Registration of ‘Kippen’ Common Bean

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Common bean (Phaseolus vulgaris L.) cultivar ‘Kippen’ navy bean (Reg. No. CV-278, PI 648356) was developed at the Agriculture and Agri-Food Canada Greenhouse and Processing Crops Research Centre (AAFC GPCRC), Harrow, ON, Canada. It was tested as HR100-2363 for registration in 1999–2000 and for performance in 2001–2003 in the Ontario Cooperative Cultivar Registration (OCCRT) and Performance White Bean Cultivar Trials. Kippen has high yield potential and is moderately resistant to common bacterial blight (CBB), caused by Xanthomonas campestris pv. phaseoli (Smith) Dye. It is an early-maturing cultivar in the early- to midseason maturity areas in southwestern Ontario. It was supported for registration in 2000 by the Ontario Pulse Committee. Kippen was registered by the Canadian Food Inspection Agency Variety Registration Office (Reg. No. 5981) on 31 Aug. 2005.

Kippen was selected from the cross HR40-1285/HR45-1445 made in the fall of 1992 at the GPCRC. HR40-1285 is derived from the cross ‘Crestwood’/HR14-818 made in 1986 and was used for its good canning quality and upright plant type, which was derived from the early-maturing semideterminate upright germplasm line HR14-818 (Park and Welacky, 1992). HR45-1445 is a selection from the cross HR13-621*2///XAN159/HR13-621 made in 1987. HR45 was common bacterial blight-resistant upright germplasm developed at AAFC-GPCRC and released as germplasm in 1994 (Park and Dhanvantari, 1994). HR13-621 has good agronomic characteristics with upright plant type and high yield potential.

The F₁ hybrids were grown in the greenhouse in the spring of 1993. Bulk populations in F₂ and F₃ were advanced in field nurseries at Harrow in 1993 and 1994. Then, 19 F₄ plant rows were grown in the pedigree nursery and tested for CBB in 1995, and a line PN67629 was selected in bulk and tested as W2363-67629. It was selected for early maturity, upright growth, determinate growth habit (IIP), high yield potential, and resistance to CBB. This line was tested in a preliminary yield trial and multiplication of seed in 1997–1998. The line was planted in an isolation nursery in 1997.

Kippen was tested as HR100-2363 for cultivar trial in the Ontario Cultivar Registration Trials according to guidelines set by the Ontario Pulse Committee. It was conducted by the University of Guelph (Elora and Woodstock), Kemptville and Ridgetown (Kippen and Brussels), and the University of Guelph, and AAFC-GPCRC (Kippen and Thomas). Cooking quality was tested at the GPCRC lab in Harrow by taste panel evaluation for firmness, texture; canned bean color was measured as reflectance using a Hunter Labscan colorimeter in laboratories, Reston, VA). Hydration coefficients, percent solid/drain weight, and yield of canned beans based on (8-oz) cans filled with blanched beans (160 mL) from 1 kg of dry beans were measured. Texture of the canned beans was measured by the Instron texture measurement system for firmness and plateau force (Voisey, 1971). Tests for resistance caused by Collectotrichum lindemuthianum Lams.-Scrib. and Bean common mosaic virus were conducted under controlled conditions by artificial inoculation in growth rooms and also field inoculation in Ontario, where it is recommended for areas with crop heat unit (CHU) accumulation (Brown et al., 2000 and 2001 by AAFC Morden Research Station).

Kippen has high yield potential as an early variety in the mid-season maturity area in Ontario, where it is recommended for areas with crop heat unit (CHU) accumulation (Brown et al., 2000 and 2001). It was also tested in Manitoba narrow-row performance trials at Threherne, Thornhill, Arbog, Boisservain, and Biscarth, MB, in 2001–2003 in the Ontario Coopera—

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