MONONA: A NEW VARIETY OF POTATO, DISTINCTIVE FOR EXCELLENT CHIP COLOR AFTER NUMEROUS STORAGE TREATMENTS

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Monona is a new, medium-early variety of potato distinctive for its excellent chip color after numerous storage treatments, and resistance to mild and rugose mosaics.

Monona was named by Frito-Lay, Inc., Dallas, Texas, in August 1964. It was selected in Maine from a cross of Katahdin selfed, by Chippewa selfed. The cross was made in 1953 in the greenhouse at Beltsville, Maryland, as part of the work of the National Potato-Breeding Program. It was given the pedigree number B3620. The seedlings were grown in the greenhouse at Beltsville. The tubers were sent to Presque Isle, Maine, where they were increased and tested for various characters before selections were made.

B-3620-1, tested in Wisconsin as RD8, was among a group of 326 seedling varieties sent in the fall of 1955 to Red Dot Foods, Inc., now the North Central Division of Frito-Lay, Inc., Madison, Wisconsin. The seedlings were sent in accordance with the policy of the U.S. Department of Agriculture, Agricultural Research Service, Crops Research Division, Beltsville, Maryland, to furnish other potato-breeding programs with advanced selections that showed promise in the Maine tests.

In 1956 the 236 selections from Maine were grown in 10-hill rows on the Red Dot Research Farm at Rhinelander, Wisconsin. Some were early-maturing, some medium, others late. One hundred and eight produced relatively high yields of excellently shaped tubers and these were saved for the 1957 tests. Samples were chipped at harvest time and the medium-earlies and lates were stored at Madison at 38 F for about 3 months, and reconditioned for about 5 weeks at 72-78 F. Commercially acceptable chips were made from 74 varieties cooked shortly after harvest, but from very few after storage. Monona was outstanding in both tests and in numerous subsequent storage treatments.

The pedigree of Monona follows:

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\text{Monona} \quad \begin{align*}
\text{(USDA Seedling B3620-1, or Red Dot 8 or FL-1)} & \quad \times \\
\text{USDA B1299-15 = Chippewa selfed} & \\
\text{USDA B1268-46 = Katahdin selfed}
\end{align*}
\]

1Monona: Name of a lake in the environs of Madison, Wisconsin. Most of the tests of this variety for chip color and specific gravity were made in the laboratory in Madison.
3Horticulturist, Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Maryland.
DESCRIPTION


TUBERS — Oblong to ovate, flattened, medium smooth contours, mean length 91 mm (3.6 inches), mean width 73 mm (2.9 inches), mean thickness 60 mm (2.3 inches), indices, width to length 80, thickness to length 65, thickness to width 82. *Skin*: smooth light-cream buff. *Eyes*: shallow to medium deep; same color as skin. *Eyebrows*: long slightly curved, medium prominent. *Flesh*: white. *Sprouts*: white when developed in the dark. *Maturity*: medium early.

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Yields. When Monona was first sent to Rhinelander, Wisconsin, relatively large acreages of Early Ohio were grown on the Red Dot Farms for the production of chips in midsummer. Kennebec was used to some extent for early harvest supplies, but it usually was stored for the manufacture of chips in winter. Monona was tested in comparison with Early Ohio and Kennebec for 5 years, 1957 to 1961 inclusive. Harvested in August, the 5-year average yield of tubers over 2 inches in diameter for Monona was 163 cwt. per acre, Early Ohio 147, and Kennebec 181. It outyielded Early Ohio, the early variety, but was outyielded by Katahdin and Kennebec, the late variety.

In another series of tests in 1959 and 1960 the yield was compared with a number of late varieties. Harvested in late September, the 2-year average yields of tubers over 2 inches in diameter were for Monona 321 cwt. per acre, Katahdin 346, and Kennebec 384. In these tests Monona produced a good yield but was outyielded by both Katahdin and Kennebec.

Solids. Monona has been relatively low in total solids in the Rhinelander tests. Harvested in August, its 5-year mean (1957-1961) for this character was 17.0%, as compared to 18.8% for Early Ohio, and 17.9% for Kennebec. Harvested in late September the 2-year averages (1959-

*Calculated by dividing the width by the length of 100 terminal leaflets and multiplying by 100. The terminal leaflets were taken from the fourth leaf from the top of the stem. Since the potato leaflet is usually asymmetrical, the length was determined by taking the average measurement from the apex to the base of each respective lobe.

*Calculated from the same measurements of 95 tubers used for the length, width, and thickness measurements multiplied by 100.