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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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 unac-
ceptably low yield when Verticillium wilt and early blight are prevalent.
Atlantic generally yields and chips well but it is susceptible to internal prob-
lems 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 agricul-
ture 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 X 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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   B4808-19             B922-3
   B5141-6             B3391-2
   B5767-2             S47156
   B3672-3
   MENOMINEE
   W302.44-6
   ND4356-6
   ND5737-3
   ANTIGO
   ND4356-6
   BR5960-9
   GEMCHIP (BR7093-24)
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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, of-
ten 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 sur-
face. Petioles: Green, sparsely pubescent. Stipules: Medium large, clasping.

FLOWERS - Few. Buds: Green with slight red-purple at base. Calyx
lobes: Awl-shaped, medium long; short, light pubescence. Corolla: Medium

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