Registration of ‘AC Lacombe’ Barley

‘AC Lacombe’ (Reg. no. CV-244, PI 576177) is a six-rowed feed barley (Hordeum vulgare L.) cultivar developed by Agriculture Canada, Lacombe Research Station, Lacombe, Alberta, Canada, and released in 1991. It was developed from a cross of ‘Klondike’/’Galt’/’Unita’ made in 1980. The F1 generation was grown in the field in 1981. The F2 through F6 generations were propagated in growth chambers by single-seed descent. AC Lacombe was selected from 600 F4 lines grown in a head-row nursery at Lacombe. The selection criteria in the F5 and subsequent generations included yield, lodging resistance, disease resistance, test weight, and kernel plumpness. AC Lacombe was tested as LAB-695-033 in the Preliminary Barley Yield Test in 1986, and in the Alberta Project Barley Test in 1987. It was advanced to the Western Cooperative Six-Row Barley Test in 1988 and tested for 3 yr under the experimental designation BT 634. AC Lacombe was registered (Reg. no. 3498) by Plant Products Division, Food Production and Inspection Branch, Agriculture Canada, on 20 Dec. 1991. It was assigned the accession number PGR 25933 by the Plant Gene Resources of Canada. Plant variety protection for AC Lacombe, under the Canadian Plant Variety Protection Act, is pending.

Juvenile plants of AC Lacombe are erect, and have medium green leaves. The coleoptile is medium green in color. Adult plants are medium tall and have strong medium thick culms. The stem is bluish green and is covered with a waxy bloom; it has a straight neck and a closed collar. The uppermost internode and node are glabrous. The penultimate leaves are glabrous, midlong, midway, and medium green in color. The leaf sheath is light green and glabrous. The flag leaf is drooping, midlong, midway, and medium green. The flag leaf auricles are white.

AC Lacombe has a slightly nodding, medium long, lax, clavate-shaped, six-rowed spike in which the lateral rows overlap at the tip. The rachis margins are slightly tapered, with a few short hairs. The basal rachis internode above the collar is straight. The kernels are medium long, medium wide, and yellow-aleurone, bearing medium long rachillas that are covered with long or short hairs. They also have a horsehoe-shaped depression at the base and are subtended by smooth (glabrous) glumes that are about half the length of the lemma. The glume awns are smooth, green tipped, and about the same length as the glume. The lemmas are glabrous, and have long, smooth, green-tipped awns. The lateral lemma veins have no barbs.

AC Lacombe offers a well-adapted, high-yielding, lodging-resistant alternative to other feed barley cultivars currently grown in western Canada. In 3 yr of testing in Alberta, Saskatchewan, and Manitoba (total of 50 location-yr), grain yield of AC Lacombe averaged 5.16 t ha⁻¹, which was ≈3% more than Brier, the highest-yielding check cultivar, and ≈17% more than Argyle, a popular six-rowed malting cultivar grown more than anywhere in the traditional six-row barley areas that of Brier. AC Lacombe is medium in grain protein content, = 60 kg hL⁻¹, high kernel weight (41 mg kernel⁻¹), and test weight (41 kg m⁻³). It is moderately resistant to covered smut (caused by Ustilago hordei (Pers.) Lagerh.), false loose smut (U. avenae (Pers.) Rostr.; syn. U. nigra (Pers.) Rostr.) and speckled leaf blotch (caused by Rhynchosporium secalis (Ito & Kuribayashi) Drechs. ex Dastur) and scald (caused by Pyrenophora teres (P. teres net type of net blotch (caused by P. graminis (Oudem.) J.J. Drechs. ex Dastur and Fusarium spp.), Ustilago hordei (Pers.) Lagerh., false loose smut (U. avenae) Drechs. ex Dastur and scald (caused by Rhynchosporium secalis (Ito & Kuribayashi) Drechs. ex Dastur) and black stem rust (caused by Puccinia graminis (Oudem.) Sacc.). AC Lacombe is susceptible to loose smut (caused by Ustilago hordei (Pers.) Lagerh., false loose smut (U. avenae) Drechs. ex Dastur) and scald (caused by Pyrenophora teres (P. teres net type of net blotch (caused by P. graminis (Oudem.) Sacc.).

Breeder seed of AC Lacombe was developed from a balanced composite sample of ≈200 F4 head-row plots. A single plot was selected for uniformity and test weight by visually and using SDS-PAGE (1) electrophoresis of hordeins. The breeder seed will be maintained by Agriculture Canada, Experimental Farm, Indian Head, SK, Canada. Multiplication and distribution of other classes of pedigrees handled by SeCan Association, 200-57 Market Square, ON K2E 8B2, Canada.

References and Notes

1. SDS-PAGE, sodium dodecyl sulfate polyacrylamide gel electrophoresis.

Registration of ‘Piatt’ Soybean

‘Piatt’ soybean [Glycine max (L.) Merr.] (Reg. no. 574534) was developed by the Illinois Agricultural Experiment Station and released in August 1993. This is a Maturity Group III cultivar, selected to combine high yield with low 

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