LAAL-e-FAISAL: A NEW RED SKIN POTATO VARIETY
ADAPTED TO PAKISTAN

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Abstract

The Laal-e-Faisal (Pearl of Pakistan) potato variety was selected at Kaghan by the Ayub Agricultural Research Institute, Faisalabad, Pakistan, from a seedling tuber population of the cross Chieftain x B7160-4. The variety was tested at agricultural centers and in growers' fields under the pedigree FB9003-3. Laal-e-Faisal is adapted particularly to summer, fall, and spring producing areas of the Punjab, Pakistan. Tubers are high in solids (20-24%), produce light-colored chips, and are excellent in flavor and texture as a boiled or fried product. Laal-e-Faisal shows tolerance to field infiltration by major potato viruses, including leafroll. It shows significant tolerance to late blight, scab, and frost. It has not shown unusual susceptibility to other major potato viruses, early blight, Rhizoctonia, black leg, Fusarium tuber rot, and/or bacterial wilt.

Compendio

La variedad de papa Laal-e-Faisal (Perla de Pakistan) fue seleccionada en Kaghan por el Instituto de Investigación Agrícola de Ayub, Faisalabad, Pakistan, de una población de tubérculos procedentes de plántulas del cruzamiento Chieftain x B7160-4. La variedad fue probada en centros agrícolas y en fincas bajo el linaje FB9003-3. Laal-e-Faisal se adapta principalmente a las zonas de producción de verano, otoño, y primavera del Punjab, Pakistan. Los tubérculos tienen un alto contenido de sólidos (20-24%), produce papas fritas de color claro, y son excelentes en sabor y textura como producto frito o cocido. Laal-e-Faisal muestra tolerancia a la infiltración de campo de los principales virus de la papa, incluyendo al virus del enrollamiento (PLRV). Muestra tolerancia significativa al tizón tardío, a la sarna común, y a las heladas. No se ha mostrado demasiado susceptible a otras enfermedades principales causadas por virus, tizón temprano, Rhizoctonia, pierna negra, pudrición del tubérculo por Fusarium, y/o a la marchitez bacteriana.

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KEY WORDS: Potato viruses, leaf blights, total solids, chips, adaptability.
History

The cross which produced Laal-e-Faisal (Chieftain x B7160-4) was made in 1974 at the Beltsville Agricultural Research Center (BARC), Beltsville, Maryland. The parental combination was designed to improve the dry matter content and tolerance to late blight in red-skin type cultivars. A complete pedigree is given in Figure 1. Seedling tuber production of family B9003, along with a number of other tuber families, was done at BARC and shipped via air freight to Pakistan. Initial clonal selection and seed increase of B9003-3 was done in 1975 at Kaghan, Northwest Frontier Province (NWFP), by personnel at the Ayub Agricultural Research Center (AARI), Faisalabad, Pakistan. Research studies on performance and adaptation were done by the Vegetable Research Institute, AARI, Vegetable Research Substation, Gujranwala, and in grower fields in the Punjab plains from 1976 through 1983. Commercial production, including foundation seed increases, began in 1984. Adaptability trials and quality evaluations have been conducted in all Provinces for at least 2 years. The Punjab Seed Council approved Laal-e-Faisal for general production by growers in 1986.

Description

Plants—Erect with rapid top growth to a height of about 60 cm. Maturity: medium early. Stem: thick, medium green, purple pigment at base. Leaves: greyish green, smooth, with 6-7 leaflets per leaf, sparsely

FIG. 1. Pedigree of Laal-e-Faisal.