Tuber characteristics for entries grown in the Ohio NCR-84 Regional Project experiment in 2000. No scab was detected in any sample (data not shown).

Entry		External[1]					Internal[2]					
Number	Name	Skin Color	Skin Texture	Tuber Shape	Eye Depth	Overall Appearance	Uniform Shape	Uniform Size	Hollow Heart	Vascular Disease	Internal Necrosis	Defect Free
1	**V 0123-25**	6	7	3	7	4	3	2	0	0	0	10
2	**V 0056-1**	5	4	2	7	6	4	4	0	0	0	10
3	**V 0024-6**	6	6	4	5	4	3	2	0	2	0	8
4	**V 0168-3**	4	4	4	7	3	4	4	0	0	0	10
5	**W-1386**	6	5	2	7	3	2	3	0	0	0	10
6	**W-1368**	5	5	2	5	5	4	4	0	0	0	10
7	**MSB 107-1**	6	7	3	6	5	3	3	0	0	0	10
8	**MSE 018-1**	6	6	4	7	3	2	2	0	3	0	7
9	**MSA 091-1**	6	6	5	5	4	1	2	0	3	1	7
10	**MSF 373-8**	6	7	3	5	3	4	3	0	0	0	10
11	**Atlantic**	5	4	2	5	4	3	3	0	0	0	10
12	**Red Pontiac**	3	6	2	4	3	4	4	0	3	0	7
13	**Norvalley**	7	7	3	7	2	1	1	0	0	0	10
14	**Snowden**	5	4	2	5	6	4	4	0	1	0	9
15	**MN 17993**	2	7	2	6	3	3	3	0	0	0	10
16	**MN 18365**	2	7	2	7	6	4	3	0	0	0	10
17	**MN 17989**	2	6	4	7	5	3	3	0	0	0	10
18	**MN 18713**	5	4	5	7	3	5	5	0	0	0	10
19	**W-1431**	6	6	5	6	3	4	3	0	0	0	10
20	**W 1355-1**	6	5	2	6	5	5	4	1	2	6	7
21	**Russet Burbank**	5	2	7	5	1	2	2	0	0	0	10
22	**ND 4093-4 Russ**	5	4	4	7	7	5	5	0	1	0	9
23	**ND 3574-5R**	2	7	2	5	8	5	5	0	2	0	8
24	**ND 3196-1R**	2	8	2	7	7	4	5	0	0	0	10
25	**Russet Norkotah**	4	3	7	5	7	4	4	0	1	0	9
26	**Dark Red Norland**	2	7	3	6	3	2	4	0	0	0	10

[1]See Table 16 for rating system.

[2]Number of tubers out of 10 tubers that contain the defect.

Table 12. Tuber characteristics for entries grown in the Ohio NE-184 Regional Project experiment in 2000.

Entry		External[1]					Internal[2]			
Number	Name	Skin Color	Skin Texture	Tuber Shape	Eye Depth	Overall Appearance	Hollow Heart	Vascular Disease	Internal Necrosis	Defect Free
1	**Snowden**	5	5	2	3	6	0	0	0	10
2	**Dark Red Norland**	2	7	3	5	4	0	0	0	10
3	**CO 86218-2**	2	6	2	7	5	0	0	0	10
4	**AF 1758-7**	7	6	4	7	5	0	2	0	8
5	**NY 112**	5	5	4	5	6	0	0	0	10
6	**W-1242**	7	6	3	7	6	0	0	0	10
7	**Kennebec**	7	7	5	7	4	0	0	0	10
8	**Chieftain**	2	7	3	5	7	0	0	1	9
9	**Superior**	7	5	3	4	6	0	0	0	10
10	**W-1313**	5	5	3	6	6	0	0	0	10
11	**Katahdin**	7	7	2	7	6	0	0	0	10
12	**NY 115**	7	6	3	7	5	0	0	0	10
13	**Yukon Gold**	6	6	3	5	6	0	0	0	10
14	**Atlantic**	5	4	2	6	5	0	0	0	10
15	**S 32-3**	6	6	4	7	6	0	1	0	9
16	**3782 Norland**	2	7	4	5	7	1	0	0	9
17	**B 1497-33**	6	6	3	6	5	0	0	0	10
18	**B 1339-2**	6	6	2	7	6	1	0	0	10
19	**B 1240-1**	5	5	2	7	6	0	0	0	9
20	**Snowden**	4	5	2	5	5	0	0	0	10
21	**B 1828-4**	5	6	4	7	5	0	0	0	10
22	**Chieftain**	2	7	3	5	6	0	0	0	10
23	**B 1758-4**	2	7	3	7	6	0	0	0	10
24	**B 1758-3**	2	7	4	5	5	0	0	0	10
25	**B 0564-9**	5	5	3	5	5	0	0	0	10
26	**B 1826-1**	6	7	2	7	5	0	0	0	10
27	**B 1145-2**	2	7	2	6	5	0	0	0	10
28	**Superior**	6	6	4	4	4	0	0	0	10
29	**B 0564-8**	6	6	2	5	7	0	0	0	10
30	**B 0766-3**	7	5	2	7	6	0	0	0	10
31	**B 1712-18**	7	7	2	7	6	0	0	0	10
32	**B 1523-4**	2	6	2	6	6	0	0	0	10
33	**Katahdin**	7	7	3	5	5	0	0	0	10
34	**B 1709-6**	6	5	2	6	5	0	0	0	10
35	**Atlantic**	6	6	3	6	5	0	0	1	9
36	**B 1806-8**	7	7	5	7	5	0	0	0	10
37	**B 0178-34**	7	6	4	7	4	0	0	0	10
38	**AF 1763-2**	7	7	5	5	4	0	2	0	8
39	**B 1240-1**	5	5	3	6	4	0	0	0	10

[1]See Table 16 for rating system.

[2]Number of tubers out of 10 tubers that contain the defect.

Table 13. Tuber characteristics for entries grown in the Ohio Double Observation Experiment and selected for chipping quality evaluation in 2000. Entries submitted by NE-184 participants.

Entry		External[1]					Internal[2]				
Number	Name	Skin Color	Skin Texture	Tuber Shape	Eye Depth	Overall Appearance	Hollow Heart	Vascular Disease	Internal Necrosis	Defect Free	Flesh Color
1	**AF 1938-3**	7	7	4	7	4	0	0	0	10	off white
2	**AF 1565-12**	8	7	5	7	3	0	0	0	10	white
3	**AF 1569-2**	6	6	3	7	6	0	0	0	10	off white
4	**AF 1615-1**	7	7	4	7	5	0	0	0	10	off white
5	**AF 1668-60**	6	6	4	6	4	0	1	0	9	white
6	**AF 2047-2**	7	7	4	7	5	0	0	0	10	off white
7	**AF 1763-2**	6	7	3	6	4	0	0	0	10	white
8	**R 17-7**	6	6	2	5	3	0	1	0	9	off white
9	**T 20-15**	6	6	2	4	6	0	0	0	10	off white
11	**B 1763-4**	1	7	2	7	7	0	0	0	10	white
12	**B 1870-3**	6	6	2	7	6	0	0	0	10	off white
13	**Rideau**	3	7	2	7	5	0	0	0	10	white
14	**B 1878-7**	5	5	5	7	4	0	0	0	10	off white
15	**B 1870-1**	6	7	2	7	7	0	0	0	10	off white
17	**B 1872-8**	6	7	2	6	6	0	0	0	10	off white
18	**Super Red Norland**	2	7	2	7	8	0	0	0	10	off white
19	**B 1752-5**	7	7	2	7	8	0	0	0	10	yellow
20	**B 1876-10**	7	7	2	7	8	0	0	0	10	white
21	**B 1829-5**	5	5	3	6	7	0	0	0	10	white
22	**B 1497-22**	5	7	3	7	5	0	0	0	10	light yellow
23	**B 1884-9**	5	5	3	7	6	0	0	0	10	off white

[1]See Table 16 for rating system.

