SHURCHIP: A NEW SCAB RESISTANT PROCESSING POTATO VARIETY

R. B. O'KEEFE

ABSTRACT

Shurchip is a slightly russeted, round to oblong chipping variety of medium maturity. It is resistant to common scab (Streptomyces scabies) and tolerant to Fusarium (F. solani var. eumartii) and Verticillium (micросclerotial type) wilts. The vines are susceptible and the tubers are highly susceptible to late blight. In Nebraska, Shurchip is high yielding, moderately high in specific gravity, lower in reducing sugars and of good to excellent chipping quality when compared with the standard varieties Haig, Kennebec and Platte. The yield and specific gravity obtained with Shurchip in the 12 states in the North Central Regional Trials and in Texas and Alabama were equal to or greater than those obtained with the standard chipping varieties in the trials.

RESUMEN

Shurchip es una variedad ligeramente bermejiza, redonda hasta oblonga apropiada para freir y de maduración media. Es resistente a la roña común (Streptomyces scabies) y tolerante hacia Fusarium (F. solani var. eumartii) y Verticillium (el tipo con microsclerocios). Las matas son susceptibles al tizón tardío y los tubérculos son muy susceptibles al mismo. En Nebraska Shurchip da altos rendimientos, es moderadamente alta en gravedad específica, más baja en azúcares reductores y es de buena calidad para dar papa frita cuando se compara con las variedades normales de Haig, Kennebec y Platte. El rendimiento y la gravedad específica obtenidos con Shurchip en ensayos regionales llevados a cabo en 12 estados del área central norte y en Texas y Alabama fueron iguales o mayores que los obtenidos con las variedades generalmente usadas para papa frita.

PEDIGREE

Shurchip was selected by Dr. H. O. Werner, Department of Horticulture and Forestry in 1956 from a cross between Nebr. 25.47-7x and Nebr. 226.49-1x. The clone was tested, developed and increased for release as a variety by Dr. R. B. O'Keefe. Nebr. 25.47-7x was a scab resistant, white tuber selection with good chipping quality and medium maturity. Nebr. 226.49-1x is a moderately scab resistant, oblong russet tuber selection with high dry matter content and resistance to heat stress. The parent is highly tolerant to Fusarium wilt.

The name Shurchip refers to the ability of the variety to withstand field chilling and to reconstitute from cold storage to produce light colored potato chips.

1Published with the approval of the Director as paper No. 2569, Journal Series, Nebraska Agricultural Experiment Station. Accepted for publication September 5, 1969.

2Associate Professor Horticulture, University of Nebraska, Lincoln, Nebraska.
The pedigree of Shurchip is:

\[
\begin{align*}
\text{Shurchip (16.55-1)} & \quad \{ \text{Katahdin} \} \\
\text{Nebr. 101.40-3} & \quad \{ \text{Triumph} \} \\
\text{Nebr. 25.47-7x} & \quad \{ \text{Katahdin} \} \\
\text{Cayuga} & \quad \{ \text{Hindenburg} \} \\
\text{Nebr. 226.49-1x} & \quad \{ \text{Yampa} \} \\
\text{Arnica} &
\end{align*}
\]

**DESCRIPTION**


**Tubers** — Round to oblong with mean length of 83.1 ± 1.8 mm, mean width of 70.6 ± 1.2 mm and mean thickness of 51.6 ± 0.8 mm; indices of width to length 84.9, thickness to length 62.0 and thickness to width 73.0. Skin: white and slightly russet. Eyes: shallow with prominent eyebrows. Flesh: medium white. Sprouts: white. Maturity: medium with medium rest period.

**General Characteristics**

Yield and quality of potatoes produced in Nebraska:

The total yields and percentages of U.S. # 1's of Shurchip when grown in the late summer crop area of eastern Nebraska exceed those of the standard chipping variety Haig and are equal to those of Kennebec and the high yielding variety Bounty (Table 1). The specific gravity of Shurchip is equal to or higher than that of Haig and Kennebec. The color of potato chips made from Shurchip tubers is superior to that of Haig or Kennebec. In central Nebraska, the same comparisons are evident (Table 1), except the yields of Shurchip are exceeded by those of Haig and Bounty.

The total yields and per cent of tubers over 2 inch diameter with Shurchip are less than those of Superior, but equal to those of Norchip in eastern Nebraska (Table 2). The specific gravity and chip color are exceeded only by those of Norchip.

When grown as a fall crop in western Nebraska, the yield of Shurchip is generally less than those of the chipping varieties Haig and Kennebec with mid-May planting (Table 1). With June planting, Shurchip exceeds Haig, Platte and Norchip in yield (Table 2). The yield of