Registration of ‘Falcon’ Barley

‘Falcon’ is a six-row semidwarf, spring habit, hulless feed barley (Hordeum vulgare L.) (Reg. no. CV-255, PI 591612), released in 1993 by the Field Crop Development Centre of Alberta Agriculture, Food and Rural Development, Lacombe, AB, Canada. (Canadian Reg. no. 3704). It was derived from the cross 11012.2/’Tern’/’Tilelake’. The parental line 11012.2 is a short-strawed barley introduced from India to the International Maize and Wheat Improvement Center (CIMMYT), Mexico. An F2 bulk of the cross was introduced to the Alberta breeding program from CIMMYT and grown out for observation in 1977. Using a modified bulk breeding method, the cross was harvested and planted at Cd. Obregón, Mexico, in the fall of 1977. Subsequent bulk populations of the cross were grown alternately at Lacombe and Cd. Obregón to the F2. The F3 generation was grown at Lacombe in 1980. Seed produced at Lacombe was selected for density on a Carter-Day gravity table. Head selections for desirable plant type were made at Cd. Obregón. In the F3 generation, grown at Lacombe in 1981, head selections were made for plant breeding line development. Subsequent F3 headrows, including the one which became Falcon, were grown at Lacombe in 1982 and were advanced to yield testing. Selections were made in the F3 and following generations for yield, test weight, protein content, straw strength, threshability, and leaf disease resistance. Breeder seed of Falcon was derived from a bulk of 125 F15 lines.

Falcon has a green coleoptile and prostrate juvenile habit. Leaves are dark green, wide, and long, with glabrous green sheaths and blades. The flag-leaf blade is dark green, medium wide, short, and semierect. The sheath is waxy. The auricle is white. Stems are bluish green and waxy, with an average thickness of 5 mm. Culms generally have four elongated internodes, a V-shaped collar, a snaky neck, and an exertion above the base of the flag-leaf blade of 3 to 10 cm. Falcon’s spikes are moderately dense, medium long, and of nodding attitude, with kernels overlapping at the tips. Lemma awns are smooth and long, with green tips. The glume awns are semismooth and several times the length of the glume. The first internode of the rachis is straight. The rachis edges are slightly tapered, with few hairs. Kernels are medium wide and long, with a yellow aleurone. The basal marking of the lemma is a slight crease. The rachilla is long, with long hairs.

Falcon was tested as M77192004N from 1988 to 1991 in the Alberta breeding trials, and as HB301 from 1989 to 1991 in the Western Cooperative Hulless Barley Test. From 1991 to 1995, it was in the Alberta Regional Recommendation Trials. In 20 site-years of the Western Cooperative Hulless Barley Test (Alberta irrigated and black soil trials only), Falcon yielded 6424 kg ha⁻¹, 117% of the available hulless two-row check, ‘Condor’, and 104% of the hulled two-row check, ‘Harrington’. Six-row hulless and hulled checks were not available. In 99 trials of the Alberta Regional Recommendation Test, from 1991 to 1994, Falcon yielded 5006 kg ha⁻¹, 111% of Condor, and 94% of Harrington. In 32 trials of the Western Cooperative Hulless Barley Test, Falcon had a test weight of 75.4 kg hL⁻¹, compared with 77.5 for Condor and 64.4 for Harrington. In 33 trials, the mean kernel weight of Falcon was 32.6 mg, compared with 36.8 for Condor and 41.1 for Harrington. In 16 trials of the same test, Falcon had a lodging resistance score of 1.1 on a scale of 0 to 9 (0 = erect, 9 = fully lodged), compared with 2.0 for Condor and 3.8 for Harrington. Falcon has medium maturity, about 1 d earlier than Condor and 1 d later than Harrington. It was 8.5 cm shorter than Condor and Harrington (mean of 28 trials). Falcon is a hulless cultivar developed at the Crop Development Centre of the University of Saskatchewan at Saskatoon. Using a modified bulk pedigree method, approximately 5000 F2 seeds were bulked to form the F3 generation. Modified bulk selection, using seed-density separation on a Carter-Day gravity table, was used to select seed in the F3 and F4 generations. Head selections from desirable plant types were made in the F3 and F4 generations. Subsequent F4 head rows, including the one that became Phoenix, were grown at Lacombe in 1985 and were advanced to yield testing. Selections were made in the F7 and following generations for yield, test weight, maturity, protein content, straw strength, digestible energy, digestible protein, and leaf disease resistance. Breeder seed of Phoenix was derived from a bulk of 164 F11 lines.

Phoenix is a midseason, rough-awned, medium-statured cultivar with a yellow aleurone. It has a green coleoptile and erect juvenile growth. Leaves are medium green, medium wide, and medium long, with glabrous green sheaths and blades. The flag leaf is medium green, narrow, medium long, and semierect. The auricle is white. Stems are green and waxy, with an average thickness of 4 mm. Culms generally have five nodes, a closed collar shape, a snake-shaped neck, and an exertion above the base of the flag leaf blade of 3 to 10 cm. Phoenix’s spikes are lax, seminodding, and medium long. The basal segment of the rachis is medium long, with a strong curvature. The rachis edge is covered with medium long hairs. Hairs of the glume are restricted to the middle vein. Glume awns are rough and as long as the glume. Lemma awns are

References and Notes

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The technical assistance of Dave Dyson, Susie Albers, and Michael Oro is gratefully acknowledged. We also thank Robert Wolfe for his comments and discussion on this paper.

Published in Crop Sci. 36:807 (1996).

Registration of ‘Phoenix’ Barley

‘Phoenix’ is a two-row, hulless, feed, spring barley (Hordeum vulgare L.) (Reg. no. CV-255, PI 592303), released in 1993 by the Field Crop Development Centre of Alberta Agriculture, Food and Rural Development, Lacombe, AB, Canada. (Canadian Reg. no. 3850). It was derived from the cross ‘Betzes’/’Heines Hanna’/’Piroline’/’RB222-69/4’/’Scout’ made in 1981. The first four parental lines are hulled barleys of European origin, and Scout is a hulless cultivar developed at the Crop Development Centre of the University of Saskatchewan at Saskatoon. Using a modified bulk pedigree method, approximately 5000 F2 seeds were bulked to form the F3 generation. Modified bulk selection, using seed-density separation on a Carter-Day gravity table, was used to select seed in the F3 and F4 generations. Head selections from desirable plant types were made in the F3 and F4 generations. Subsequent F4 head rows, including the one that became Phoenix, were grown at Lacombe in 1985 and were advanced to yield testing. Selections were made in the F7 and following generations for yield, test weight, maturity, protein content, straw strength, digestible energy, digestible protein, and leaf disease resistance. Breeder seed of Phoenix was derived from a bulk of 164 F11 lines.

Phoenix is a midseason, rough-awned, medium-statured cultivar with a yellow aleurone. It has a green coleoptile and erect juvenile growth. Leaves are medium green, medium wide, and medium long, with glabrous green sheaths and blades. The flag leaf is medium green, narrow, medium long, and semierect. The auricle is white. Stems are green and waxy, with an average thickness of 4 mm. Culms generally have five nodes, a closed collar shape, a snake-shaped neck, and an exertion above the base of the flag leaf blade of 3 to 10 cm. Phoenix’s spikes are lax, seminodding, and medium long. The basal segment of the rachis is medium long, with a strong curvature. The rachis edge is covered with medium long hairs. Hairs of the glume are restricted to the middle vein. Glume awns are rough and as long as the glume. Lemma awns are