[2]Number of tubers out of 10 tubers that contain the defect.

Table 14. Tuber characteristics for entries grown in the Ohio Single Observation Experiment and selected for chipping quality evaluation in 2000. Entries submitted by NE-184 participants.

Entry		External[1]					Internal[2]				
-Number	Name	Skin Color	Skin Texture	Tuber Shape	Eye Depth	Overall Appearance	Hollow Heart	Vascular Disease	Internal Necrosis	Defect Free	Flesh Color
3	**AF 2082-3**	5	4	3	5	5	0	0	0	10	white
18	**AF 2135-1**	6	6	3	4	3	0	1	0	9	white
23	**AF 2115-1**	8	7	3	7	5	0	0	0	10	off white
31	**Ware's Pride (1047)**	3	7	3	6	3	0	0	0	10	white
32	**AF 2138-1**	1	7	2	8	8	0	0	0	10	purple varigated
39	**AF 2082-12**	7	7	2	7	4	0	0	0	10	white
47	**T 3-9**	7	7	2	6	5	0	0	0	10	yellow
49	**T 35-39**	7	7	3	4	4	0	0	0	10	off white
50	**T 28-1**	7	6	2	5	6	0	0	0	10	off white
51	**T 27-21**	5	6	3	7	5	0	0	0	10	off white
52	**B 1912-7**	5	4	4	7	6	2	0	0	10	off white
55	**B 1964-4**	6	6	3	7	5	2	0	0	10	off white
56	**B 1316-5**	7	7	4	7	3	0	0	0	10	white
59	**B 1922-3**	6	6	2	7	3	0	0	0	10	white
61	**B 1924-1**	7	7	2	7	3	0	0	0	10	off white
62	**B 1952-2**	1	7	2	7	8	0	0	0	10	white
63	**B 1927-14**	7	7	2	7	6	0	0	0	10	off white
65	**B 1947-6**	2	6	2	5	5	0	1	0	9	white
66	**B 1816-5**	1	7	3	7	7	0	0	0	10	yellow

[1]See Table 16 for rating system

[2]Number of tubers out of 10 tubers that contain the defect.

Table 15. Percent stand, maturity, and yield information for entries grown in the Ohio Double (D)- or Single (S)-Observation Experiment but not selected for chipping quality evaluation in 2000. Entries submitted by NE-184 participants.

Entry			% Stand	Plant Maturity	Total cwt/A[1]
Number		Name			
D	**10**	**B1327-6**	87	9	215
D	**16**	**B0811-4**	77	2	94
S	**1**	**AF 2079-9**	77	5	102
S	**2**	**AF 2059-1**	90	3	145
S	**4**	**AF 2082-7**	90	3	
S	**5**	**AF 2069-5**	80	7	232
S	**6**	**AF 2147-1**	43	9	165
S	**7**	**AF 2079-7**	93	7	121
S	**8**	**AF 2059-16**	67	3	87
S	**9**	**AF 2129-37**	87	1	39
S	**10**	**AF 2065-3**	3	7	
S	**11**	**AF 2088-10**	67	5	160
S	**12**	**AF 2129-19**	77	5	102
S	**13**	**AF 2082-10**	70	5	126
S	**14**	**AF 2096-1**	83	3	165
S	**15**	**AF 2153-1**	83	3	155
S	**16**	**AF 2078-5**	90	5	
S	**17**	**ARSW 96-4654-1**	90	5	213
S	**19**	**ARSW 96-584-2**	63	7	160
S	**20**	**ARSW 96-4665-1**	90	5	184
S	**21**	**AF 2055-8**	67	5	198
S	**22**	**ARSW 96-4662-2**	73	3	
S	**24**	**AF 2147-3**	87	7	281
S	**25**	**AF 2151-1**	77	5	203
S	**26**	**ARSW 96-584-1**	53	3	87
S	**27**	**AF 2081-3**	90	5	227
S	**28**	**AF 2059-6**	73	5	
S	**29**	**AF 2061-2**	43	5	39
S	**30**	**AF 2091-6**	10	7	5
S	**33**	**ARSW 96-40006-1**	77	7	165
S	**34**	**ARSW 96-40022-5**	83	7	
S	**35**	**AF 2129-28**	77	5	223
S	**36**	**ARSW 96-4661-3**	73	7	198
S	**37**	**AF 2086-11**	70	5	131
S	**38**	**AF 2129-1**	57	5	126
S	**40**	**AF 2082-18**	70	5	
S	**41**	**AF 2055-1**	73	5	194
S	**42**	**AF 2086-18**	77	5	169
S	**43**	**AF 2129-17**	60	5	140
S	**44**	**Kennebec**	67	9	227
S	**45**	**T 35-34**	73	9	324
S	**46**	**T 2-2**	80	5	102
S	**48**	**T 3-5**	70	7	179
S	**53**	**B 1946-3**	80	5	174
S	**54**	**B 1950-8**	73	5	174
S	**57**	**B 1801-3**	63	7	276
S	**58**	**B 1928-4**	100	5	203
S	**60**	**B 1915-14**	100	5	150
S	**64**	**B 1856-10**	87	9	295
S	**67**	**B 1952-4**	97	5	232
S	**68**	**Divina**	93	7	416
S	**69**	**Adora**	80	5	218

[1]Entries lacking yield data were not harvested.

TUBER DATA RATING SYSTEM FOR POTATO VARIETY TRIALS-NE-184

Tuber Skin Color
1. Purple
2. Red
3. Pink
4. Dark Brown
5. Brown
6. Tan
7. Buff
8. White
9. Cream

Skin Texture
1. Part. russet
2. Heavy russet
3. Mod. russet
4. Light russet
5. Netted
6. Slight netting
7. Moderately
8. Smooth
9. Very smooth

Tuber Shape
1. Round
2. Mostly round
3. Round to oblong
4. Mostly oblong
5. Oblong to long
6. Mostly long
7. Long
8. Cylindrical

Eye Depth
1. VD
2. --
3. D
4. --
5. Intermediate
6. --
7. S
8. --
9. VS

Appearance
1. Very poor
2. --
3. Poor
4. --
5. Fair
6. --
7. Good
8. --
9. Excellent

PLANT RATING SYSTEM

Plant Type
1. Decumbent-poor canopy
2. Decumbent-fair canopy
3. Decumbent-good canopy
4. Spreading-poor canopy
5. Spreading-fair canopy
6. Spreading-good canopy
7. Upright-poor canopy
8. Upright-fair canopy
9. Upright-good canopy

Air Pollution
0. Dead
1. Decreasing plant appearance
2. with varying degrees
3. of defoliation
4.
5. most leaves have symptoms, but generally appearance is still good
6. good plant condition with decreasing
7. percent of foliar symptoms
8.
9. no symptoms

Plant size
1. Very small
2. +
3. Small
4. +
5. Medium
6. +
7. Large
8. +
9. Very large

Plant Maturity
1. Very early
2. Early
3. +
4. Medium early
5. Medium
6. Medium late
7. +
8. Late
9. Very late

Plant Appearance
1. Very poor
2. Poor
3. +
4. --
5. Fair
6. +
7. --
8. Good
9. Excellent

