OHIO AGRICULTURAL EXPERIMENT STATION

Wooster, Ohio

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POTATO VARIETY TRIALS, 1957

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These trials aimed to include most of the varieties grown for certification in the seed producing belt extending from North Dakota to Maine and to Prince Edward Island. The agencies most helpful in collecting samples were the growers and dealers supplying the Ohio trade.* Many of the samples were supplied gratis. In some instances, growers submitted samples of promising seedlings before they had been named. Similarly the Ohio Station cooperates with potato breeders of several other states in evaluation of seedlings under a project titled North Central Regional Potato Trials.

The trials reported were conducted at Wooster, planted May 28, on Wooster silt loam. Seed was carefully cut so that 10 pieces weighed one pound, or if B size, they were sorted to this weight. Each row was 60 pieces spaced 11 inches in rows three feet apart. There were four replications. Spraying was done from surrounding roadways, so that none of the rows were damaged by sprayer wheels.

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* See footnote Table 1.

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Planting was done carefully and slowly. In the total of 92 rows, 84 rows had perfect stands, none had more than one missing hill. In September, notes were taken weekly on the amount of foliage dead. When estimated as 95% dead, the row was judged "mature". Shortly after the hot weather of the first week of September, several varieties either yellowed or wilted, apparently prematurely. In this group were Pungo, Keswick, Canso, and Red McClure. Even though slow to die down to 95%, Canso and McClure seemed severly set back. On the other hand, Russet Rural was not set back to the point of second growth, there were no dumbbell shapes in the Russet Rurals as happens in some seasons. Yields and some other data are presented in Table 1.

Comments on Some Individual Varieties. Taken in order of maturity as listed in Table 1.

Picha 40, tested for the first time, was a week earlier than Cobbler. An attractive, round, red potato, its average size of tuber was slightly smaller than Cobbler. In general appearance it rated as good as Katahdin,- far above Cobbler.

White Cloud, with depressed terminal eyes, was otherwise a smooth, round, white potato averaging smaller than Cobbler, but with slightly higher specific gravity. White Cloud is reputed to be susceptible to scab, but as scab is rare on Wooster silt loam, the tubers were clean here.

Antigo, a new introduction from Wisconsin, yielded significantly below Cobbler, but the tubers were attractive smooth, round, and uniform.

Iowa 1429, (submitted for trial by Starks Farms) rated here as equalling White Cloud. The skin is tinged brown, like White Rural.

Red Pontiac is the principal main crop variety west of Lake Michigan.

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TABLE 1. POTATO VARIETY TRIAL 1957

Variety	Days to mature	Bushels per acre U.S. #1	Total size A	Size B	Rating on appearance of tubers*	Specific gravity	Number hollow in 20 largest tubers
Picha 40 (red)	97	347	364	42	10	1.070	0
Waseca (red)	101	326	347	30	4	68	0
White Cloud	101	334	348	37	8	80	1
Antigo	102	309	329	22	10	74	0
Cobbler	104	368	403	21	5	76	2
Pungo	104	206	223	35	7	71	4
Iowa 1429	105	337	356	29	8	79	0
De Sota (red)	106	349	372	43	8	71	3
Keswick	113	296	334	14	6	76	0
Plymouth	114	281	329	17	10	76	0
Red Pontiac	114	386	415	17	6	68	2
Red LaSoda	114	323	355	26	6	68	0
KATAHDIN	115	358	373	19	10	78	0
Kennebec	117	400	452	21	9	83	0
Canso	117	268	277	20	9	84	0
Redkote	117	416	444	18	9	72	3
Red McClure	117	186	209	22	9	79	0
Canoga	120	317	360	22	8	85	0
Russet Rural	121	327	342	36	9	80	0
Merrimac	121	329	338	18	6	85	0
Sebago	126	388	405	28	10	83	0
Saco	128	315	476	27	5	83	0
L.S.D. at 5% level:							
Promising varieties and seedlings in nearby North Central Regional Potato Trial							
No. Dak 2906-1 (red)	100		409	28	10	1.067	0
Tawa (Iowa)	109		394	30	10	1.075	0
Redbake (Neb.)	111		327	29	8	1.083	1
Iowa 961-1	114		371	21	12	1.075	0
U.S.D.A. OB 1227-2	115		290	25	11	1.086	0
KATAHDIN**	116		439	15	10	1.076	0
Wis. Ag. 5655	125		462	30	8	1.084	0
U.S.D.A. OB 3357-1	128		350	13	8	1.073	0

* Rating of less than 8 is judged too rough, too misshapen, or too variable to be acceptable as a commercial variety. Note that Katahdin is rated "10" and Cobbler "5".

