GEMCHIP: A NEW POTATO VARIETY WITH CHIPPING QUALITY AND VERTICILLIUM RESISTANCE FOR THE WESTERN U.S. ¹


Abstract

Gemchip, a new potato chipping variety, was released jointly by the U.S. Department of Agriculture and the Agricultural Experiment Stations of Idaho, Oregon, Washington, and Colorado on August 9, 1989. Gemchip was tested in irrigated yield and chipping trials in the Western U.S. since 1982. It outyielded Norchip by an average of 23% and Atlantic by 14%, and it chipped well both out of the field and out of storage. Gemchip is moderately late in maturity and resistant to Verticillium wilt.

Compendio

Gemchip, una nueva variedad de papa fritura a la inglesa, fue entregada conjuntamente por el Departamento de Agricultura de los EE.UU. y las Estaciones Experimentales Agrícolas de Idaho, Oregón, Washington y Colorado el 09 de agosto de 1989.

Gemchip fue probada desde 1982 en ensayos de rendimiento bajo riego y de calidad de fritura a la inglesa en el oeste de los EE.UU. Produjo en promedio 23% más que Norchip y 14% más que Atlantic y se comportó bien al ser frita a la inglesa tanto recién cosechada como después de su almacenamiento. Gemchip es moderadamente tardía y resistente a la marchitez por Verticillium.

Introduction

Norchip, Atlantic, and Kennebec are the most common chipping varieties grown under irrigation in the Western U.S. Norchip has been the

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¹Cooperative investigations of the Agricultural Research Service (ARS), U.S. Dept. of Agriculture (USDA) and the Agricultural Experiment Stations of Idaho, Oregon, Washington, and Colorado. Idaho Agricultural Experiment Research Paper No. 90753.

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Accepted for publication November 28, 1990.

ADDITIONAL KEY WORDS: New potato variety, potato chips, tuber yield, Verticillium resistance.
most reliable of the three for chipping out of storage but it has an unacceptably low yield when Verticillium wilt and early blight are prevalent. Atlantic generally yields and chips well but it is susceptible to internal problems and to storage rots. Kennebec yields well but may produce dark chips and often stores poorly. The new variety Gemchip provides an alternative to the weaknesses of these major chipping varieties.

Gemchip was released August 9, 1989 by the U.S. Department of Agriculture and the Agricultural Experiment Stations of Idaho, Oregon, Washington, and Colorado. Gemchip is adapted to the irrigated agriculture of the Western U.S. It chips well out of the field and out of storage.

Gemchip was tested as BR7093-24 in the Western U.S. but probably was first selected as BR7093-42 from the cross BR5960-9 × ND5737-3 by R. V. Akeley, USDA-ARS and C. E. Cunningham, Campbell Institute for Agricultural Research, at Presque Isle, Maine. Gemchip is a full sib to Campbell 14 (1).

The pedigree for Gemchip is:

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<th>Gemchip (BR7093-24)</th>
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Description

PLANTS - Medium late, medium large size, moderately upright to spreading. Stems: Moderately thick, uniformly green; wings small, not prominent; slightly swollen nodes. Leaves: Large broad, dark green, mostly close. Terminal leaflets: Oval with abruptly acuminate tip and irregular, often oblique base; mean blade length (100 leaves) 79±7 mm, mean width 48±5 mm, index 60. Primary leaflets: Oval to ovate with acuminate tips and irregularly rounded base; four pairs; mean blade length 76±6 mm, mean width 42±5 mm, index 55. Secondary leaflets: Three pairs. Tertiary leaflets: Three to four pairs. Midrib: Green with moderate, short pubescence on upper surface. Petioles: Green, sparsely pubescent. Stipules: Medium large, clasping.


TUBERS (Fig. 1) - Round to short oblong, smooth, shallow to moderately deep bud-end, shallow stem-end, mean length (100 6-9 oz tubers) 87±9