Table 18. Conversion Table for Specific Gravity of Potato Tubers to Content of Starch and Dry Matter % (Calculated from Von Scheele equations: % starch = 17.565 + 199.07 (Sp. Gr.-1.0988); % dry matter = 24.181 + 211.04 (Sp. Gr.-1.0988)

Specific Gravity	Starch %	Dry Matter %	Specific Gravity	Starch %	Dry Matter%
1.050	7.85	13.88	1.081	14.02	20.43
1.051	8.05	14.09	1.082	14.22	20.64
1.052	8.25	14.31	1.083	14.42	20.85
1.053	8.45	14.32	1.084	14.62	21.06
1.054	8.65	14.73	1.085	14.82	21.27
1.055	8.85	14.94	1.086	15.02	21.48
1.056	9.04	15.15	1.987	15.22	21.69
1.057	9.24	15.38	1.088	15.41	21.90
1.058	9.44	15.57	1.089	15.61	22.11
1.059	9.64	15.78	1.090	15.81	22.33
1.060	9.84	15.99	1.091	16.01	22.54
1.061	10.04	16.21	1.092	16.20	22.75
1.062	10.24	16.42	1.093	16.41	22.96
1.063	10.44	16.63	1.094	16.61	23.17
1.064	10.64	16.84	1.095	16.81	23.38
1.065	10.84	17.05	1.096	17.01	23.59
1.066	11.04	17.26	1.097	17.21	23.89
1.067	11.23	17.47	1.098	17.41	24.01
1.068	11.43	17.68	1.099	17.60	24.22
1.069	11.63	17.89	1.100	17.80	24.44
1.070	11.83	18.10	1.101	18.00	24.65
1.071	12.03	18.32	1.102	18.20	24.86
1.072	12.23	18.53	1.103	18.40	25.07
1.073	12.43	18.74	1.104	18.60	25.28
1.074	12.63	18.95	1.105	18.80	25.49
1.075	12.83	19.16	1.106	19.00	25.70
1.076	13.03	19.37	1.107	19.20	25.91
1.077	13.22	19.58	1.180	19.40	26.12
1.078	13.42	19.79	1.109	29.60	26.34
1.079	13.62	20.00	1.110	19.79	26.55
1.080	13.82	220.21	1.111	19.99	26.76

Factors Affecting the Specific Gravity of the White Potato in Maine. Maine Agricultural Experiment Station. Bulletin 583.

Potato Germplasm Evaluation 2000
Crop Observations Taken at Harvest

The following observations were made at harvest - 9/20/00 and 9/22/00. Plots were planted 6/1/00.
E.C. Wittmeyer

NC1	VO123-25	round to slightly oval tubers. Tannish surface, large tubers have irregular surface, some tend to be 'dumbbell' shaped. Knobbiness.
		round to oval tubers, wide range in shape. No uniform shape. Growth cracks present. Some tubers have red tinge.
NC-2	VOO56-1	round to oval tubers with a heavy netting, buff surface, irregular surface. Tendency to be misshapened, wide range in size. Deep apical end could be problem. Processing only — if other characteristics are OK. P.
		round to slightly oval tubers with heavy netting, tan surface, scab is present. Medium to small size. Irregular surface. Poor appearance.
NC3	VOO24-6	fairly smooth tubers with fairly white surface, misshapened, tendency for tuber to be flattish.
		round to slightly oval tubers with tendency to have irregular tuber shape. Surface scab present. Apical end tends to be folded--serious. Wide range in size. Second growth. N.
NC4	VO168-3	round to slightly oval tubers with netted surface, tan color, irregular surface, misshapened, apical end tends to be indented, poor appearance.
		round to oval shaped tubers, medium russet surface, slight growth cracks. For a russet-type, promising??
NC5	W1386	round to oval shaped tubers. No uniform shape in size, netted buff appearance, stolons are attached. Lenticels appear to be infected. <u>No future.</u>
		round to oval shaped tubers, with a netted-buff surface. Irregular surface, no uniform size. Apical end tends to be folded. Misshapened.
NC6	W1368	round to slighlty oval tuber, roundish, eyes tend to be indented, trace of surface scab, wide range in size. Large tubers have irregular surface.

		round tubers with buff surface, light netting, eyes tend to be indented, apical end tends to be deep, some tubers are misshapened, surface scab could be problem.
NC7	MSB107-1	round tubers with tan surface, heavy netting, deep eyes, irregular surface, apical end tends to be deep. No uniform shape. Doubtful future.
		round or oval tubers with medium netting. irregular surface and irregular tuber shape. Apical end tends to be indented.
NC8	MSE018-1	round to oval tubers with tan surface and with slight netting. Major problems: second growth, irregular surface, scab, misshapened, deep apical end. No future. N.
		round to oval tubers with light netting, buff color. Major defects: second growth, field sprouting, scab, knobbiness.
NC9	MSA091-1	round to slightly oval tubers with buff appearance and light netting. Major problems: irregular surface, knobbiness, second growth, misshapened, apical end tends to be folded. Poor appearance. N.
		round to oval tubers, Lenticels are raised. No future
NC10	MSF373-8	round to oval tubers with fairly white surface. Large tubers have irregular surface. Feathering is present. Tubers tend to have pinkish tings. Doubtful!
		round to slightly oval tuber. Large tubers have irregular surface. Knobby. Poor appearance. No future.
NC11	Atlantic	round to slightly oval tubers with heavy netting, eyes tend to be slightly indented. Apical end tends to be indented. Light tan appearance.
		round to oval tubers with medium netting, light tan surface. Major problems: irregular surface, deep apical end, no uniformity in tuber shape.
NC12	Red Pontiac	pinkish to light red surface, round to oval tubers. Major defects: irregularN surface, misshapened, severe growth cracks. No future
		pink color, round to oval tubers. Major defects: second growth, enlarged lenticels, growth cracks, misshapened.

NC13	Norvalley	round to oval tubers with buff appearance, tendency for tuber to be pear shaped. Major defects: growth cracks, enlarged lenticels, knobby.
		round to oval tubers with light to medium netting. Wide range in size. Major defects: second growth, surface scab, irregular surface, stolons remain attached.
NC14	Snowden	round tubers, light tan surface, moderately deep eyes, deep apical end, possibilities for processing. P.
		round to oval shaped tubers with heavy netting. irregular surface especiallyP. on larger tubers. Apical end tends to be indented. Eyes slightly indented. Some stolons attached.
NC15	MN17993	tubers have bright red color, round to oval tuber shape. Major problems: scaly red color, misshapened, variation in tuber shape, knobbiness.
		dark red color. Large tubers have irregular surface. Tubers (especially large) tend to have irregular tuber shape. Wide range in size. Some tubers tend to be pear shaped.
NC16	MN18713	dark red tubers, round to oval shape. Considerable variation in tuber shape--one half being oval and one-half being round. Poor uniformity. The scaly red surface seemed to be objectionable unless for processing.
		red tubers with a scurfy-type surface. Round to slightly oval with some cracking of surface. No future for F.M.
NC17	MN17989	medium pink to moderately red surface, round to oval tubers, stolons attached to some tubers. The scaly red surface would be a problem in fresh markets. Misshapened and irregular surface--problem. No future.
		good red color. Round to oval tubers with irregular shape and surface.
NC18	MN18713	round to slighlty oval shaped tubers with a heavy netting, many small tubers, irregular surface, tendency for growth cracks.
		round to oblong tubers, russet type tuber, small size. Defects: irregular surface, enlarged lenticels. Tuber surface tends to be heavy texture.
NC19	W1431	round to oval tubers with slight netting. No uniform shape. Slight N

