Potato Varieties for Arizona

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The potato has become an important crop to the vegetable industry of Arizona. Of the vegetables grown in the state, the potato ranks third, following lettuce and cantaloups in value. In 1961 over 10,000 acres of potatoes were grown in Arizona.

An important factor in potato production is the variety used. A desirable variety for Arizona is one that consistently yields well under Arizona conditions and has the quality characteristics desired for its intended use. Present standard varieties for Arizona are Kennebec for making chips and Red Pontiac for table use.

Compare New With Old

Plant breeders in many parts of the country are constantly striving to improve the standard potato varieties as well as develop new ones. To learn how these new introductions will perform under Arizona conditions, The University of Arizona has a potato variety testing program, comparing the new varieties to the standard types.

Characteristics considered in these evaluations are plant vigor and stand, maturity, marketable yield, defects and diseases, tuber shape and color, eye depth, specific gravity, and processing quality.

During the 1961 season The University of Arizona tested and evaluated 32 varieties of potatoes grown near Mesa on the farm of Ed LeBaron. Seed for these varieties was contributed by potato breeders in many states and the U.S. Department of Agriculture. Two plantings (January 31 and February 28) were made of each variety.

The test plots were harvested during May and June, depending on the maturity of the variety. Following harvest, the potatoes were graded and were critically studied and then placed in storage until processing tests were made.

Two Varieties Stand Out

The two most promising varieties in the 1961 tests were Merrimack and an unnamed variety from North Dakota called ND 3815-IR. These two varieties and others which showed promise are discussed below:

Merrimack, a variety with white, round tubers and resistance to late blight, ring rot, and net necrosis, yielded slightly better than Kennebec and chipped as good. It had a high specific gravity and appeared to condition quickly for chipping. If problems (such as Verticillim Wilt and cat-eye) continue in Kennebec, Merrimack may be a good replacement.

The shape of the tuber is one disadvantage for chipping. Chippers want a longer potato which is easier to slice. Merrimack is considered to be a good general purpose potato and may be used for other purposes beside chipping. This variety is worthy of trial by both growers and chippers.

ND3815-1R, a round to oblong, redskin potato, produced about the same yields as Red Pontiac. If this variety continues to perform as it did this year, it should become an important early red potato for Arizona. It has these advantages over Red Pontiac: brighter red skin, smoother appearance, shallower eyes, less feathering, and higher specific gravity.

Snowflake Has Earliness

Snowflake, a selection from a cross between Kennebec and ND 457-1, yielded the same as Kennebec and had about the same specific gravity, but was about two weeks earlier. In cooking tests several weeks after harvest it did not chip well, but it is thought that it may chip better immediately after harvest or after proper conditioning. The tubers are very smooth and round to oblong in shape. The main advantage of this variety is its earliness: it may have a place in supplying chippers earlier in the spring.

Pungo, an early potato with white, round to blocky tubers, yielded comparable to Red Pontiac. Since it is considered only a fair variety for processing, its chief use would be for fresh market. Where an early, white-skin variety is desired, this is one to try.

Plymouth, a white, oblong potato, was one of the top yielders in the 1961 trials, but had only a medium specific gravity and produced poor chips. It is reported to be only a fair potato for processing. It may have a place where a medium-late white variety is desired for the fresh market.

Further studies and commercial field tests will be made this year with these and other promising varieties. Also, several new introductions will be included in the 1962 testing program.

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BELOW IS a view of potato growers and others looking at displays of different potato varieties at a field day at the Mesa Experiment Station.

If farmers today were using the practices available to them 20 years ago, it would cost us $13 billion more a year to produce our food and fiber. That amounts to $288 for each of the nation's families. This yearly saving of $13 billion is more than twice the cost of all agricultural research conducted in this country during the last one hundred years.