La Belle Russet, An Early Maturing, Dual-Purpose Variety With Wide Adaptability And Long Tuber Dormancy

INTRODUCTION

La Belle Russet [A06021-1T] was derived from a hybridization between parental breeding clones A99031-1TE and A96013-2 conducted in 2006 at Aberdeen, ID. Varieties in its pedigree include Western Russet, Russet Norkotah, Frontier Russet, and Bellruss. It was first selected in 2008 at Tetonia, ID, a research site having a short-growing season, for its early yield potential and was subsequently evaluated for 8 years in public and industry trials throughout the U.S. and in eastern Canada prior to its release. La Belle Russet is male fertile and can be utilized as a male parent in hybridizations.

DISEASE RESPONSE

On the basis of disease evaluations conducted from 2011-14, La Belle Russet is considered to be moderately resistant to common scab, tuber necrosis associated with Potato mop-top virus (PMTV), and dry rot (F. sol. var. coeruleum). Susceptibility to other diseases is similar to that of Russet Burbank and Russet Norkotah, with exceptions being greater susceptibility to PLRV necrosis and dry rot (F. sambucinum) relative to Russet Norkotah. PVR susceptibility was similar to that of Russet Norkotah in two years of virus screening trials conducted at Kimberly, ID.

PROCESSING AND STORAGE ATTRIBUTES

On the basis of variety, La Belle Russet is considered to be superior to Russet Burbank in early-harvest irrigated trials grown in Idaho, Oregon, and Washington, 2014 - 2016. tubers of La Belle Russet were shown from four sites of the National Fry Processing Trial over a 2 year period (2013-14).

AGRONOMIC PERFORMANCE

In early harvest yield trials conducted in Idaho, Oregon, and Washington, La Belle Russet had total yields comparable to early-maturing Russet Norkotah, but lower than those of the full-season varieties, Ranger Russet and Russet Burbank (Table 1). However, the high percentage of U.S. N. 1 tubers of La Belle Russet contributed to higher marketable yield relative to Russet Norkotah and Russet Burbank (Table 1). Specific gravity of La Belle Russet was higher than Russet Norkotah and Russet Burbank, and was comparable to Ranger Russet (Table 1). Fresh and processing merit scores for La Belle Russet during the three years of trials were higher (greater merit) than those of the check cultivars (Table 1). The early maturity of La Belle Russet was also evident in these trials across years, with a significantly (P=0.05) higher percentage of tubers >10 oz (32%) relative to Russet Norkotah (24%), which is recognized as an early-maturing industry standard.

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La Belle Russet is notable for having a long tuber dormancy, comparable to that of Russet Burbank, which is the industry standard for long-term potato storage (Table 3). Long dormancy makes La Belle Russet tubers suitable for long-term storage for both fresh and processing purposes. La Belle Russet processes well following field harvest and had a low incidence of sugar ends at Hermiston, OR (Table 1). It is not considered cold-sweetening resistant, with tuber glucose exceeding 0.10% (concentration for acceptable fry color) within 1 to 2 months of storage at 42 and 45F, respectively. However, La Belle Russet can be stored up to 7 months at 48F with acceptable glucose concentrations and fry color (Figs. 3 & 4). Fry motting, which represents thin, thread-like areas of dark coloration found in the cortex of the fried potato tissue, has been observed in fries from tubers of La Belle Russet stored at 48F with time in storage. Motting, while more pronounced for La Belle Russet than for Russet Burbank, was nonetheless considered mild with regard to expression at 48F.

Table 1. Tuberculosis and processing attributes. Two replicates of La Belle Russet tubers were shown from four sites of the National Fry Processing Trial over a 2 year period (2013-14).

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