Registration of ‘AC Earlired’
Small Red Dry Bean

‘AC Earlired’ (Reg. no. CV-161, PI 604102) is a small red dry bean (Phaseolus vulgaris L.) developed at the Agriculture and Agri-Food Canada Lethbridge Research Centre, Alberta, in cooperation with the Agriculture and Agri-Food Canada Morden Research Centre, Manitoba, and released in 1998. It is an early-maturing small red dry bean cultivar, suited to the wide-row (standard) production system used in western Canada. AC Earlired has a Type IIIb, indeterminate growth habit, with very short vines, and low pod distribution. Registration number 4791 was issued for AC Earlired on 10 July 1998 by the Variety Section, Plant Products Division, Canadian Food Inspection Agency.

AC Earlired, tested as L94D186, was derived from a cross made in 1989 between the small red dry bean cultivar Ember, from Rogers NK (now Novartis), released in 1986 (M. Wood, personal communication), and 5217, an experimental small red line from the University of Idaho. The F1 was grown in the greenhouse and advanced to a space-planted F2 nursery at the Fairfield Farm near Lethbridge in Alberta. The F2 was field grown in single-plot progeny rows and a single-plot selection was identified for its earliness and uniform red seed coat color. The F3, which was grown in 1991 in the field at Lethbridge, was hauled out. Plant no. 34 was an F3 plant, from the remnant seed of the F2 selection in 1991. This plant was greenhouse-grown, as part of a rescue operation, in the winter of 1992–1993. The F3 row No. 1 was selected from a nursery grown in 1993 at Bow Island, Alberta, 100 km east of Lethbridge, in the heart of the southern Alberta irrigated dry bean production region. This row was bulk-harvested and entered into yield tests. At this stage, it received the experimental line number L94D186. A series of yield tests followed: both wide-row (60 cm) and narrow-row (18 cm) at Lethbridge and wide-row at Morden. From 1995 to 1997, L94D186 was tested in the Prairie Bean Coop Wide Row Trial, which is part of the official bean registration trials in western Canada, in a total of 18 trials (12 irrigated and 6 rainfed). Fifty single-plot selections made in 1996–1997 among greenhouse-grown plants of this line at Lethbridge were grown at Twin Falls, southern Idaho, in 1997. Breeder seed was produced in Arizona in early 1998. All 50 lines were bulked.

AC Earlired proved particularly promising in wide-row tests due to its early maturity, while producing yields comparable to that of the small red check cultivar, NW63 (1). In 10 irrigated trials, with coefficients of variation for yield below 20%, AC Earlired matured in 100 d, with yields of 2920 kg ha−1, compared with a corresponding 105 d and 2971 kg ha−1 for NW63. The seed of AC Earlired (at 140 g kg−1 moisture) averaged 32.2 g 100 seed−1 over 11 of the 12 irrigated sites, similar in mass to that of NW63, at 32.1 g 100 seed−1. The dry seed color is red, similar to that of NW63. Plant height of AC Earlired averaged over 8 irrigated trials was 36.9 cm, compared with 41.6 of NW63, and lodging at maturity averaged over 10 irrigated trials was 2.1 and 2.5, respectively (with 1 = upright and 5 = flat on the ground).

AC Earlired is similar to NW63 in susceptibility to white mold [caused by Sclerotinia sclerotiorum (Lib.) de Bary], based on tests in a sclerotia-inoculated disease nursery in 1997 at Lethbridge, Alberta. Based on greenhouse inoculation tests, AC Earlired and NW63 are susceptible to brown spot caused by Xanthomonas axonopodis pv. phaseoli Starr & Gargas 1950 emend. Vauterin et al. 1995 (2); syn. X campestris pv. phaseoli (Smith) Dye) and halo blight [caused by Pseudomonas syringae pv. phaseolicola (Burkholder) Young et al.]. Greenhouse tests demonstrated that AC Earlired and NW63 were equally susceptible to infection with fusarium yellows [caused by Fusarium oxysporum Schlechtend. Fr. f. sp. phaseoli J.B. Kendrick & W.C. Snyder) and pythium root rot [caused by Pythium ultimum Trow]. AC Earlired was less susceptible than NW63 to infection with rhizoctonia root rot [caused by Rhizoctonia solani Kühn], when compared in greenhouse tests. AC Earlired has been released on an exclusive basis, through a licensing arrangement with the Alberta Wheat Pool–Bean Business Unit (Box 96, Bow Island, AB, Canada T0K 0G0), from whom pedigreed seed may be purchased. Small samples of seed of AC Earlired may be obtained from the corresponding author for at least 5 years.

References and Notes
3. H.-H. Mundel and H.C. Huang. Agriculture and Agri-Food Canada Research Centre, P.O. Box 3000, Lethbridge, AB, Canada TJ1 4B1; G. Saindon, Agriculture and Agri-Food Canada Potato Research Centre, P.O. Box 20280, Fredericton, NB, Canada E3B 4G7; and F.A. Kiehn, Agriculture and Agri-Food Canada Research Centre, Unit 100-101 Route 100, Morden, MB, Canada R6M 1Y5. LRC Contribution no. 387-9836. Registration by CSSA. Accepted 31 Oct. 1998. *Corresponding author (mundel@em.agr.ca).

Registration of ‘AC Alberta Pink’ Dry Bean

‘AC Alberta Pink’ (Reg. no. CV-160, PI 604101) is a pink dry bean (Phaseolus vulgaris L.) developed at the Agriculture and Agri-Food Canada Lethbridge Research Centre, Alberta, in cooperation with the Agriculture and Agri-Food Canada Morden Research Centre, Manitoba, and released in 1998, as a high-yielding, large-seeded pink dry bean cultivar, suited to the wide-row (standard) production system used in western Canada. AC Alberta Pink has a Type IIIb, indeterminate growth habit, with up to 20% vines of 10 to 20 cm. Registration number 4798 was issued for AC Alberta Pink on 23 July 1998 by the Variety Section, Plant Products Division, Canadian Food Inspection Agency.

AC Alberta Pink, tested as L94C274, was derived from a cross made in 1988, with the following parentage: ‘ISB473’/‘4/NW63’/5 ‘Swan Valley’/2 ‘Redklove’/‘Kentwood’. NW63 is a small red bean registered in 1982, with resistance to root rot [caused by Fusarium solani (Mart.) Sacc. f. sp. phaseoli (Burkholder) W.C. Snyder & H.N. Hans.] and with dark leaves (1). Swan Valley is a navy bean registered in 1986, selected for its ideotype of taller, more erect growth, with a narrower profile and fewer basal branches than standard cultivars, and good field tolerance to F. solani f. sp. phaseoli (2). Redklove is an older (>25 yr) light red kidney bean from New York (3). Kentwood was released as an early-maturing, high-yielding navy bean from Agriculture Canada in Harrow, Ontario (4). One of the better pink lines available in the program, resulting from the third level cross, based on its upright growth habit and seed color, was crossed to ISB473, a pink cultivar from the Idaho Seed Bean Co.

The F1 was grown in the greenhouse in 1988–1989 and advanced to a space-planted F2 nursery at the Fairfield Farm near Lethbridge. The F2 and F3 were field-grown in rows and single-plant selections were identified for large seed size coupled with earlier maturity than the check, Viva, and having a seed shape and seed coat color acceptable to the bean industry. The F3 progeny row was severely hail damaged. As part of a rescue operation, weakened plants from the row were collected and seed was grown in a greenhouse in the winter of 1992–1993. Plant no. 21 of the greenhouse-grown F4 resulted in an F5 row that was grown in the

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