REGISTRATIONS OF CULTIVARS

Registration of ‘AC Pintoba’ Common Bean

‘AC Pintoba’ pinto bean (Phaseolus vulgaris L.) (Reg. no. CV-200, PI 628748) was developed by the Agriculture and Agri-Food Canada Greenhouse and Processing Crops Research Centre (GPCRC), Harrow, ON, Canada. It was tested as HR55-1608 in the Prairie Cooperative Variety Registration Trials during 1993 through 1995 and registered (Registration no. 4668) by the Variety Registration Office, Canadian Food Inspection Agency, Ottawa, Canada on 16 Jan. 1998.

AC Pintoba was selected from the cross between ‘Sierra’ and ‘Fiesta,’ made in the spring of 1988 at GPCRC, Harrow. Sierra was used for its high yield potential and upright plant type, which might contribute to reduced white mold [caused by Sclerotinia sclerotiorum (Lib.) De Bary] and also would be a desired trait for direct combining of beans. Fiesta was used for its early maturity, good pinto bean seed type, and resistance to Bean common mosaic virus ( BCMV). The F$_2$ hybrids were grown in the fall of 1988 at Harrow. The F$_2$ bulks were advanced in the spring of 1989 and the F$_2$ plants were harvested individually. Plants were selected for desired pinto seed type and advanced in plant rows in the summer of 1989 and 1990 at Harrow. A pedigree row, PN48303, was harvested in bulk as C1608b-48303 for its early maturity, upright plant type, and good pinto bean seed type.

Main criteria for selection were early maturing, high yield potential, and upright vine type with acceptable seed quality. Upright plants that allow for direct combining were an important breeding objective because pinto beans have been produced traditionally by pulling and windrowing before threshing. Line C1608b-48303 was tested in a replicated yield trial at Harrow in 1991 and in advanced performance trials at Shetland, ON, and Morden, MB, in 1992. During 1993 through 1995, it was tested as HR55-1608 in the Prairie Cooperative Variety Registration Trials under irrigated and dry land conditions in 12 tests at eight sites in Manitoba, Saskatchewan, and Alberta. HR55-1608 was grown in an isolation plot for purification by roughing off types and multiplication at Harrow in 1992. In 1995, it was purified and multiplied by bulking about 100 plants from rows, on the basis of plant type, where stock seed was established at Harrow.

AC Pintoba out yielded the check ‘Othello’ by an average of about 385 kg ha$^{-1}$ in an average of 16 cooperative cultivar trials in 1993 through 1995. Bean yields were about 41 and 10% more than Othello in dry and irrigated production fields, respectively. AC Pintoba was about 7 d later maturing than the check. It has similar seed mass to Othello, weighing approximately 338 g 1000 seeds$^{-1}$. AC Pintoba is taller than Othello but has less lodging. It has similar canning qualities as the standard pinto cv. Othello.

AC Pintoba and several other pinto bean cultivars–lines were tested in the Manitoba dry bean screening trials at four sites each year during 1998 through 2000. Average seed yield of AC Pintoba in 12 trials was 3480 kg ha$^{-1}$ compared with the check ‘AC Ole’ which yielded 3216 kg ha$^{-1}$. AC Pintoba yielded more than 13% over the average seed yield of other pinto beans such as ‘Remington’, ‘Apache’, ‘Maverick’, and AC Ole. Its seed size was similar to Maverick, which averaged 372 g 1000 seed$^{-1}$ in 12 trials.

AC Pintoba is resistant to BCMV race 1 but susceptible to race 15 and it is susceptible to anthracnose [caused by Colletotrichum lindemuthianum (Sacc. & Magnus)] races α and delta. It is susceptible to common bacterial blight [caused by Xanthomonas phaseoli (Smith) Dowson], halo blight [caused by Pseudomonas syringae pv. phaseolicola (Burkholder) Young et al.], brown spot [caused by Pseudomonas syringae pv. syringae van Hall], and rust [caused by Uromyces phaseoli (Pres.) G. Wint] similar to the check, Othello. It is tolerant to white mold probably because of its upright plant type. AC Pintoba is resistant to Fusarium wilt [caused by Fusarium oxysporum Schlechtend:Fr. f. sp. phaseoli J.B. Kendrick & W.C. Snyder (Fop)] as in the parental line, Sierra (Ogg et al., 2000). It is susceptible to root rots [caused by F. solani (Mart.) Sacc. f. sp. phaseoli (Burkholder) W.C. Snyder & H.N. Hans]. Rhizoctonia solani Kühn] and Pythium ultimum Trow., and similar to the check, Othello.

AC Pintoba has indeterminate growth habits with short vines, upright plants with a narrow canopy. The seedlings have green hypocotyls and the plants have white flowers. The pods have dark brown streaks on a light background when mature. Seeds have a brown irregular variegation on a light brown solid background with pale yellow hilum ring and shiny lustre.

Breeder seed of AC Pintoba is maintained by the Agriculture and Agri-Food Canada Research Centre, Harrow, ON NOR 1G0. AC Pintoba was released through Canterra Seed, Ltd., Manitoba for seed distribution. Small quantities of seed may be obtained from the corresponding author.

S.J. PARK,* T.RUPER and F. KIEHN

Acknowledgments

The authors thank H.H. Muendel, AAFC Research Centre, Lethbridge and B. Vandenbergh, U. Saskatchewan, Saskatchewan. This research was supported in part by the Ontario Colored Bean Growers Association.

References


S.J. Park and T. Ruppet, Agriculture and Agri-Food Canada, Greenhouse and Processing Crops Research Centre, Harrow, ON, Canada NOR 1G0; F. Kiehn, AAFC Research Station, Morden, Manitoba R6M 1Y5. Registration by CSSA. Accepted 30 June 2002. *Corresponding author (parks@agr.gc.ca).

Published in Crop Sci. 43:430 (2003).

Registration of ‘Bribri’ Small Red Bean (Race Mesoamerica)

‘Bribri’ small red bean (Phaseolus vulgaris L.) (Reg. no. CV-201, PI 619437) was developed by the Escuela Agricola Panamericana (EAP), Zamorano, Honduras, and released in Costa Rica by the Bean Research and Technology Transfer Program (PTTAFrijol, acronyms in Spanish) in July 2000 as a good yielding, well adapted to low soil fertility, and disease resistant cultivar.

Bribri was an F$_2$ derived line from the cross RAB310/ XAN155/DOR391/Pompadour G’. RAB310, XAN155 and DOR391 are small red bean breeding lines derived from the crosses DOR364//SEL277/BAT1514, BAT930/BAT93 and