DONNA: A YELLOW-FLESHED POTATO CULTIVAR WITH POTENTIAL IN EXPORT SEED MARKETS

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Abstract

Donna is a smooth, yellow-skinned, yellow-fleshed potato cultivar of Kennebec maturity. It has significant levels of resistance to Verticillium wilt, PVX, PVY and to the North American pathotype of the potato cyst nematode. Adaptation trials conducted in several countries indicate Donna may have potential in the export seed market.

Compendio

Donna es un cultivar de papa de piel suave y amarilla, con carne amarilla de maduración semejante a la del cultivar Kennebec. Tiene niveles significativos de resistencia a la marchitez por Verticillium, al PVX y PVY, y al patotipo norteamericano del nematodo del quiste. Los ensayos de adaptación conducidos en varios países indican que Donna puede tener potencial en el mercado de semilla de exportación.

Introduction

Donna was selected within the potato breeding program of Agriculture Canada at Fredericton, New Brunswick. It was registered for certification in Canada in 1986, after testing as F74123.

F74123 originated from a cross made in 1972 by D.A. Young while on transfer of work at S.V.P. (Foundation for Agricultural Plant Breeding), Wageningen, The Netherlands, between Raritan as female and Agitato (Y66-13-636) as male.

Raritan was selected for its ability to produce progeny with good yields, and dry matter, together with good tuber size, all-round quality and appearance. Agitato was selected because of its extreme resistance to PVX, PVY and PVA, resistance to potato cyst nematode pathotype Ro1, and yellow flesh.

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ADDITIONAL KEY WORDS: Variety, pedigree, potato cyst nematode.
The pedigree of Donna is:

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Donna (F74123)
  ↓
 Raritan
  ↓
  F45019
  ↑ Katahdin
  ↓ 834C(29)
  ↑ Craig’s Defiance
  ↓ W800(2)
  ↑ 3) Donna
  ↓ Y62-2-221
  ↑ Agitato (Y66-13-636)
  ↓ Amaryl
  ↑ 189
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Description

PLANTS—Growth habit: medium size, slightly spreading. Stems: green, only rarely with light pigmentation, slightly angular. Wings: inconspicuous. Nodes: same size as the stem. Pseudostipules: ovate, unequal, not clasping the stem.

Leaves: more or less closed. Dark yellowish-green to moderate olive-green. Pubescence sparse on the upper surface, more hairs and glands on the lower surface. Sparse spreading hairs on the petioles. Terminal leaflet: ovate, apex acuminate; base truncate to slightly cordate; index of width to length 0.71. Primary leaflets: generally five pairs; ovate, apex acuminate; base more or less cordate, generally unequal; index of width to length for first pair of primaries 0.68; petiolules to about 25 mm. Secondary leaflets: (9-)12-16(-20); ovate, acute, truncate to cordate, sessile or shortly petiolulate. Acroscopic and basiscopic leaflets: (4-)8-12(-15) present on the petioles of the primary leaflets; similar in shape to the secondary leaflets.

INFLORESCENCE—Bloom: held about level with the top of the foliage. Peduncle: green, covered with spreading hairs above, generally bifurcate. Pedicel: green with light pigmentation, spreading hairs and few glandular hairs; articulation green. Calyx: slightly pigmented in bud, then green; sparsely hairy; acumens lanceolate, (4-)6-9 mm long. Corolla: white, rotate, about 35 mm diameter, lobes about one-third as long as broad; star greenish yellow. Stamens: anthers yellow, about 8.5 mm long. Pistil: ovary and stigma green; lower half of style with papillae.

FERTILITY—Pollen shed moderate, but only small quantities of good pollen.