		knobbiness. No uniform size. Enlarged lenticels. No future.
		round to oval tubers with light to medium netting. Major defects: irregular shape, irregular surface, feathering, knobbiness, attached stolons.
NC20	W1355	small, round tubers with heavy netting. Eyes tend to be indented. Surface has pinkish tinge. Other defects: irregular surface, misshapened, attached stolons.
		round to slightly oval tubers. Poor size. Tuber netting varies from light to heavy
NC21	Russet Burbank	long, russet-type tubers with second growth and quite knobby. Curved tubers. N.
		oval to oblong tubers, light russet surface, second growth, growth cracks, sprouting. No future.
NC22	ND4093-4 Russet	oval to oblong russet-type tuber with fairly smooth surface. Small tubers. Trace of surface scab. Good appearance for a russet.
		oval to slightly oblong russet-type tuber. Medium to heavy russetting. Tendency for growth cracks and tendency to curve. No second growth. No knobbiness. Promising for dryland russet.
NC23	ND3574-5R	round to oval tubers with medium to bright red surface. Wide N range in size. "Scaly" surface. Irregular surface. Wide range in size. Doubtful future.
		round to slightly oval tubers with pinkish to moderate red surface. Major defects: misshapened, apical end tends to fold, and stolons are attached. No future.
NC24	NC3196-1R	round to oval tubers with bright red surface, shallow eyes. Surface scab could be problem. Tubers appear to have a "scaly" surface. Stolons are attached. No future. Y.
		round to slightly oval tubers with excellent red color, fairly smooth, shallow eyes and shallow apical end. White interior. Promising. Try again.

NC25	Russet Norkotah	oval to slightly oblong, russet-type tubers with heavy netting. Second growth. Wide range in size.
		round to oval to long russet-type tuber. Major problems: pointed tubers on both stem and apical end, irregular surface, second growth, knobbiness. Doubtful future.
NC26	Dark Red Norland	round to slightly oval tubers with medium red surface. Wide range in shape. Growth cracks. Doubtful.
		round to oval tubers with light pink color. Eyes are slightly indented. Growth cracks. Misshapened tubers. No future.
NE1	Snowden	round tubers with tendency to be flattened, heavy netting, apical end tends to be folded, eyes tend to be moderately deep. Some tubers have pink tinge.
		round to slightly oval tubers with tan surface and scurfy appearance.P Deep eyes. Fairly smooth surface except for eyes. Apical end is indented. For processing only.
NE2	Dark Red Norland	round to slightly oval tubers with medium red color, surface tends to be netted, major defects: irregular surface, irregular shape, misshapened.
		round to oval tubers with deep red surface, fairly smooth surface. Large tubers tend to have irregular surface. Deep apical end. Wide range in size.
NE3	CO86218-2	round to oblong tubers with dark red, "scaly" surface. White interior. Large tubers are misshapened. Wide range in size. Doubtful future due to scaly surface.
		no observations made on this replicate
NE4	AF1758-7	round to oval tubers with some tubers have netting. Major defects: second growth, sprouting, irregular surface, stolons attached.
		round to oval tubers with buff surface, wide range in size, second growth, knobbiness, and surface scab.

NE5	NY112	round to slightly oval tubers with tan surface. Netted surface, but relatively smooth. Tendency for skin to be scurfy. Uniform size. Shallow eyes. Processing.
		round to slightly oval tubers with fairly heavy netting. Apical end tends to be indented. Trace of growth cracks. Trace of irregular surface. Processing only.
NC6	W1242	round to slightly oval tubers with fairly smooth surface, but heavy netting. Some tubers show one-half netting, and remainder smooth. Surface scab.
		round to oval tubers with buff surface. Slight netting. Wide range in size. Deep (folded) apical end. Stolons are attached-few tubers.
NE7	Kennebec	Round to oval tubers, buff surface, irregular surface, irregular shape and size.
		round to oval tubers, many are misshapened, irregular surface, surface scab.
NE8	Chieftain	round to oblong tubers with "scurfy" red surface, deep eyes, second growth, growth cracks. Has good uniformity (size) but poor appearance.
		round to oval tubers. pink color, scaly surface, growth cracks, poor appearance.
NE9	Superior	round to oval tubers with buff to tan surface. Slight netting. Surface scab, wide range in size, poor appearance.
		round to slightly oblong tubers with netted surface, some tubers have fairly heavy netting. Stolons are attached in few tubers. Deep eyes. Poor appearance.
ND10	W1313	round to slightly oval tubers with medium netting. Major defects: irregular surface, second growth, wide range in size, apical end tends to be folded.
		round to oval tubers with buff surface, fairly smooth, medium size

		tuber. Good appearance for processing. Fairly uniform size.
NE11	Katahdin	round to slightly oval tubers with light tan surface, smooth surface,Y shallow eyes, appears to have sizing ability. Appears to hold shape. Promising.
		round to oval tubers with buff appearance. Apical end tends to be deep. Misshapened. Surface scab is serious.
NE12	NY115	round to oval tubers with nearly white surface, light netting. Most tubers have irregular surface. Surface scab could be problem.
		round to oval tubers with buff surface. Some tubers have netting. Wide range in size. Surface scab.
NE13	Yukon Gold	round to oval tubers with buff surface, light tan color, pink eyes. Large tubers tend to have irregular surface. Considerable variation in size. Surface scab.
		no observations in second replicate
NE14	Atlantic	round to slightly oval tubers with tan surface, heavy netting, scurfy-type surface. Appears to have yielding ability. Some tubers have pink tinge. Processing.
		no observations in second replicate
NE15	S32-3	fairly round tubers with buff appearance. Some tubers have netting surface. Appears to have yielding ability and sizing ability. Scurfy surface on some tubers. Enlarged lenticels on larger tubers.
		mostly round tubers with netted surface. Lenticels tend to be enlarged. Poor appearance for fresh market.
NE16	Norland	round to oval tubers with medium red surface. Many small tubers. Scurfy texture. Shape varied considerably from round to oval.
		round to oval tubers, medium red surface, many tubers have an irregular surface--very few smooth tubers.

NE17	B1497-33	round to slightly oval tubers with light tan surface. Some tubers have scurfy surface. Major defects: attached stolons, second growth, surface scab, and wide range in size.
		round to slightly oval tubers with light tan appearance, some tubers have light netting. Small tubers. Surface scab.
NE18	B1339-2	round to oval tubers, buff appearance, slight netting. The surface tends to be "scurfy"--affects overall appearance. Tubers tend to fairly smooth. Tendency for growth cracks and surface scab.
		round to slightly oval tubers with tan surface. Some tubers have slight netting. Tubers are relatively smooth. Shallow eyes. Trace of surface scab. Wide range in size.
NE19	B1240-1	round to slightly oval tubers, mostly round, with a netted "scurfy" surface--not all tubers. Folded apical end could be serious problem.
		no observations made in second replicate
NE20	Snowden	round to slightly oval tubers, mostly round, heavy scurfy surface. Deep apical end. Wide range in size.
		no observations made in second replicate.
NE21	B1828-4	round to oval tubers with buff appearance, heavy netting. Major Defects: feathering, irregular surface, irregular shape, second growth, sprouting, surface scab. N.
		round to slightly oval tubers with tan surface. Some tubers have scurfy appearance. Sprouting and second growth are problems. Poor appearance.
NE22	Chieftain	Pink to light red surface. Round to oval tubers with fairly smooth surface. Wide range in size. Severe surface scab. Color is too light--major problem.
		light red to pink surface--appears to have sizing ability. Fairly smooth surface. Scurfy surface. Second growth. Main problem-light red.
NE23	B1758-4	round to oval tubers with bright red surface, considerable netting. Wide range in tuber shape. No uniform tuber shape-could be problem.

