

RESULTS OF THE 1964 POTATO VARIETY TRIAL

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As more and more potatoes are processed, tuber shape and color of skin tend to lose their importance, and such characteristics as high yield, symmetry, high dry matter content, low sugar content, and resistance to bruising become more important. These factors govern the price and quality of the raw product. In order to find a better variety for the fresh market and for the processing industry, potato variety trials have been conducted annually since 1959.

Cooperators who supplied potato seed for the 1964 variety trials are:

1. R. V. Akeley, U.S.D.A.
2. H. J. Murphy, Maine
3. S. A. Alfieri, Colorado
4. R. B. O'Keefe, Nebraska
5. R. H. Johansen, North Dakota
6. L. L. Sanford, Idaho
7. W. G. Hoyman, Washington
8. Howard Michaelis, Washington

The 1964 potato variety trial was planted on April 28 with the WSU press wheel potato planter. Fertilization consisted of 350 pounds per acre of nitrogen from ammonium nitrate, 390 pounds per acre of P_2O_5 from triple-superphosphate and 312 pounds per acre of K_2O from muriate of potash. The fertilizer was applied in two bands about two inches to the side and two inches below the bottom of the seed piece at planting time. The land had been under irrigated farming since 1961. The seed pieces were spaced 10 inches apart and the rows were spaced 34 inches apart. Each plot was 20 feet long. Furrows were made for irrigation, but no cultivation or hilling was done. Mechanical weeding was done early in the season with two weeder blades which formed an open "V".

More fertilizer was used in 1964 than in previous years, and the average temperature was lower than normal. Whether it was the added fertilizer, the cooler season or a combination of both which caused the exceptionally high yields is not known.

Irrigation: Alternate furrows were irrigated on May 4, 18 and 28. The rows which were skipped on May 4 received water on May 18. Water was in the furrows for 24 hours on May 4 but for only 12 hours on May 18 and 28. An inch of rain fell on June 7 and 8. On July 2 a 5-row irrigation rotation was started. It was changed to a 7-row rotation on August 5 and on September 10 irrigation was stopped for the season.

Insect control consisted of dusting the plants with 3% Thiodan and 50% sulfur on June 25, July 7 and July 22, and spraying with Thiodan and Zineb on August 23.

Disease control consisted of dusting the seed pieces with 5% Captan, dusting the foliage with sulfur, and spraying the foliage with Zineb.

Harvesting was done on October 21 and 22. Total yield, percent No. 1 grade and specific gravity values are the means of five replications. Chip color is based on two tubers from each of three replications. The slices were .058 inch thick and were fried at 375 F until bubbling ceased. These

potatoes had never been subjected to temperatures below 55 F, not even for a short period of time, and were at 70F between November 5 and November 9. Specific gravity and chip color measurements were made November 9, 10, and 11. Chip colors are based on the National Potato Chip Institute color chart. Values of 4, 5 and 6 are acceptable.

Samples are new in 40 F storage to test the response of the tubers to low temperature. Later they will be tested for chipping quality.

Potato Varieties Grown at Othello, Washington, 1964

Order	Variety	Total Yield Per acre, CWT.	Percent No. 1 grade	Specific Gravity	Chip Color
1.	396.55-3	1003	91	1.082	5.6
2.	A 503-42	976	83	1.093	6.0
3.	Redskin	964	85	1.079	7.0
4.	Golden Chip	889	76	1.090	5.0
5.	A 576-2	880	54	1.093	7.0
6.	A 465-11	863	69	1.097	8.0
7.	A 170-9	844	76	1.089	6.0
8.	Golden Chip	843	76	1.087	5.6
9.	4.56-9	830	89	1.081	5.3
10.	Shoshoni	803	79	1.086	8.0
11.	Ona 793	793	87	1.092	7.0
12.	A 598-101	792	74	1.096	5.0
13.	Russet Burbank	790	83	1.096	5.6
	(Idaho)				
14.	Penobscot	786	82	1.095	6.0
15.	Red McClure	781	78	1.097	5.0
16.	412.55-2	775	84	1.078	7.0
17.	B 2894-24	770	78	1.081	6.0
18.	A 492-2	764	85	1.098	8.3
19.	A 483-6	755	72	1.097	5.0
20.	48-1	747	85	1.084	8.6
21.	B 3353-9	730	85	1.077	6.0
22.	B 3692-4	729	82	1.082	5.6
23.	B 3696-13	723	86	1.083	7.0
24.	A 466-2	723	59	1.096	6.0
25.	Redbake	706	88	1.081	6.0
26.	Allehanna	704	77	1.083	7.0
27.	B 4123-10	704	82	1.072	8.3
28.	B 3802-15	703	90	1.084	6.0
29.	B 4828-4	701	85	1.067	6.3
30.	CS 13951	697	81	1.088	6.0
31.	Balanca	690	87	1.091	7.0
32.	Rushmore	690	82	1.077	6.3
33.	Penchip	684	80	1.077	5.0
34.	Haig	670	88	1.079	5.6
35.	ND 4524-7R	657	88	1.075	4.6
36.	Norland	652	90	1.067	5.6
37.	ND 4192-3	650	92	1.081	7.9
38.	412-55-2	647	84	1.078	5.0
39.	Russet Burbank	647	79	1.093	5.0
	(Montana)				
40.	156.51-2	646	87	1.101	6.0

Order	Variety	Total Yield Per acre, CWT.	Percent No. 1 grade	Specific Gravity	Chip Color
41.	11-29	644	85	1.091	8.0
42.	CS 13928	621	85	1.092	7.0
43.	Norgold Russet	614	90	1.081	7.0
44.	Navajo	606	88	1.088	6.0
45.	226.49-1X	581	87	1.081	6.0
46.	CS 11889	570	80	1.083	7.3
47.	ND 3676-20	569	81	1.086	6.0
48.	81.55-1	467	86	1.084	7.3
	LDS 5%	118	10.3	.0055	
	1%	155	13.6	.0073	