

REGISTRATION OF CULTIVARS

Registration of ‘Tercel’ Barley

‘Tercel’ barley (Hordeum vulgare L.) (Reg. no. CV-273, PI 599202) is a two-row, hulless, spring-habit feed cultivar released in 1997 by the Field Crop Development Centre of Alberta Agriculture, Food and Rural Development, Lacombe, AB, Canada (Canadian Reg. no. 4610). It was selected from the cross WA7698-62/RPB 222-69//Firbeck 3/Clipped/APM-IB65 made in 1981. The first and second crosses were made at Oregon State University, Corvallis, OR, in 1970 and 1971. WA7698-62 is a line originated from Washington State University, Pullman, WA. The line RPB 222-69 is a short-stature, introduced European line of unknown parentage. Clipper/APM-IB65 is a hulless line from the International Maize and Wheat Improvement Center (CIMMYT), Mexico, introduced in 1979. Using a modified bulk breeding method, seed from F1 plants was bulked to form the F2 generation grown at Lacombe in 1982. Head selections were harvested and bulked in nurseries alternating between Alberta and California. In the F3 generation, grown at Lacombe in 1988, head selections were made for line development. Subsequent F12 head-rows, including the one that became Tercel, were planted at Lacombe in 1989 and were advanced to yield testing. Selections were made in the F3 and following generations for yield, maturity, test weight, protein content, straw strength, threshability, and leaf disease resistance. Breeder seed of Tercel was derived from a bulk of 191 F12 lines.

Tercel is a rough-awned, midseason, medium-height cultivar. It has a green coleoptile and a semierect juvenile growth habit. Its flag leaf is dark green, narrow, long, and of semierect attitude. The auricle is white, with a waxy sheath. Leaves are green, narrow, and long, with glabrous green sheaths and blades. Stems are green and waxy, with an average thickness of 2 mm. Culms generally have five nodes, a closed collar shape, a slightly undulated neck, and an exsertion above the base of the flag leaf blade of 3 to 10 cm. Tercel’s spikes are dense, nodding, and of medium length, with kernels overlapping at the tip. Lemma awns are long, with purplish tips. It has few barbs on the laterals veins. Glume awns are rough and long as the glume. Kernels are hulless, medium long, and medium wide, with a yellow aleurone and a transverse crease at the base. The rachilla is short, with long hairs.

Tercel was tested from 1989 to 1993 as H81044007N in the Alberta Regional yield trials, and as H6065 from 1994 to 1996 in the Western Cooperative Hulless Barley Test (WCHBT). In 35 site-years of the WCHBT including Manitoba, Saskatchewan, and Alberta production areas, Tercel yielded 5111 kg ha-1, 104% of the predominant two-row hulless check ‘Condor’, and 99% of the six-row hulless check ‘Falcon’. In 32 trials of the same test, Tercel had lower test weight (74 kg ha-1) than Condor (76.8 kg ha-1) and had the same test weight as Falcon. In the same trials, Tercel had greater 1000 kernel weight (40.7 mg) than Condor (37.1 mg) and Falcon (33.9 mg).

In the Western Cooperative Hulless Barley Test, Tercel was less resistant to lodging than Condor. In 19 tests, Tercel had an average lodging score of 3.2, on a scale of 0 to 9 (0 = fully resistant to lodging, 9 = fully lodged), compared with 2.6 for Condor and 2.0 for Falcon. Tercel has medium maturity, about 1 d earlier than Condor and 1 d later than Falcon.

Tercel is moderately susceptible to common root rot [caused by Cochliobolus sativus (Ito & Kuribayashi) Drechs. ex Dastur and Fusarium spp.]. It has an intermediate reaction to stem rust (caused by Puccinia graminis Pers.:Pers. f. sp. tritici Eriks. & E. Henn.) (non-QCC) and net blotch (caused by Pyrenophora teres Drechs.). It is susceptible to loose smut [caused by Ustilago tritici (Pers.) Rostr., syn. U. nuda (C.N. Jensen) Rostr.], scald [caused by Rhynchosporium secalis (Oudern.) J.J. Davis], and septoria leaf blotch (caused by Septoria passerinii Sacc.).

Breeder seed of Tercel is being maintained by the Field Crop Development Centre of Alberta Agriculture, Food and Rural Development, Lacombe, AB. Distribution rights were granted to Progressive Seed Ltd., Box 1237, Three Hills, AB, T0M 2A0, Canada. Limited quantities of seed are available upon request from the corresponding author for at least 5 years.

JAMES H. HELM, MANUEL J. CORTEZ,* DONALD F. SALMON, PATRICIA E. JUSKIW, AND WILLIAM M. STEWART (1)

References and Notes

1. Alberta Agriculture, Field Crop Development Centre, 5050-50 St., Lacombe, AB, T4L 1W8, Canada. Registration by CSSA. Accepted 31 May 1998. *Corresponding author (cortez@agric.gov.ab.ca).

The technical assistance of Dave Dyson, Susie Albers, and Michael Oro is gratefully acknowledged.

Published in Crop Sci. 38:1715 (1998).

Registration of ‘GA-Luttrell’ Barley

‘GA-Luttrell’ barley (Hordeum vulgare L.) (Reg. no. CV-274, PI 602058) is a winter feed cultivar developed at the University of Georgia Agricultural Experiment Station in cooperation with the USDA-ARS and was released in 1994. GA-Luttrell was derived from a single cross ‘Volbar’/‘Sussex’ made in 1981. It was named to honor E.S. Luttrell, a former plant pathologist and mycologist at the Georgia Station, Griffin.

GA-Luttrell was developed using a modified pedigree method of breeding. Individual spike selections were made in the F2, F3, F4, and F5 generations at Griffin. GA-Luttrell is the progeny of two rows with similar phenotypes bulked together after selection from 100 head rows in the F5 generation. GA-Luttrell was evaluated for agronomic performance as GA 81814 in nursery plots in 1989 and 1990, in state trials (1) at five locations in each of four years (1991-1994), and in the USDA Uniform Winter Barley Yield Nursery in 1992 through 1994.

GA-Luttrell is an awned, six-rowed, winter feed barley. It is early maturing, moderate in winter-hardiness, medium tall in height, and characterized by excellent straw strength. The spikes are compact, strap, and parallel. Kernels are long, covered, white, and semiwinkled, with long-haired rachillas.

In state trials over 5 yr, GA-Luttrell and ‘Venus’ yielded an average of 5174 and 4699 kg ha-1, respectively. GA-Luttrell is 1 d earlier in maturity than Venus. GA-Luttrell is similar in plant height to Venus, and is superior in straw strength. In eight trials, lodging of GA-Luttrell was 18%, compared with 58% for Venus. GA-Luttrell, ‘Milton’, and ‘Wyser’ yielded an average of 5385, 4752, and 4276 kg ha-1, respectively, in 24 environments across the southern and eastern USA in the USDA Uniform Winter Barley Yield Nursery in 1994. It has an average grain volume

1715