		round to slighlty oval tubers with bright red surface. Some tubers tend to have "scurfy" texture and irregular surface. No uniform shape. Poor appearance.
NE24	B1758-3	round to oval tubers with bright red surface. Fairly smooth surface. Trace of misshapeness. Wide range in size. Too many small tubers. round to oval tubers with light to medium red surface. Wide range in shape. Large tubers have irregular surface. Tubers tend to have find scurfy texture.
NE25	BO564-9	round to oval tubers with netted surface. Major defects: irregular shape and size, misshapened stolons attached, trace of surface scab, apical end tends to be deep and fold
NE26	B1826-1	round to slightly oval tubers with buff surface, some netting, some tubers have scurfy appearance. Other problems: irregular tuber shape, growth cracks, surface scab.
NE27	B1145-2	round to oval tubers with light red surface. Many tubers have irregular shape, irregular surface, and wide range in size.
		round to slightly oval tubers with medium red surface, surface tends to be "scaly". Wide range in size. No future.
NE28	Superior	round to oval to blocky tubers. Some tubers have scurfy type netting. Irregular surface.
		round to oval tubers with netting. No uniform size. Major defects: irregular surface. Attached stolons. Deep apical end, no uniform size. Doubtful future.
NE29	BO564-8	round tubers with buff appearance, medium netting, attached stolons, Surface scab.
		round to oval tubers with buff to tan surface, some tubers have netted surface. Eyes tend to be recessed. Apical end tends to be deep. Poor appearance.
NE30	BO766-3	round to oval tubers with light tan surface. Some tubers tend to have netted scurfy skin. Trace of growth cracks. Surface scab. Stolons

		attached.
		round to slightly oval tubers with scurfy type surface. Tubers tend to be buff with pink tinge. Surface scab could be serious.
NE32	B1523-4	round to oval tubers with medium red color and "scurfy" texture. Major defects: severe scab, growth cracks, second growth, attached stolons.
		round to slightly oval tubers with moderate red surface. Major defects: scaly surface, irregular surface, irregular shape, wide range in size. Scab could be serious.
NE33	Katahdin	round to slightly oval tubers with buff surface, tendency for flattish tubers, severe scab (some pitted), irregular surface and deep apical round to slightly oval tubers with light netting and light tan surface. Wide range in size. Surface scab. Irregular tuber shape.
NE34	B1709-6	round to slightly oval tubers with buff color. Major defects: irregular surface, surface scab, wide range in size. No uniformity.
		round to oval tubers with light tan surface and heavy netting. Apical end tends to be indented. Surface scab in many tubers.
NE35	Atlantic	round to slightly oval tubers. Some tubers show netting, while others do not. Surface scab is serious. Wide range in size.
		round to oval tubers with light tan surface, surface tends to be netted to scurfy. Pitted scab is present. Apical end is indented--sometimes folded.
NE36	B1806-8	round to oval tubers, light tan surface, some netting. Major defects: second growth, irregular surface, irregular shape, attached stolons.
		round to mostly oval tubers with light tan surface. Slight netting. Appears to have yielding ability. Major defects: attached stolons, misshapened, sprouting, irregular surface, second growth, surface scab.
NE37	BO178-34	round to oval tubers with buff surface, trace of netting. Major problem--surface scab-100S.

		round to oval tubers with buff surface. Wide range in size, second growth, attached stolons, and surface scab.
NE38	AF1763-2	round to slightly oval tubers. Large tubers tend to have folded apical end. Major problems: second growth, irregular surface, irregular tuber shape, and surface scab.
		round to slightly oval tubers with light buff surface. Major defects: irregular surface, irregular shape, and surface scab.
NE39	B1240-1	round to oval tubers with buff surface and with slight netting. Wide range in tuber size. Major problems: misshapened, irregular surface, surface scab. No future
		round to slightly oval tubers with light scurfy type surface. Larger tubers tend to have irregular tuber shape. Trace of scab. Appears to have yielding ability.
DOB1	AF1998-3	round to mostly oval tubers with buff surface. Large tubers have irregular surface.
DOB2	AF1565-12	round to oval tubers. Large tubers are oval. Also large tubers have irregular surface. Apical end tends to be indented. Trace of misshapeness. Poor appearance.
DOB3	AF1569-2	round to oval tubers with medium buff to light tan surface. Large tubers are oval. Surface scab is serious. Wide range in size and shape.
DOB4	AF1615-1	round to oval tubers, most oval, irregular surface and irregular shape. Poor appearance.
DOB5	AF1668-60	round to oval tubers with buff surface. Wide range in size. Second growth. Surface scab. No future.
DOB6	AF2047-2	round to oval tubers with buff surface. Apical end is indented. Growth cracks. Surface scab. Wide range in shape. Poor appearance.
DOB7	AF1763-2	round to slightly oval tubers with buff surface. Larger tubers have folded apical end. Larger tubers have irregular surface.
DOB8	R17-7	round to slightly oval tubers with smooth surface. Very uniform size. Attractive tuber. Shallow eyes and shallow apical end — promising. Y.

DOB9 T20-15 round to slightly oval tubers with netted, scurfy surface. Major defects: second growth, irregular surface, serious surface scab. Poor appearance. No future.

DOB10 B1327-6 round to mostly oval tubers with buff surface. Major defects: second growth, misshapened, irregular surface, scab. No future

DOB11 B1763-4 round to oval tubers, dark purple, smooth surface, apical end tends to be indented. Trace of irregular surface.

DOB12 B1879-3 round to oval tubers with buff surface, tendency for growth cracks and surface scab. Wide range in size.

DOB13 RIDEAU round to oval tubers with red surface. Scaly red surface. Large tubers tend to be knobby. Wide range in size. Irregular surface even on small to medium size. Apical end tends to be indented.

DOB14 B1878-7 round to mostly oval tubers with buff surface. Appears to have sizing ability. May be quite susceptible to pitted/surface scab.

DOB15 B1870-1 round to slightly oval tubers with light tan surface. Smooth surface. Trace of surface scab. Good appearance.

DOB16 BO811-4 round to oval tubers with medium red surface, scurfy surface, small size. No future.

DOB17 B1872-8 round to oval tubers with light buff surface, irregular tuber surface. Poor appearance. Appears to have sizing ability. No future.

DOB18 Super Red Norland round to slightly oval tubers with medium red surface. Surface tends to be scaly. Fairly smooth surface.

DOB19 B1752-5 round to slightly oval tubers with creamy-tan surface, shallow eyes. yellow interior (Promising)

DOB20 B1876-10 round to slightly oval tubers with buff appearance. Serious irregular surface. No uniform tuber shape.

DOB21 B1829-5 round to oval tubers with light netting, light buff surface, smooth surface, shallow eyes. Good appearance. Appears to have yielding ability. Y.

DOB22 B1497-22 round to oval tubers with tan surface. Wide range in size. Major problems: second growth, misshapened, knobbiness.

DOB23 B1884-9	round to slightly oval tubers with buff color. Light netted skin, shallow eyes, tendency for irregular surface. Apical end tends to be indented. Slight tinge of pink on surface. Promising— processing only.
DOB24 Langlade	round to slightly oval tubers with buff surface, slight netting on some tubers. Trace of surface scab. Trace of irregular surface. Has sizing ability. Good appearance-promising.