** Included as a check. Note the yield here was higher than above in the variety block.

Cooperatives supplying samples:

Ohio Farm Bureau Cooperative, Columbus, Ohio
New York Potato Growers Cooperative, Bouckville, N. Y.

Growers submitting samples:

Starks Farms, Starks, Wis.
Ben Picha, Grand Forks, N. Dak.
Geo. Mehlenbacher and Sons, Wayland, N. Y.

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In these Wooster trials for four years it has been consistently high yielding, but the tubers have been oversize and misshapen, and on many tubers the eyes have been conspicuous. In specific gravity it has regularly been below Katahdin.

Plymouth has attractive, smooth, flattened oval tubers, distinctive in shape, and in light flaky russeting. In yield, however, it fell about 50 bushels per acre below Katahdin.

Redkote, (Ben Picha,) a round, red potato, stood out as surpassing Katahdin in yield. Its large tubers were somewhat irregular, bulging between the eyes, so that in general appearance it rated below Katahdin. As in the past, its specific gravity has been somewhat below Katahdin or Kennebec. Its shortcoming is hollow-heart. In 1956 when Cobbler had 50% hollow, Redkote also had 50%.

Kennebec also outyielded Katahdin,- the first time in several years of trials. Evidently the season was specially favorable for Kennebec (likewise for Redkote). Kennebec tubers were not as rough as in other years.

Canoga (Geo. Mehlenbacher and Sons. N.Y.) had considerable proportion of oversize tubers bulging between the eyes. Otherwise it would have rated with Katahdin, resembling Katahdin in shape and in yield. Its high specific gravity should be noted.

Merrimac, another variety with high specific gravity, bulged between the eyes on small as well as on large tubers.

Saco deserves mention because of enormous yield and high specific gravity. On the other hand the tubers were misshaped, off shaped, and ill-shaped. In the home garden, it should provide entertainment as well as tasty potatoes.

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In the list at the bottom of the Table, a seedling worthy of note is Iowa 961-1. Maturing practically the same time as Katahdin, it produced round, smooth, tubers, remarkably uniform in size and shape. As they came from the field the tubers looked as though they had been selected for uniformity. In preliminary cooking test it rated above Katahdin. Otherwise it was not exceptional.

Wisconsin Ag. 56.55, late maturing, produced both good yield and high specific gravity. It was not as smooth as Katahdin; seven per cent had shallow growth cracks. Nevertheless, from this one-year test, it stands as a promising competitor of Katahdin.

Based on appearance and specific gravity, U.S.D.A. Seedling OB 1227-2, maturing at the same time as Katahdin, was given a high rating. Its shortcoming was low yield.

GENERAL CONCLUSIONS

Prospects for a new variety to replace Irish Cobbler in Ohio appear good. Cobbler has excellent good cooking quality, but in 1956 hollow-heart was so widespread that an alternate early variety is urgent. White Cloud looks very promising in these trials at Wooster, but it is difficult to get certified seed. Presumably seed growers shy away from a variety reputed to be susceptible to scab.

Antigo, and Iowa 1429, both white-skinned, appear in these trials as possible replacements of Cobbler. Two, red, unnamed seedlings also appear promising in this direction: Picha 40, and North Dakota 2906-1. Both are a few days earlier than Cobbler; both were rated "10" in general appearance, compared with "5" for Cobbler. None of these four showed hollow-heart in the 1957 trial.

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On the other hand, if one sets Katahdin, Kennebec, and Sebago as standards of a late variety in Ohio, the only respect in which any new varieties surpass them is in distinctive appearance. Redkote is an attractive, round, red potato, with high yield, but tends to hollow heart. Plymouth has a very attractive uniform oval shape, but here it was far below average in yield. Iowa Seedling 961-1 is another very attractive potato, also having good specific gravity, but in yield not up to Katahdin.

Although none of the new varieties seems likely to supplant Katahdin, there are three others that can be suggested for trial. One is Tawa, which is about a week earlier than Katahdin. Another is Canoga, which is a week later. The third is Wisconsin Seedling Ag. 56.55, ten days later than Katahdin. Both Canoga and the Wisconsin Seedling had high specific gravity in the trials this year.

The Experiment Station does not distribute seed of new varieties. As a rule, named varieties can be obtained from growers of certified seed in trial lots before they are available in carlots. Promising seedlings developed by potato breeders are usually distributed first to certified seed growers rather than being distributed for general trial.

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