ECW
9/26/00

Observations in Single Entries (lines for observation - OARDC-2000

We did not have time to make detailed observations. Following comments are characteristics which are limiting the introduction.

SOB1	AF2079-9	irregular surface	N
SOB2	AF2059-2	tuber surface in between russet and netted	N
SOB4	AF2082-7	wide range in shape-round, oval, oblong	N
SOB5	AF2069-5	round to oval to oblong tubers	N
SOB6	AF2147-1	round to oval tubers with tendency to be flattish	N
SOB7	AF2079-7	wide range in size of tubers	N
SOB8	AF2059-16	wide range in shape-no uniformity	N
SOB9	AF2129-34	russet type tuber--wide range in size	N
SOB11	AF2088-10	smooth surface, tubers range from round to oval to oblong	N
SOB12	AF2129-19	round to oval to oblong tubers	N
SOB13	AF2082-10	small size	N
SOB14	AF2096-1	oblong shape, netted surface	N
SOB15	AF2153-1	oval to oblong tubers--poor shape	N
SOB16	AF2078-5	round to oval to oblong tubers--netted	N
SOB17	ARSW96-4654-1	oval to oblong tubers--wide range in size	N
SOB18	AF2135-1	large tubers with bright surface--second growth	Y
SOB19	ARS W96-584-2	wide range in shape	N
SOB20	ARS W96-4662-2	wide range in size--severe surface scab	N
SOB21	AF2055-8	many small tubers. Wide range in size	N
SOB22	ARS W96-4662-2	light tan surface--smooth tubers	Y
SOB23	AF2115-1	smooth tuber surface-white to light buff surface	Y
SOB24	AF214703	round to oval to oblong tuber-scab problem	N
SOB25	AF2151-1	scurfy purple skin	N
SOB26	ARS W96-584-1	poor yield-pear shaped tubers, stolon end	N
SOB27	AF2081-3	wide range in size-much second growth	N
SOB28	AF2059-6	oblong tubers-scab is problem. Poor shape	N
SOB29	AF2061-2	poor tuber shape scab	N
SOB30	AF2091-6	no yield--poor shape	N
SOB31	Ware's Pride 1047-OH	smooth surface, red, yielding ability	Y
SOB32	AF2138-1	purple surface-purple interior-specialty market	Y
SOB33	ARS W96-40006-1	wide range in shape	N
SOB34	ARS W96-40022-5	fairly uniform tubers, smooth surface	Y
SOB35	AF2129-28	pear shaped tubers--irregular surface	N
SOB36	ARS W96-4661-3	wide range in size--no uniform shape	N

CONSUMER
COOKING EVALUATION

2000 POTATO CULTIVAR CONSUMER COOKING EVALUATIONS

Evaluations Conducted By:

Winston D. Bash, Director, Food Industries Center

Rebecca J. Keller, Manager, Food Industries Center Pilot Plant

Project Funded By:

Ohio Vegetable and Small Fruit Research and Development Program

PROJECT OBJECTIVES:

For many years, potato cultivars have been evaluated at the OSU Food Industries Center for chipping quality. This information has been used by growers and chippers alike in selecting the cultivars that best suit their needs. Until 1996, however, no potato evaluation testing had been done to identify the quality attributes consumers find after potatoes have been prepared as boiled, mashed, baked and fried for home or commercial use. During the first year of our studies in 1996, we developed basic parameters for each of the preparation methods. Three years ago, we improved our evaluation techniques and our reporting format and we have continued the same reporting system.

MATERIALS AND METHODS:

Sixteen cultivars were chosen by persons familiar with potato production and delivered to the Food Industries Center Pilot Plant. The selected cultivars were grown at the Ohio Agricultural Research and Development Center, Wooster, Ohio. Each of the cooking methods required different preparation and procedures. These procedures will be listed separately.

1) **Boiled Potatoes.**

Potatoes were peeled in an abrasive peeler for three minutes, hand trimmed where necessary and diced so that uniform sizes could be obtained for cooking. The diced potatoes were held in cold water until placed in a boil-in bag pouch with water and cooked for thirty minutes. For the size of our dices, this gave an adequate cook. Cooking was accomplished in steam jacketed kettles where water was kept at a low, rolling boil throughout the thirty minute cook. After cooking, the potatoes were allowed to drain and placed on grading trays for evaluation.

2) **Mashed Potatoes**.

Potatoes prepared as for boiled potatoes were transferred to a mixing bowl and mixed with a home hand-held mixer. Mixing was started at slow speed, increased to medium speed and then finally given a high speed whip. Mixing time was about 30 seconds for each test. No ingredients were added.

3) **Baked Potatoes.**

The unpeeled potatoes were selected for uniformity of size, approximately 2-1/2" to 3" in diameter, washed and placed on metal cooking sheets. Potatoes were then placed in a pre-heated 350^0F oven and cooked for one hour plus, until done.

4) **Fried Potatoes.**

Potatoes were peeled in an abrasive peeler for three minutes to remove the majority of peel so that only minor hand trimming was necessary. The potatoes were sliced to a thickness of 1/8" in a Hobart slicer and deposited directly into water. The sliced potatoes were parboiled for twenty minutes prior to frying. Frying was done on an open grill with a temperature of approximately 350^0F. A heavy coating of oil was applied to the grill and 18-20 potato slices added. The slices were turned to coat them with oil, pulled into a pile and cooked under an aluminum cap for fifteen minutes. After the first five and second five minute cooking interval, the potatoes were turned to obtain uniform cooking and color development and then recovered for evaluation.

Evaluation was principally subjective with the exception of specific gravity measurements. A scale of 1- 5 was used to evaluate each quality attribute, with 1 being good and 5 being undesirable. On these scales, 3 was an average grade. In addition, descriptive comments were made for most observations.

RESULTS AND DISCUSSION:

The attached data gives the results of our consumer cooking evaluation tests. The most striking conclusion for those conducting the test was the variability and differences among cultivars. It seems evident that this type of evaluation procedure should continue and that new cultivars e evaluated in order for information to be supplied to consumers and growers concerning the cooking qualities of new cultivars.

We have known that differences existed, but the degree of difference was striking. With some cultivars the different method of cooking made a substantial difference in acceptance for the various quality factors. This year potatoes had a much higher incidence of internal darkening than previous years.

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
1	SUPERIOR (NE 28)		

EVALUATION:

	RATING SCALE				
	HIGH		MED	LOW	
	1	2	3	4	5
BOILED:					
DEFECTS:			3		
1/4" light yellow ring, small amount of darkening.					
COLOR:			3		
Slightly yellow.					
FLAVOR:		2			
Fairly mild, typical flavor.					
TEXTURE:			3		
Dry, a little mealy.					
MASHED:					
DEFECTS:		2			
Some hard spots.					
COLOR:				4	
Light, dirty and yellow.					
FLAVOR:					
Bland.					
TEXTURE:				4	
Dry, mealy, did not mash smoothly.					
BAKED:					
DEFECTS:			3		
Small amount of internal veining; some deep eyes.					
COLOR:			3		
Gray, appears lucid on outer edges.					
FLAVOR:			3		
Green flavor; not a true potato flavor.					
TEXTURE:		2			
Fairly moist and smooth.					
FRIED:					
DEFECTS:			3		
A few internal dark spots.					
COLOR:		2			
Pretty good.					
FLAVOR:		2			
Mild, good fried potato flavor.					
TEXTURE:			3		
A little soggy.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	REMARKS
2	KATAHDIN (NE 33)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:		2			
Some internal spotting.					
COLOR:			3		
Fairly good ivory color.					
FLAVOR:			3		
Rather strong.					
TEXTURE:		2			
Moist, fairly smooth.					
MASHED:					
DEFECTS:		2			
A few heard cores.					
COLOR:		2			
A little gray.					
FLAVOR:		2			
Mild.					
TEXTURE:		2			
Fairly moist and smooth.					
BAKED:					
DEFECTS:	1				
None.					
COLOR:		2			
Good.					
FLAVOR:		2			
Mild.					
TEXTURE:		2			
Fairly moist, not mealy.					
FRIED:					
DEFECTS:			3		
Soft.					
COLOR:			3		
A little light.					
FLAVOR:			3		
Very mild; lacking potato flavor.					
TEXTURE:			3		
Soft.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
3	ATLANTIC (NE 35)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:				4	
Hollow heart with area darkening. Several deep eyes, internal bundle darkening.					
COLOR:			3		
Grayish.					
FLAVOR:			3		
Flat.					
TEXTURE:			3		
Firm but not mealy.					
MASHED:					
DEFECTS:			3		
Dark spots appear.					
COLOR:			3		
Darker gray.					
FLAVOR:					4
No potato flavor.					
TEXTURE:					4
Fairly smooth, but dry.					
BAKED:					
DEFECTS:					4
Hollow heart, internal darkening, heat ring darkening, some internal blistering in heart ring.					
COLOR:			3		
Variable from white to yellow.					
FLAVOR:					4
Off-undesirable flavor.					
TEXTURE:					4
Hard, dry.					
FRIED:					
DEFECTS:		2			
A few deep eyes.					
COLOR:		2			
A little light.					
FLAVOR:			3		
Mild, lacking in potato flavor.					
TEXTURE:			3		
Soft, mushy.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	REMARKS
4	KENNEBEC (NE 7)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:		2			
Small amount of internal darkening.					
COLOR:		2			
A little yellowish cast.					
FLAVOR:			3		
Fairly mild but not a typical potato flavor.					
TEXTURE:		2			
Fairly moist, smooth.					
MASHED:					
DEFECTS:		2			
Only minor specks.					
COLOR:		2			
Light yellowish gray.					
FLAVOR:			3		
Green, non-potato flavor.					
TEXTURE:		2			
Fairly moist and smooth.					
BAKED:					
DEFECTS:		2			
Small amount of veining; small amount of heat ring darkening.					
COLOR:		2			
A little gray.					
FLAVOR:				4	
Green, almost metallic flavor.					
TEXTURE:			3		
Fairly moist; a little mealy.					
FRIED:					
DEFECTS:		2			
A few internal dark spots.					
COLOR:	1				
Good color development.					
FLAVOR:			3		
A little strong.					
TEXTURE:	1				
Good, fried texture.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	REMARKS
5	NY 112 (NE 5)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:					5
A lot of external darkening.					
COLOR:				4	
Internal heat ring darkening.					
FLAVOR:		2			
Some sweetness, mild.					
TEXTURE:		2			
Moist, not mealy.					
MASHED:					
DEFECTS:				4	
A lot of black showing up; green also.					
COLOR:			3		
Grayish.					
FLAVOR:		2			
Fairly mild, no undesirable flavor.					
TEXTURE:		2			
Some hard spots; fairly moist.					
BAKED:					
DEFECTS:		2			
A little puffy in heat ring.					
COLOR:		2			
A little gray.					
FLAVOR:		2			
Fairly mild; reasonably good potato flavor.					
TEXTURE:			3		
A little dry and mealy.					
FRIED:					
DEFECTS:				4	
External green spots - showed up rather badly; exterior deterioration.					
COLOR:			3		
Good color development; a little over-darkening.					
FLAVOR:		2			
Good, mild.					
TEXTURE:		2			
A little soft.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
6	GL		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:			3		
A few heat ring spots; some external darkening.					
COLOR:		2			
Nice white color.					
FLAVOR:		2			
Good potato flavor.					
TEXTURE:	1				
Moist, fairly smooth.					
MASHED:					
DEFECTS:		2			
A few dark spots.					
COLOR:		2			
Good, with small amount of gray.					
FLAVOR:	1				
Mild, good potato flavor.					
TEXTURE:	1				
Moist, smooth.					
BAKED:					
DEFECTS:		2			
A little puffy in heat ring, small amount of internal darkening.					
COLOR:		2			
Fairly good.					
FLAVOR:		2			
Pretty good, fairly typical.					
TEXTURE:		2			
A little dry with a few hard spots.					
FRIED:					
DEFECTS:			3		
Some dark spots with deeper eyes than desired.					
COLOR:		2			
A little light, not as much color development as might be.					
FLAVOR:		2			
Good.					
TEXTURE:			3		
Soft.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	REMARKS
7	T 27-21 (SOB 51)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:			3		
Deep eyes, some internal darkening.					
COLOR:		2			
Fairly bright yellow color.					
FLAVOR:			3		
Non-potato flavor but mild.					
TEXTURE:		2			
Smooth, tender, no mealiness.					
MASHED:					
DEFECTS:		2			
A few dark spots.					
COLOR:		2			
Light yellow.					
FLAVOR:			3		
Very mild.					
TEXTURE:		2			
Fairly smooth, moist.					
BAKED:					
DEFECTS:			3		
A few deep eyes; outer veining, some heat ring puffing.					
COLOR:			3		
Variable, light gray to light yellow.					
FLAVOR:				4	
Undesirable potato flavor.					
TEXTURE:		2			
Fairly moist, not grainy.					
FRIED:					
DEFECTS:				4	
Surface greening, shows up badly.					
COLOR:		2			
Good color development.					
FLAVOR:		2			
Mild, good friend potato flavor.					
TEXTURE:			3		
A little soft, with pieces not holding together.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	REMARKS
8	ND 3574-5R (NC 2)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:		2			
Small amount of internal darkening.					
COLOR:			3		
Light gray.					
FLAVOR:		2			
Good potato flavor.					
TEXTURE:		2			
Moist, fairly smooth.					
MASHED:					
DEFECTS:		2			
A few dark spots.					
COLOR:			3		
Grayish.					
FLAVOR:			3		
Blah!					
TEXTURE:			3		
A little mealy.					
BAKED:					
DEFECTS:	1				
No apparent defects.					
COLOR:		2			
Fairly light yellow.					
FLAVOR:		2			
Rather mild.					
TEXTURE:			3		
Fairly moist, a little mealy.					
FRIED:					
DEFECTS:			3		
Internal darkening.					
COLOR:		2			
A little light, but fairly uniform.					
FLAVOR:		2			
Fairly mild, but not a strong fried flavor.					
TEXTURE:	1				
Excellent.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
9	R 17-7 (DOP 8)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:			3		
Small amount of internal darkening; vascular bundle darkening.					
COLOR:			3		
Good white color with some external darkening.					
FLAVOR:			3		
Very starchy flavor.					
TEXTURE:					
Fairly moist, not lumpy.					
MASHED:					
DEFECTS:		2			
Some specks.					
COLOR:			3		
Rather gray.					
FLAVOR:			3		
Blah.					
TEXTURE:			3		
A little dry but not mealy.					
BAKED:					
DEFECTS:			3		
Fair amount of external darkening and/or bruising; some deep eyes with internal darkening.					
COLOR:			3		
Varied – yellowish gray					
FLAVOR:		2			
Not too bad.					
TEXTURE:		2			
Smooth, moist.					
FRIED:					
DEFECTS:		2			
Some evidence of heat ring.					
COLOR:		2			
Good, light.					
FLAVOR:		2			
Mild, nothing objectionable.					
TEXTURE:	1				
Good.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
10	DARK RED NORLAND (NE 2)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:			3		
Some off-color in the vascular bundle, some fairly deep eyes.					
COLOR:			3		
Slightly yellow, a little external darkening.					
FLAVOR:		2			
Fairly mild, typical potato flavor.					
TEXTURE:		2			
Smooth, not mealy.					
MASHED:					
DEFECTS:		2			
A few specks.					
COLOR:		2			
A little gray.					
FLAVOR:			3		
Fairly mild, not real potato flavor.					
TEXTURE:		2			
Moist, putty smooth.					
BAKED:					
DEFECTS:			3		
Eye material protruding into potato, almost like a small root.					
COLOR:		2			
Fairly light.					
FLAVOR:		2			
Fairly mild.					
TEXTURE:		2			
Fairly moist, no graininess, smooth.					
FRIED:					
DEFECTS:		2			
Just a few internal dark spots.					
COLOR:		2			
Uniform, but a little light.					
FLAVOR:	1				
Food fried flavor.					
TEXTURE:	1				
Excellent.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
11	MSB 107-1 (NC 7)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:				4	
Very spongy before cooking; vascular _____, very prominent, heat ring visible.					
COLOR:			3		
A little gray.					
FLAVOR:				4	
Off-flavor.					
TEXTURE:			3		
Fairly moist, small amount of mealiness.					
MASHED:					
DEFECTS:			3		
Dark spots are visible.					
COLOR:			3		
A little gray.					
FLAVOR:				4	
Off-potato flavor.					
TEXTURE:			3		
A little lumpy.					
BAKED:					
DEFECTS:			3		
Deep eyes, small amount of blistering in heat ring area; some graying in heat ring area.					
COLOR:		2			
Reasonably good light color.					
FLAVOR:			3		
A little off-flavor.					
TEXTURE:		2			
Fairly moist, not grainy.					
FRIED:					
DEFECTS:			3		
Green edges, darkening around edge because of chlorophyll.					
COLOR:			3		
Uneven; some fried dark, others light.					
FLAVOR:			3		
A little green.					
TEXTURE:		2			
Good.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
12	B 1924-1 (SOB 61)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:		2			
Small amount of heat ring; small amount of external darkening.					
COLOR:		2			
Good light color; some external darkening.					
FLAVOR:			3		
Untypical, undesirable strong potato flavor.					
TEXTURE:			3		
Dry, but not mealy or mushy.					
MASHED:					
DEFECTS:	1				
No apparent defects.					
COLOR:		2			
A little grayish.					
FLAVOR:			3		
Strong, not potato-like.					
TEXTURE:			3		
Dry, a little mealy.					
BAKED:					
DEFECTS:		2			
Very small hollow heart; some blistering in heat ring area.					
COLOR:		2			
Fairly light.					
FLAVOR:				4	
Strong, not potato-like.					
TEXTURE:		2			
Reasonably smooth and moist.					
FRIED:					
DEFECTS:		2			
Very small amount of heat ring.					
COLOR:		2			
Light, uniform.					
FLAVOR:	1				
Good flavor.					
TEXTURE:	1				
Very good.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
13	T 28-1 (SOB 50)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:		2			
A few deep eyes.					
COLOR:	1				
Nice light yellow color, uniform and bright.					
FLAVOR:	1				
Rather sweet, good potato flavor.					
TEXTURE:	1				
Smooth, moist, not grainy.					
MASHED:					
DEFECTS:		2			
A few hard spots.					
COLOR:	1				
Good mashed potato color.					
FLAVOR:	1				
Good mild, mashed potato flavor.					
TEXTURE:		2			
Moist, smooth; a little pasty.					
BAKED:					
DEFECTS:		2			
A few fairly deep eyes; a little discoloration in heat ring.					
COLOR:		2			
Uniform, light yellow.					
FLAVOR:	1				
Rather sweet, good flavor.					
TEXTURE:		2			
Moist, smooth, not lumpy.					
FRIED:					
DEFECTS:		2			
Small amount of heat ring.					
COLOR:			3		
Light, uneven.					
FLAVOR:		2			
Mild.					
TEXTURE:			3		
Soft, mushy.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
14	B 1912-7 (SOB 52)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:				4	
Dark vascular rings; a lot of external darkening.					
COLOR:				4	
Grayish, with external darkening.					
FLAVOR:				4	
Undesirable musty flavor..					
TEXTURE:		2			
Smooth, rather dry.					
MASHED:					
DEFECTS:			3		
A lot of specks.					
COLOR:			3		
Gray.					
FLAVOR:			3		
A little lumpy; fairly moist, a little pasty.					
TEXTURE:			3		
A little lumpy; fairly moist, a little pasty.					
BAKED:					
DEFECTS:				4	
Fair amount of darkening into the potato, over one fourth inch.					
COLOR:			3		
Gray.					
FLAVOR:			3		
Undesirable.					
TEXTURE:				4	
Too moist, gummy.					
FRIED:					
DEFECTS:	1				
None.					
COLOR:		2			
A little uneven.					
FLAVOR:	1				
Mild, fried potato flavor.					
TEXTURE:			3		
Soft.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
15	B 1947-6 (SOB 65)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:		2			
Small amount of darkening in vascular bundles.					
COLOR:		2			
Small amount of external darkening.					
FLAVOR:			3		
Mild.					
TEXTURE:		2			
A little dry; soft, but not mealy or mushy.					
MASHED:					
DEFECTS:			3		
A few specks and hard pieces.					
COLOR:		2			
A little gray.					
FLAVOR:		2			
Fairly mild.					
TEXTURE:				4	
Sticky, mushy.					
BAKED:					
DEFECTS:			3		
Discoloration at outer surfaces.					
COLOR:		2			
Light yellow.					
FLAVOR:		2			
Fairly mild.					
TEXTURE:			3		
A little dry and mealy.					
FRIED:					
DEFECTS:		2			
A few dark spots, some caused by deep red eyes.					
COLOR:			3		
Light, uneven.					
FLAVOR:			3		
Mild, not much flavor.					
TEXTURE:		2			
A little soft, but still stayed together.					

2000

EVALUATION OF POTATO CULTIVARS

FOR CUSTOMER CONSUMPTION

VARIETY NO	CULTIVAR	SPECIFIC GRAVITY	R E M A R K S
16	B 1316-5 (SOB 56)		

EVALUATION:

	RATING SCALE				
	HIGH		MED		LOW
	1	2	3	4	5
BOILED:					
DEFECTS:		2			
A little outer darkening and a little vascular bundle darkening.					
COLOR:		2			
Fairly white; external darkening.					
FLAVOR:		2			
Mild, good potato flavor.					
TEXTURE:			3		
A little grainy.					
MASHED:					
DEFECTS:		2			
Some black spots.					
COLOR:		2			
Gray.					
FLAVOR:			3		
A little harsh.					
TEXTURE:			3		
Dry, a little mealy.					
BAKED:					
DEFECTS:			3		
Darkening at edges.					
COLOR:			3		
Lack of uniformity.					
FLAVOR:		2			
Pretty good.					
TEXTURE:		2			
Fairly smooth; minimal outer graininess.					
FRIED:					
DEFECTS:			3		
Some internal darkening; small amount of hollow heart.					
COLOR:			3		
Light, not uniform.					
FLAVOR:			3		
Mild, not really potato flavor.					
TEXTURE:			3		
Mushy, soft.					